




# Knowledge management toolkit enhancement for a professional services firm

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**Background:** Professional services firms utilise knowledge management tools, for example, IBM and Oracle solutions and toolkits, in their day-to-day client-facing operations. The effectiveness of toolkits must be evaluated to establish their actual value.

**Objectives:** This article evaluates the current toolkit used by the South African client-facing professionals of a global multinational corporation.

**Method:** Pragmatism philosophy was used because of the various perspectives needed to interpret the data. Data were collected from 30 participants who adhered to sample eligibility criteria. An interview was used to collect data to help determine which tools worked well and what had to be improved on.

**Results:** The most value-adding tool was the Experience Tool, whereas the Collaboration Tool ranked the least valuable. The Collaboration Tool showed the most potential to increase its value. The results gave a clear indication of areas of improvement that will enable a professional services firm to strategically position its knowledge management toolkit towards adding value for client engagements.

**Conclusion:** The study contributes towards evaluating the knowledge management toolkit, analysing areas of improvement, and recommending components such as machine learning, online collaboration and other activities that would enhance the knowledge management toolkit.

**Keywords:** knowledge management toolkits; professional services firms; client engagement; service excellence; knowledge transfer; knowledge-intensive firms.

## Introduction

Service excellence pivots on knowledge work and client engagement (Birkinshaw, Cohen & Stach 2020). Various knowledge management (KM) systems and toolkits are used to improve client engagement and achieve greater competitive advantage (Cerchione et al. 2020; Fransson, Hakanson & Liesch 2011). In this article, conceptualisation of a KM toolkit refers to the essential elements necessary for the successful implementation and management of a KM programme in an organisation.

Organisations choose to invest in KM for different reasons, such as timely netting the knowledge of retiring people and sharing knowledge more efficiently for current and future operation (Hetey et al. 2020). Knowledge transfer tools are essential in knowledge-intensive firms (Mazorodze & Buckley 2020). Whatever the reasons for investing in a KM initiative, organisations increasingly recognise that KM is a robust discipline that connects professionals to relevant information, knowledge and the expertise of other professionals. Professional services firms are knowledge-intensive firms that need an efficient KM structure and professionals who know how to manage knowledge (Nordenflycht 2010; Wang & Wang 2012).

Knowledge, goodwill and brand are three of the most important factors contributing to an organisation's value in the marketplace (Andriani et al. 2019; Muras & Hovell 2014). Organisations need to manage employees' knowledge and exploit their expertise and vast collections of explicit knowledge within firms. Jenab, Khoury and Sarfarz (2013:248) state that for an organisation to be competitive and innovative it is necessary to effectively utilise its KM tools. This article evaluates the KM toolkit used by South African client-facing professionals of a global professional services firm, in this article referred to as 'the PSF'.

The research problem identifies the gap in the subject field that focuses on evaluating the effectiveness of KM tools and resources in professional services firms. Specifically, there was no

evidence in place that proved the effectiveness of the KM toolkit of the PSF. A method of deciphering in which areas the KM toolkit required improvement did not exist and therefore the research aim of this study was to evaluate the effectiveness of KM tools in a professional services firm. In order to evaluate the tools, the objectives were:

- to rank the KM tools of a professional services firm
- to determine the current and potential value of KM tools of a professional services firm
- to identify the value of KM tools from the perspective of client-facing users of a professional services firm.

Firstly, the article begins by reviewing the literature of KM toolkits for professional services firms. Secondly, it describes the research design, followed thirdly by analyses of research findings of how the KM toolkit provided solutions for client-facing professionals and what the gaps were in the KM toolkit. The article concludes with a recommendation of what needs to be implemented to improve the efficiency of the KM toolkit. Overall, the study contributes towards evaluating the PSF's KM toolkit. The analysis of areas of improvement and recommendation of how to enhance the KM toolkit may also benefit other professional services firms' KM initiatives.

## Knowledge management initiatives of professional services firms

Organisations that have implemented KM initiatives and toolkits are more likely to achieve competitive advantage (Sook-Ling, Choo-Kim & Razak 2013). A KM toolkit is a set of activities that an organisation implements for knowledge creation, storage, sharing and utilisation (Sook-Ling et al. 2013). Knowledge management initiatives and toolkits contribute towards achieving competitive advantage in multinational corporations (Fransson et al. 2011). The implementation of KM toolkits within a professional services firm is therefore fundamental towards gaining organisational competitive advantage.

Multinational corporations such as professional services firms that operate at global scale often execute complex projects and processes. It is therefore not strange for even minor projects and repetitive business activities to include numerous stakeholders and technologies covering different functions, business areas and even geographies (Muras & Hovell 2014). These firms implement and execute KM initiatives that enable them to leverage expertise, lessons learnt and experience, and ultimately create the impetus towards innovative competitive advantage (Sankowska 2013). Executing a KM toolkit relies on technological refinement.

According to Muras and Hovell (2014), rapid technological advances and the rise of the millennial workforce have a dispersing effect on an organisation's structure, making it increasingly difficult to identify and access the experts best suited for a specific project. Professional services firms must enable their client-facing professionals to keep up with the pace of innovation and change by seamlessly connecting

them to experts and collaboration platforms within and beyond the traditional walls of the organisation.

