

AN ANALYSIS OF THE KNOWLEDGE AUDIT METHODOLOGY: A CASE STUDY ON THE NATIONAL SCHOOL OF GOVERNMENT

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Abstract

The National School of Government (NSG) is a government institution whose mandate is to provide training to the public servants. Therefore, the institution is highly reliant on knowledge to achieve its strategic objectives. The Knowledge Management (KM) unit at the NSG is responsible for providing KM services to the NSG and facilitating the creation of an organisation-wide KM culture.

This case study examines the methodology that was followed to conduct a Knowledge Audit (KA) at the NSG and compares it with other KA methodologies recommended in the KM literature to determine if there is coherence between theory and practice. The scope of the study only limited to the KA methodology without discussing the findings of the audit itself.

In the 2015/16 financial year, prior the development of the organisational KM strategy, the KM unit undertook a KA to assess the state of knowledge and identify the knowledge needs within the organisation. The outcome of the KA was used to inform the development the organisational KM strategy. The deliverable of the KA process was a detailed KA report which served as a guiding document for the development of the organisational KM strategy. The presenters aim to share the outcome of their case study and engage further with fellow KM practitioners on their experiences in relation to the knowledge audit processes in their various organisations.

Key words: *Knowledge Management, Knowledge Audit, Knowledge Needs, Knowledge Inventory*

Introduction

The establishment of KM functions and/or initiatives in various South African government departments attests to the recognition of knowledge as a strategic asset in organisations. The public service is the biggest generator of knowledge. As such, it is important that the knowledge generated by government entities be effectively managed and utilised to support the achievement of organisational targets. Organisations require knowledge for innovation, sound decision making and operational efficiency.

As a government institution whose mandate is to provide training to the public servants, the NSG is highly reliant on knowledge to achieve its strategic objectives. Knowledge is the NSG's key product. The NSG's KM function was thus established to support the department in achieving its mandate by promoting organisational learning and ensuring effective management of knowledge. While the NSG envisages to achieve standardisation in terms of the quality of services rendered to its clients, it also needs to customise the service offerings according to each client's information and knowledge requirements.

To assess the state of knowledge and identify the knowledge needs within the organisation, the NSG's KM unit conducted a KA in the 2015/16 financial year. As with most organisations, the KA was conducted before the development of the organisation's KM strategy. The outcomes of the KA were used to inform the development the organisational knowledge management strategy.

Relevance of knowledge audits

Gourova, Antonova and Todorova (2009) define KA as a process of investigating the state of an organisation in terms of available knowledge and "further needs, knowledge flows and sharing among employees" as well as the use of knowledge in the business processes. KA determines "what knowledge the organisation needs, where that knowledge is, how it is being used, what problems and difficulties exist, and what improvements can be made" (Serrat, 2017).

Conducting a KA is often regarded as the first and most important step to establishing a KM initiative in an organisation (Levy, Hadar, Greenspan, and Hadar, 2010). However, KA is not a once-off exercise that is only undertaken prior the development of the KM strategy but a process that needs to be undertaken frequently in order to adequately respond to changes in the work environment and varying knowledge needs. As stated by Ragsdell, Probets, Ahmed and Murray (2014), "an iterative cycle of knowledge audits can also trigger informed interventions". A detailed KA helps an organisation identify its knowledge assets as well as its knowledge needs, gaps and opportunities that are critical for the achievement of its strategic objectives.

Despite the adoption of KAs in organisations, there is limited literature on the methodologies for conducting a KA (Du Toit, 2014). Also, there seems to be no consistency in terms of how different organisations conduct their KAs. This inconsistency and lack of sufficient guidance can result in reinvention of the wheel and inefficient use of resources in organisations. Despite the KA methodologies recommended in the KM literature, the decision regarding which KA methodology to use lies solely with the organisation.

Yip, Lee, and Tsui (2015) are of the view that the choice of KA methodology is dependent on the type of knowledge that an organisation would like capture, particularly in relation to business processes. Accordingly, KA can be conducted to “identify and capture procedural knowledge” where business processes are structured and routine or to “facilitate the sharing of experiential knowledge” on processes that are unstructured and changeable (Yip et al, 2015). When capturing knowledge on structured processes, an organisation will identify the knowledge assets, inventories and the knowledge workers within various organisational units. On the other hand, knowledge from unstructured business processes helps identify knowledge networks, relevant stakeholders and cross functional activities within the organisation.