As technological tracking abilities become more refined, and machine learning improves the relevance of retrieved information, organisations are now collecting and measuring more data, and these trends are bound to increase as firms encounter even more advanced technologies (Dallemlule & Davenport 2017; Ihrig & Macmillan 2015). Firms are also generating large quantities of information in the form of spreadsheets, SharePoint sites, email and instant messaging. Knowledge management initiatives are therefore necessary to determine where this information is stored and how to turn it into valuable intellectual capital and innovation.

Leading organisations acknowledge that innovation does not happen in seclusion; instead, using a variety of platforms for collaboration and knowledge transfer prompt innovation (Andriani et al. 2019; De Smet, Lund & Schaninger 2016). Especially the utilisation of digital workforce platforms may require guidance on how to choose the most suitable tool for a specific requirement and when and how to collaborate and share knowledge (Hetey et al. 2020). Shared knowledge and access to information and experience allow individuals and groups to dedicate their time to shape good ideas and integrate them into innovative products and processes. It has therefore become paramount for organisations to build on their skills to obtain, create and utilise knowledge sustainably and effectively (Marjonovic & Freeze 2012; Muthusamy 2008). Organisations implement KM toolkits to achieve seamless dialogue between knowledge creation, dissemination and innovation (Jenab et al. 2013).

Knowledge management tools focus on advocating innovation processes in an organisation, emphasising performance, competitive advantage, sharing lessons learnt, integration and continuous improvement of business processes (Jenab et al. 2013). Knowledge management initiatives support professionals to develop processes that are difficult for competitors to acquire and hard to replicate. Client-facing professionals perform knowledge-intensive work as part of business processes that involve human judgement and experience, complex decision-making and creativity.

## Knowledge management in client-facing firms

Information-based organisations are made up of experts and specialists who direct and guide their own performance via feedback from clients and colleagues (Drucker 1988). Client-facing firms must have access to whatever knowledge they require, wherever and whenever they need it in order to execute business strategy. A competitive advantage develops when organisations apply strategic information management principles in combination with KM principles to leverage its tacit knowledge (Boljanovic & Stankovic 2012; eds. Galliers & Leidner 2003; Lee et al. 2013). Ideally, organisations should aim at having work processes aligned with knowledge processes as knowledge and continuous learning are critical

elements for organisational success (Kianto et al. 2019). According to Genderen (2014), sources of knowledge are:

1. Knowledge that one receives from outside the organisation.
2. Dedicated resources who generate knowledge for a specific reason within the organisation.
3. Fusion of knowledge, when people of different expertise are assigned to work together on a specific project.
4. Adaptation of knowledge occurs when there is a need to respond to new technologies or products in the market.
5. Knowledge networking is knowledge generated when people share knowledge in a formal or informal environment.

Nonaka and Takeuchi (1995) emphasise the importance of creating new knowledge and they produced a SECI model consisting of socialisation, externalisation, combination and internalisation, which demonstrates how knowledge is essentially formed through interaction. The SECI model has relevance to this study as interaction processes are linked to the effectiveness of a KM toolkit. It is also critical to note the three components of a KM framework, namely, people, process and technology.

### People, process and technology framework in knowledge management

Knowledge management is shaped by interactions between people who create and share knowledge; processes that are ways in which the knowledge is shared, generated, organised and disseminated; and technologies that are devices used to store, generate and disseminate knowledge (Hosseini et al. 2014). The knowledge embedded in the interactions of people, process and technology provides the foundation for competitive advantage in firms (Magnier-Watanabe & Senoo 2009).

An organisation's processes must be efficient and flexible enough to overcome present-day difficulties (Andriani et al. 2019; Kir & Erdogan 2021). An efficient organisation is an organisation that has consistent procedures – in other words, it is able to deliver high-quality services at a low cost. However, mere efficiency is not enough; organisations also need to be adaptive. This means that certain external factors may require drastic changes to organisational routine. Organisations must be agile to respond swiftly to changes while continuing with its routine (Kir & Erdogan 2021).

Although process and technology are vital aspects of an organisation, it is the capability of *people* to think that is an even more critical component of organisational efficiency. People identify with specific knowledge assets, and people are the ones responsible for knowledge creation processes in organisations (Magnier-Watanabe & Senoo 2009). For example, people identify with experiential knowledge assets, conceptual knowledge assets, systematic knowledge assets and cultural knowledge assets (Magnier-Watanabe & Senoo 2009). Experiential knowledge assets relate to experience and skills; it is about sharing tacit knowledge and know-how. Conceptual

knowledge assets relate to explicit knowledge which is documented. Systematic knowledge assets consist of systematic and packaged explicit knowledge. Cultural knowledge assets relate to organisational routines and ways of doing day-to-day tasks. Because people are integral in KM, there is a certain amount of trust required to achieve the people component of KM (Hosseini et al. 2014). It is with this understanding of the importance of trust as part of the organisational culture that the PSF utilises technology as a platform to facilitate knowledge sharing. The PSF has built its KM toolkit with the intent to connect people and processes, therefore effecting knowledge sharing and usage within a conducive organisational culture.

### The role of the knowledge management toolkit in the PSF

Knowledge management toolkits are important to deliver business value; however, some technologies could potentially hinder knowledge transfer, especially when a consultancy firm's KM programme 'fit for purpose' is unclear (Donnelly 2008:73; Smith, McKeen & Jenkin 2009:8). The vast number of KM toolkits available makes it difficult for organisations to know which options provide them with the best value. Some examples of KM toolkits are the solutions provided by Oracle, Google, Synaptica and IBM. Knowledge managers are therefore required to develop methods and strategies on how to best use and implement these KM toolkits. However, many organisations still grapple with decisions on what are the most effective KM tools (Jenab et al. 2013). Therefore, this study set out to evaluate the effectiveness of KM tools in a professional services firm.

To evaluate the effectiveness of KM tools, the research methodology for determining which of the PSF's KM toolkit elements were most effective and which needed adjustment follows next. The elements are Project Tool elements, Eminence Tool elements, Expert Locator Tool elements, Content Locator Tool elements, Research Tool elements, Compliance Tool elements, Instant Messaging Tool elements and Online Collaboration (OC) Tool elements.

### Research methodology

Since the focus of this study was on evaluating the effectiveness of KM tools, rich text had to be collected to evaluate what has been working well and what has been lacking from the perspective of the client-facing users of the PSF's KM tools. A qualitative research paradigm was best suited to evaluate the effectiveness of the KM toolkit from a pragmatism philosophy because of the various perspectives needed to interpret descriptive data (Saunders, Lewis & Thornhill 2009). Pragmatism is a functionalist frame of reference suitable for evaluation research (Mouton 2009).

The researchers followed an inductive approach, which meant that the researchers collected data to conceptualise the value creation framework of the KM toolkit for the PSF. Because a value creation framework was non-existent prior to the study, this study was designed to collect data on the perceptions, attitudes and beliefs of the research participants.

As perceptions, attitudes and beliefs are difficult to quantify (Saunders et al. 2009), therefore a qualitative research paradigm was preferred for this study.

To collect rich text, the interview schedule was aligned to the study's four research questions and the data collection instrument consisted of semi-structured questions for each KM tool. The four research questions were as follows:

1. What aspects of the PSF KM toolkit are successful and why?
2. What aspects of the PSF KM toolkit are unsuccessful and why?
3. Which aspects of the PSF KM toolkit have been omitted?
4. What aspects of the PSF KM toolkit need to be amended to facilitate efficiency in client engagements?

The population of relevance was selected from a single multinational professional services firm based in South Africa. A non-probability, purposive sampling was used to answer the research questions from a list of relevant employees that were best able to answer the research questions and meet the criteria (Saunders & Lewis 2012). Consequently, the research participants represented client-facing professionals working in client accounts, strategic and target clients, and client sustainability for existing clients. In total, there were 30 participants.

The research interviewed all participants with respect to all tools within the KM toolkit. For this research, 'KM toolkit' referred to a set of separate platforms, each having the purpose of meeting client-facing professionals' requirements to add value to client relationships. This article uses tool pseudonyms to assist in the discussion and anonymise the PSF's proprietary tools in accordance with the conditions of obtaining ethics clearance for the research project.

The findings from the interviews for each tool were analysed by using an integrated interpretation and discussion method, which means qualitative data analysis steps included looking for patterns or themes in the data, followed by understanding and interpreting each theme. The current value of each tool was determined based on the feedback received from the participants. The feedback was categorised according to the themes that emerged from the data. The current value was given an overall rating, which was dependant on how good or bad each tool was perceived for each theme by each participant. Each tool's potential value was based on participant feedback, for example, a declaration of being unaware of the tool and therefore unaware of its value; or the poor quality of data measured against the participant's value criteria expressed in terms of professional client-facing work. The current value and potential value of each tool were analysed using the following rating guide developed for this study:

- 0 = none of the participants indicated criteria related to value.
- 1 = fewer than 6 participants indicated criteria related to value.

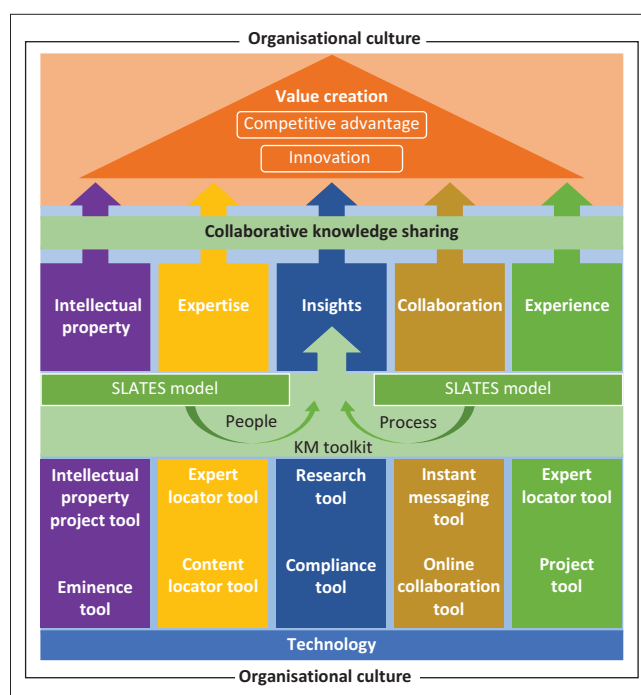
- 2 = between 6 and 10 participants indicated criteria related to value.
- 3 = between 11 and 15 participants indicated criteria related to value.
- 4 = between 16 and 20 participants indicated criteria related to value.
- 5 = between 21 and 30 participants indicated criteria related to value.

Follow-up face-to-face interviews were made up of five individuals from each of the roles as analysts, consultants, senior consultants, managers, senior managers and partners. The next section presents the research findings, analysis and discussion.

## Research findings, analysis and discussion

Participants' perspectives, attitudes and beliefs regarding KM toolkit elements were analysed for themes and then interpreted. The approach was inductive because a value creation framework for the PSF was non-existent. This meant that the actual application of the KM toolkit in the PSF resulted in the conceptualisation of the KM toolkit value creation framework (Figure 1).

Figure 1 illustrates the research findings with themes such as intellectual property (IP), expertise, insights, collaboration, and experience, grouped together with solutions embedded into KM programmes with the intention to connect employees to each other, to connect employees to knowledge assets and to connect experienced employees to inexperienced employees. The conceptualisation of the KM



KM, knowledge management; SLATES, search, links, authoring, tags, and extensions and signals.

**FIGURE 1:** Conceptualisation of knowledge management toolkit for value creation framework at the PSF.



toolkit for value creation framework at the PSF combines the components of successful KM programmes, namely, people, process, technology and organisational culture. To understand the type of culture that exists in the PSF, participants were asked whether they believed the PSF had

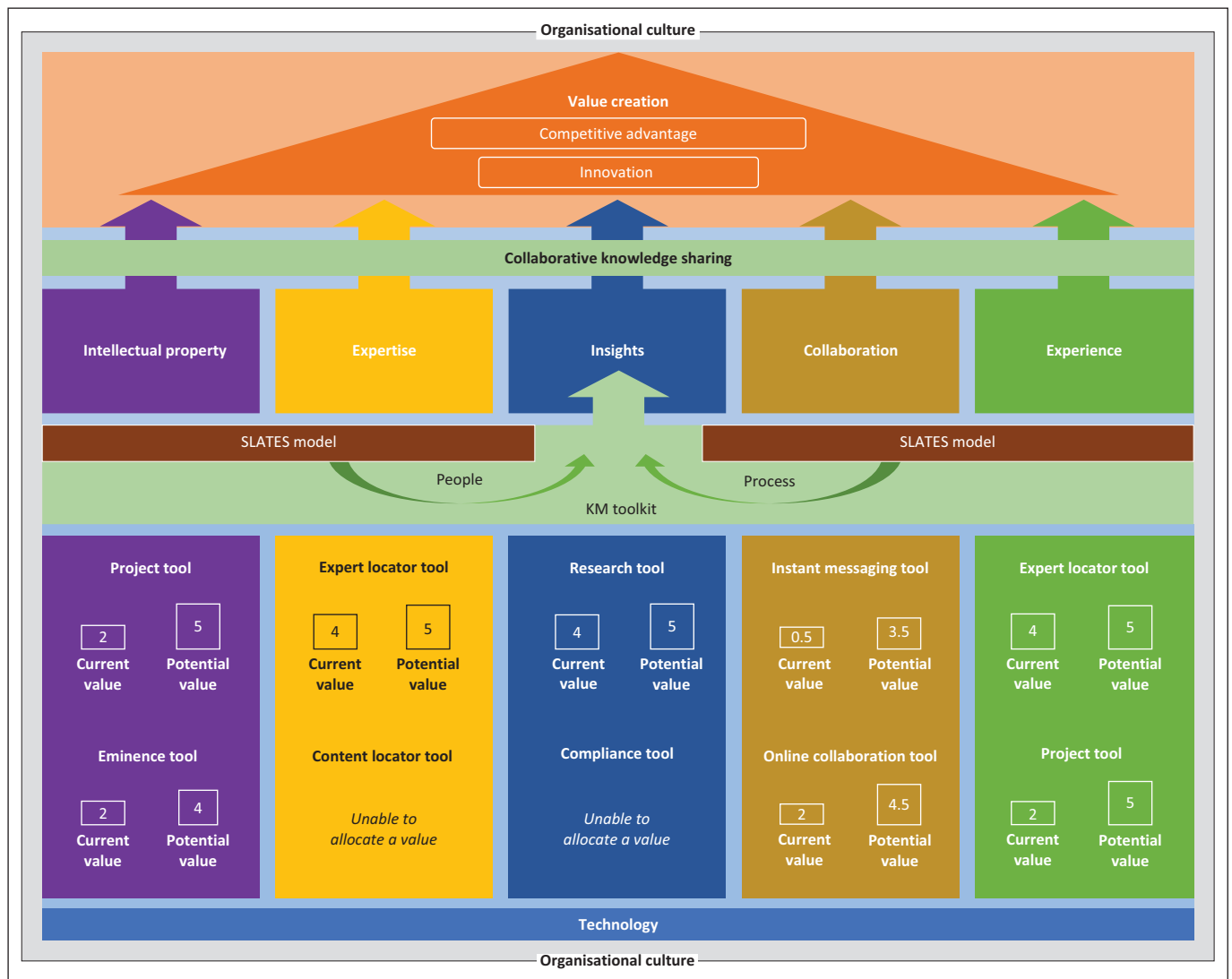
**TABLE 1:** Verbatim feedback from interviews for culture of knowledge sharing (emphasis added).

Yes	No
'... consulting is more <b>open to sharing</b> .'	'People <b>safeguard their knowledge</b> so [that] others can't use it.'
'... consulting <b>makes use</b> of more tools...'	'... sharing is <b>not natural</b> because we are <b>isolated</b> in pods ...'
'Yes we <b>have to share</b> ...'	' <b>No culture of sharing</b> , people are <b>afraid</b> of being replaced...there is <b>no time</b> ...'
' <b>Sharing happens</b> in teams and informally ...'	'... people are <b>scared</b> to share information.'
	'... people <b>don't think</b> about sharing proactively.'
	'... <b>not an open sharing culture</b> , people are too busy ...'
	'... <b>consulting does not share</b> across service lines ... <b>sense of competition</b> ...'
	'... I do encourage but <b>it is not happening</b> ...'

a knowledge sharing culture. Their verbatim feedback is summarised in Table 1.

Culture refers to the operating environment and unsaid ethos; it is a crucial determinant of how effectively an organisation adopts and uses its KM toolkit. A combination of the market culture and adhocracy culture best describes the PSF. It hosts an entrepreneurial and creative environment where individuals feel free to make decisions and take initiative and risks. The PSF's leadership are results-driven and hugely competitive with tough, bold leadership culture.

The rating guide that was developed in the 'Research methodology' section was used to analyse the findings for the rating of the current value (cv), and potential value (pv), of the Project Tool with elements relating to IP and experience, Eminence Tool, Expert Locator Tool with elements relating to expertise and experience, Content Locator Tool, Research Tool, Compliance Tool, Instant Messaging Tool, and OC Tool, as illustrated in Figure 2.



KM, knowledge management; SLATES, search, links, authoring, tags, and extensions and signals.

**FIGURE 2:** Current value and potential value of tools in the knowledge management toolkit.

**TABLE 2:** Verbatim feedback from interviews for expert locator tool (emphasis added).

Search	Awareness	Data quality	Agility
'... locating people within [the PSF] both nationally and internationally.'	'... unaware of the tool.'	'... include updates on KPIs for quality.'	'... scheduling expertise based on skills in client proposals.'
'... searching for functional expertise'	'... there is value added if aware ...'	'... needs to be updated.'	'... understanding who people are ...'
'... searching for industry expertise.'	'... need to be included in on-boarding.'	'... quick, efficient and accurate if updated.'	'... finding CVs to include in client proposals.'
'looking for specific skills within ...[the PSF]'	'... more awareness of the value.'	'... need to have completed profiles ...'	'... quick and easy ...'
'... finding CVs to include in client proposals.'	'... need to be in induction ...'	'... need to be included in on-boarding.'	'... adds value for scheduling when looking for specific skills.'
'... adds value for scheduling when looking for specific skills.'	'... don't know why it is used.'	'... need to be in induction ...'	'... quick, efficient and accurate if updated.'

SECI, Socialisation, Externalisation, Combination, Internalisation; KPI, Key Performance Indicators; CV, Curriculum Vitae; PSF, professional services firm.

The findings in Figure 2 illustrate the expertise and experience pillars of the KM toolkit – the Expert Locator Tool. Participants perceived the Expert Locator Tool as one of the two most valuable tools in the KM toolkit, with a current value at a level 4 and potential value at a level 5. Verbatim responses are presented in Table 2.

The PSF defines 'expert' as an individual who is highly skilled within a specific service and/or widely proficient on a specific industry. The Expert Locator Tool within the PSF equates to an explicit platform of expert locators. The responses regarding the value and usage of the Expert Locator Tool highlighted the following common themes:

- **Search:** Tool enables the ability to search and locate expertise.
- **Awareness:** The level of awareness of the tool.
- **Data quality:** The quality of data populated on the tool.
- **Agility:** The ease of use and accessibility of the tool.

With the increase of agility, quality, awareness and search, the usage and potential value of the Expert Locator Tool will also increase, thereby creating a fully optimal KM tool. These research findings suggest that an education and awareness drive is required to create greater levels of exposure for the value and usage of the tool. The campaign should be included in the PSF's induction and on-boarding process, firstly, to create awareness of the value of the tool and, secondly, to facilitate the immediate update of content. The updating of the Expert Locator Tool should also be included in individuals' performance rating systems to ensure quality of information. Quality of newly added information increases system agility and adds to leveraging of the existing, high-quality information.

For the expertise pillar of the KM toolkit – the Content Locator Tool – findings of the tool equate to a group of experts who one can access via an IM collaboration platform or email to access content across the firm's geographical reach. The 'I'm tool' did not feature high in Figure 2, with a current value of 0.5, indicating low awareness (28 of the 30 participants were not aware of the tool), and conflicting responses from the other two participants resulted in an inconclusive benefits analysis of this tool. Its purpose and function regarding client engagement are not clear from the participants' perspective.

For the IP pillar of the KM toolkit – the Project Tool and the Eminence Tool – the value of the Project Tool and Eminence Tool focuses on retaining the firm's IP and expertise from an eminence and projects perspective. The Eminence Tool focuses on the storage and accessibility of thought leadership pieces generated by the PSF regarding industries, countries and trending topics. The accessibility and availability of these eminence pieces to clients and potential clients add credibility to the PSF. The Project Tool within the PSF is the process of updating past project experience and storing this IP in a tool. The storage and availability of this information also contributed towards adding value and credibility to the PSF specifically when dealing with client proposals, which require experience. An analysis of the responses regarding the value and usage of the Project Tool and Eminence Tool highlighted the following common themes:

- **Quality:** The standard of content published on the Project Tool.
- **Africa content:** The type of content published on the Project Tool.
- **Value:** The need for the Project Tool.
- **Accessibility:** The ability to easily access the Eminence Tool.
- **Marketing:** The application of the Eminence Tool for marketing to clients or potential clients.
- **Content:** The quality of the content in the Eminence Tool.

The current value of the Project Tool is viewed at level 2. To increase its current value to its optimal potential value, participants suggested that senior management together with KM team should champion a drive for the Project Tool to be updated with quality content. Also, keeping track of projects has to be improved; post-project documents have to be completed and stored prior to project close off, and processes should be included in staff key performance measurements. Project tool content should go through a quality check to ensure confidentiality and that other language and logistical aspects align with the PSF's policies.

Similarly, the Eminence Tool is viewed at level 2; it is currently used via a different search platform and not to its fullest potential. It could reach its potential value by making the PSF aware of how and where to access content and highlighting the tool's marketing prospects. The content validity and relevance to African insights give the Eminence Tool a level 4 potential value ranking.

To achieve this level will require a robust communication and education drive within the PSF by using email communications, roadshows, posters and information sessions. Communications can also address the issue of how to effectively access the tool and how it can be used to increase credibility of the PSF in the market. Furthermore, it may be beneficial for the PSF to proactively distribute new material to client-facing employees, which will mitigate the concern of accessing relevant information. Participants also indicated that the PSF could be better aligned with Africa-specific topics, suggesting that a community of practice should be initiated with all industry experts to develop new local material.

For the insights pillar of the KM toolkit – the Research Tool and the Compliance Tool contain insights that are relevant only to the PSF. An analysis of participants' value perceptions revealed that only two of the 30 participants made use of the Compliance Tool. Both participants concurred that the tool is valuable to client engagements; it offered company information and organograms, insight of various aspects of the local and global footprint of the PSF, financials and a number of important company statistics. The Research Tool helps with generating new intelligence about industries and trends by utilising a variety of sub-tools. These tools give access to big data to develop new and robust insights, which is then exploited in thought leadership pieces or business decision-making. Its value is perceived based on the PSF's insights into client, company and industry acumen using external sources (various research tools), and internal sources (e.g. the Compliance Tool, discussed further below). Its greatest value is to generate IP and its current value was at a level 4. Two themes emerged from participants' responses:

- **Data:** The quality of the data that resides in the tool.
- **Accessibility:** The ease of accessing this data when needed.

The value of the Research Tool can be optimised even further to achieve its potential value at level 5. A simpler navigation would assist users with searching and accessing data. A process of proactively extracting the required data and distributing the data to the PSF would add value. In addition, evaluating the industry and country gaps in data, outsourcing relevant tools to mitigate these gaps, assessing the credibility of existing data, and instituting a call for action to have the data updated would increase the value of the Research Tool. Faster response times for support on the tool, creating user support guidelines, information sessions, and allocating more resources to assist with research requests should be considered.

For the collaboration pillar of the KM toolkit – the IM Tool and OC Tool serve as collaboration tools in the PSF; the IM tool is mostly internally whereas the OC Tool is also applicable for external collaboration. The OC Tool, based on a SharePoint platform, focuses on external and internal collaboration both globally and locally. Four key themes

about the collaboration pillar were visible from participants' responses:

- **Collaboration:** The degree to which one can collaborate effectively on the IM Tool.
- **Awareness:** The level of awareness of the IM Tool and OC Tool.
- **Ease of collaboration:** Ability to share and use content on the OC Tool platform.
- **Negative perception:** Participants' adverse beliefs about the IM Tool.

The current value of the IM Tool rated at a 0.5 level, though participants indicated that its potential value is at a 3.5 level. The value of the OC Tool rated at a 2 level, and its potential level at a 4.5 level. Twenty of the 30 participants were aware of the IM Tool, but they maintained that a sharpened awareness of the IM Tool would not result in an increased use of IM for collaboration.

The negative perceptions of 16 of the 20 IM-aware participants may have affected the way the PSF shares knowledge and it could in future reduce their agility towards meeting client requirements. There was deep concern from participants that the IM Tool was not easy to use and there was an overload of information, which made it difficult and time-consuming to sift through information to find relevant information. The participants who effectively used the IM Tool were able to see its value by incorporating this integrated collaboration solution. This means that collaboration can occur more rapidly, outputs are more agile, and innovation is possible. As mentioned above, The PSF's organisational culture hosts an entrepreneurial and creative environment, and the potential value of IM could increase its ranked position in the collaboration pillar of the KM toolkit.

The KM toolkit pillars, elements and tools, illustrated in Figure 1, integrate the concepts found in the literature to the manner in which the PSF KM toolkit is practically used. Three main components give a theoretical description of professional services firms (Nordenflycht 2010:156):

1. **Knowledge intensity:** Output is reliant on the knowledge that resides within the firm. This means that the firm has a dependency on an intellectually skilled workforce across all functions, which makes it critical to have effective KM toolkits in place to harness IP.
2. **Low capital intensity:** Refers to when a firm does not have high production costs. This means that for knowledge-intensive firms with low capital intensity employee bargaining power is greater. Intellectual capital becomes even more powerful.
3. **Professionalised workforce:** Refers to a firm that has a specific knowledge base, which is regulated and controlled autonomously within a professional code of ethics.

These three components describe the PSF – an inherently client-facing organisation operating within a highly intense knowledge economy that seeks to utilise their intellectual capital to be able to generate competencies relevant to the

client, stressing the need to innovate their advice to their clients. Intellectual capital and innovation are critical to the success of client-facing firms (Qureshi, Briggs & Hlupic 2006; Seleim & Khalil 2011).

The above discussion was of the research findings relating to the tools in the KM toolkit and have been integrated with concepts from the literature as follows:

1. **Intellectual Property:** Organisations that view information and knowledge as their primary service place high value on their IP. The KM toolkit houses a tool that is able to store IP for current and future use; the central database can be accessed by client-facing professionals to influence and build on client engagements. The tool houses evidence of the PSF's ability to fulfil client deliverables. It is as important for the organisation as it is for potential clients.
2. **Expertise:** This pillar is a central platform which houses information tools on all professionals within the PSF. Information is updated by users and accessed by all professionals globally. The tool is critical to the success of ongoing performance and new business efforts. Distributing information is not enough to guarantee reuse. Access to people with knowledge is as imperative as access to information. Expertise locator tools and people in the network who can assist in finding potential experts for projects are crucial approaches to reusing valuable, relevant knowledge.
3. **Insights:** A KM toolkit necessitates the incorporation of databases that provides information on clients, competitors and industries. This information is pertinent to client engagements and building strong, credible relationships.
4. **Collaboration:** For the PSF to be truly innovative, robust and agile, the collaboration pillar must be embedded within an organisational culture that is open to knowledge sharing.
5. **Experience:** An individual's experience or skill is paramount to the success of a project. Tools in the experience pillar point client-facing professionals in the right direction to find individuals who have experience and skills to perform optimally on projects.

Central to the above five pillars of the KM toolkit, the Search, Links, Authoring, Tags, and Extensions and Signals (SLATES) model (McAfee 2006) represents the role of people, process and technology:

- **Search:** Process of finding applicable content, searching for expertise and searching for relevant research material.
- **Links:** Process of linking relevant content to service line and industry pages, ensuring that updated information is easily accessible.
- **Authoring:** Ensuring that knowledge assets are contributed to the knowledge asset management database which links to the author on the Expert Locator Tool.
- **Tags:** When entering content and attachments into the knowledge asset management database, a functionality ensures that the user enters keywords.
- **Extensions and Signals:** An employee advocacy tool makes specific users and clients aware when new content

is uploaded according to areas of industry specialisation or interest.

This section discussed the pillars of the KM toolkit and the role of interaction between people, processes and technology. Next, the gaps are identified for improvement of the KM toolkit.

Each tool within the KM toolkit depicted some elements that did not work very well and needed improvement. Table 3 presents a list of these elements.

Gaps identified for the project tool were that there was an overwhelming need for information related to Africa, which remained unmet. This means that the PSF professionals are unable to find information that relates to Africa-specific topics, required by their clients. The inability to provide this information could mean a loss of client business as project experience evidence is not available. A firm-wide Africa campaign should be launched to capture Africa information.

The second weakness was that the quality of information provided on the Project Tool was not updated and of a poor standard because information was not being captured suitably. The poor quality of information provided is just as good as not having any information available because poor-quality information cannot be used for client engagement. There is a perception that the process of updating information takes too much effort. Another reason for the lack of contribution to the Project Tool could be the PSF's culture of sharing, which is not a proactive culture. People do not openly share information unless requested to do so for a specific engagement. The Project Tool therefore has not reached a stage of maturity where it can be trusted for the most updated, reliable information. This tool is the PSF's competitive advantage over other similar firms that are bidding for similar work because it depicts the firm's expertise, and therefore ability, to deliver on the engagement. The lack of contribution to the tool means that the PSF is unable to demonstrate their competitive advantage to clients.

Concerning the Eminence Tool, the lack of awareness of where to access the tool led to the perception that the tool is

**TABLE 3:** Gaps for improvement.

Tools	Africa information	Quality of information	Updating process	Unaware	Accessibility
Project Tool	•	•	•		•
Eminence Tool	•			•	•
Expert Locator Tool		•	•	•	
Content Locator Tool				•	
Research Tool	•	•			•
Compliance Tool				•	
Instant Messaging Tool		•		•	
Online Collaboration Tool				•	

Bullets signal gaps. Empty cells signal no gap.



**TABLE 4:** Verbatim feedback from interviews for Eminence Tool (emphasis added).

Accessibility	Marketing	Content
'... the information should be <b>easily searchable</b> '	'... used for <b>proposals</b> ...'	'... need to produce <b>more from Africa point</b> .'
'... should be able to <b>better search and access</b> the information'	'... used to <b>support events</b> ...'	'... <b>more Africa content</b> required ...'
'The tool is <b>not integrated</b> , if searching under global I have to go to specific countries'	'... take to <b>client visits to share</b> .'	'... content is localised from global topics, we need to have a more <b>unique view</b> .'
'... needs to be more <b>visible</b> '	-	'... we need more of an <b>African view</b> ...'
'... should be <b>in your face</b> '	-	-

not easily available and accessible, and therefore the participants were unable to find relevant information. Content that resides within this database was searched via a tedious process, which did not always result in the most accurate results. It was also a concern that this tool did not house enough Africa content of value to clients. The objective of this tool however is to centrally store the PSF eminence and not to develop the content. The lack of Africa content therefore could be the reason why this tool is underutilised. The underutilisation of the Eminence Tool means that the PSF is unable to demonstrate its innovative insights by creating the necessary exposure that is required to build vital client relationships. Verbatim feedback is presented in Table 4.

About the Expert Locator Tool, though most of the participants were familiar with the tool, many did not know exactly how to use the tool optimally to extract its intended value. There was a perception that it needed an update because it was mandatory but there was a lack of understanding the actual objective of the tool. Content is updated inadequately and consequentially the search results are not optimised. There is a perception that the process of updating information is time-consuming. Updating content means that one can find experts to work on specific projects for clients, being able to locate people who speak different languages for global mobility projects and being able to nimbly put together proposals by accessing relevant information. The value of the tool can therefore be seen to enhance competitive advantage by being agile and technologically innovative. Thus, data on the tool must be kept up to date and relevant.

A gap exists with both the Content Locator Tool and the IM Tool in terms of real-time access to relevant information, which is critical in a business that operates within a rigorous competitive climate. Utilising collaboration tools optimally can provide the basis for innovation and cross-functional thinking that will assist with encouraging a collaborative culture within the PSF. There is a need for the PSF to collaborate externally within a secure environment. Without a conducive environment to share knowledge proactively for the benefit of the entire organisation, the value of each of the tools to ultimately gain competitive advantage will not be realised.

Next, the recommendation is based on the research findings, analysis and discussion of the PSF's KM toolkit.

## Recommendation

Figure 3 presents a summary of components that will most likely improve the efficiency of the PSF's KM toolkit.

The recommendation is based on the research findings and literature review, which adds machine learning and gamification in addition to the suggestions that emerged from the interview, such as awareness campaigns, on-boarding presentations and e-learning courses on KM tools for all staff. The implementation of these recommendations will assist with enhancing the KM toolkit by ensuring that the current value of each tool reaches its potential value:

- **Awareness campaigns:** To educate users on the objectives of KM tools and how it can help with client engagements. To also show users how to access and use the tools optimally.
- **On-boarding presentations:** High-level presentation targeting new staff will drive awareness of all tools.
- **E-Learning:** Online courses on how to optimally use the tools and drive education on the objective of the tools for all staff will help with increasing understanding and usage.
- **Project tool:** Emphasise the importance of contributing quality information to the tool as well as Africa content. The lack of providing quality information means that there is a risk of losing valuable IP which poses a challenge for future client engagements.
- **Eminence tool:** The lack of Africa eminence should be addressed by identifying current Africa issues and themes and generating collateral that supports and adds valuable input to these subjects.
- **Expert locator tool:** For existing staff it should be integrated with project scheduling processes for the tool to maintain relevance and credibility.
- **Gamification:** Competitive elements like prizes and scores can also be included with the assumption that people will be inspired to advance or win in the context of the game. The approach of gamification can be used to endorse a range of activities and behaviours, from lobbying innovative ideas to inspiring collaboration.
- **Content locator tool:** Conduct awareness drive around the time saving value of tool.
- **Research tool:** A searchable dashboard is recommended.
- **IM tool:** Needs to be incorporated into an integrated solution which makes it easier to filter information that is relevant and meets individual needs.
- **Online collaboration tool:** It is important that the culture of sharing is further investigated. Discovering the reason for the lack of sharing willing and enthusiastically in the

Tools	Awareness campaign	Content update by project leaders	Content update by users	On-boarding presentation	Searchable dashboard	Integrated solution	Africa eminence	Africa content	E-learning	Quality checks by KM team	Gamification	Machine learning
Project tool CV: 2, PV: 5	●	●		●				●	●	●		●
Eminence tool CV: 2, PV: 4	●		●	●			●	●	●			●
Expert locator tool CV: 4, PV: 5	●		●	●					●		●	●
Research tool CV: 4, PV: 5	●			●	●	●		●	●	●		●
Instant messaging tool CV: 0.5, PV: 3.5	●			●		●			●			
Online collaboration tool CV: 2, PV: 4.5	●			●					●			

FIGURE 3: Recommendations for knowledge management toolkit enhancement.

South African PSF will assist with creating remedies towards becoming a more collaborative organisation.

## Conclusion

An evaluation of the current KM toolkit and recommendation of how to enhance the KM tools of a professional services firm could assist with the effective application of KM toolkits. The outcome of this research is a conceptual framework for describing and analysing the KM toolkit for a multinational company. The framework indicates the value creation that is realised from the implementation of a KM toolkit. In essence, understanding the reasons for a successful knowledge sharing culture will add value to the success of any KM programme. This study concludes that it is imperative to understand how KM can evolve with the changing work environment and integrate technological advancements for ongoing process improvements.

## Limitation of the study

This research was limited to the KM toolkit of the PSF in South Africa. Therefore, the study findings do not depict the perspectives of international PSF employees. However, the findings give an indication of the perspectives of users of the South African based KM toolkit.

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## Competing interests

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## Authors' contributions

All authors contributed equally to this article. The first author was a Master's student, who was supervised by the other two authors.

## Ethical considerations

This project was first registered in 2017 with the Faculty of Management, Higher Degrees Committee. Ethical clearance was obtained in 2017 from the Ethics Committee of the Department of Information and Knowledge Management (clearance number: FOM20170822\_IKM001\_2017).

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## Data availability

Recordings and transcripts of the interview data are available on request from the student author.

## Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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