Literature Review

Literature on KM emphasises the importance of KAs, but there is no unanimously endorsed methodology or framework for conducting KAs. However, the common elements in most of the methodologies presented in literature are the analysis of the organisation’s knowledge inventory, knowledge needs and knowledge flows. The final step is the knowledge mapping, which identifies the sources of explicit and tacit knowledge in the organisation, the knowledge roles and expertise within the organisation, bottlenecks in the flow of information and opportunities to exploit existing knowledge for the achievement of the organisational goals. The outcome of the KA process is a detailed KA report which would serve as a guiding document for the development of the organisation’s KM strategy (Pa, Taheri and Abdullah, 2012 and Perez-Soltero, Barcelo-Valenzuela, Sanchez-Schmitz, Martin-Rubio and Palma-Mendez, 2006).

According to Choy, Lee and Cheung (2004), the KA methodology comprises three phases, namely, the pre-audit preparation, in-audit process and post-audit analysis. The pre-audit process focuses on culture assessment and KM awareness. The in-audit process entails “structured interviews to capture process-critical knowledge”. Lastly, the post-audit analysis includes knowledge inventory, knowledge maps and knowledge flow analysis. The notable difference between this methodology and the other KA methodologies adopted by most organisations is the pre-audit preparation phase which pays special

attention to culture assessment and KM awareness. In most cases culture issues are incorporated into all phases of the KA methodology instead of separately.

On the other hand, Kumar (2013) is of the view that KA generally comprises four key components, namely, the knowledge need analysis, knowledge inventory analysis, knowledge flow analysis and lastly, knowledge mapping. At the knowledge need analysis stage, the organisation identifies the current and future knowledge needs that will enable it to achieve its performance targets. The knowledge inventory analysis entails identifying the knowledge assets and resources that are existent within the organisation at the time of the audit. Identifying the location of the knowledge assets and resources is important at this stage. The knowledge flow analysis looks at people, processes and systems to determine how knowledge flows within the organisation. During this phase, the knowledge gaps and constraints that may need to be addressed in future and are also identified. Knowledge mapping, which is the last phase of the KA process, entails a schematic representation of the knowledge resources and assets as well as the knowledge flow within the organisation. However, this KA methodology, which has been widely adopted by most organisations, has been found wanting in certain areas. As pointed out by Ganasan (2011), this methodology does not provide recommendations on the appropriate KM strategy to be undertaken based on the outcomes of the KA process nor “include the development of a knowledge network analysis to understand the knowledge acquiring methods” (Ganasan, 2011).

In response to the limitations identified in most of the KA methodologies, Ganasan (2011) proposed a 6-stage knowledge audit model which would enable organisations to measure the risks and opportunities associated with their state of knowledge and address the identified gaps. The proposed methodology also recommends tools to be used at every stage of the process. The six stages of the proposed model are: assessing the organisational strategic information and culture, obtaining and prioritizing organisational core processes, measuring the current knowledge health, knowledge audit reporting, recommendations of knowledge management strategies and continuous knowledge re-auditing. The key contributions of this proposed KA model is the analysis of the how well knowledge is used to achieve the organisational goals and the emphasis on continuous knowledge re-auditing. This reaffirms the importance of conducting KA frequently in response to the changing knowledge needs.

Jafari and Payani (2013)’s proposed systematic approach to KA comprises six (6) steps which are: identifying organisation’s knowledge objectives, identifying organisation’s experts, identifying organisation’s knowledge documents, determining organisation’s enjoyment of knowledge, determining knowledge importance and auditing organisation’s knowledge situations. The proposed methodology helps identify the current state of knowledge in organisations and suggests solutions to achieving/ reaching the desired state. Similar to most KA methodologies, the first step is about identifying the level of knowledge required

to achieve the organisation's objectives and vision. Steps 2 and 3 of Jafari and Payani (2013)'s KA methodology entail the identification of tacit and explicit sources of knowledge sources. Unlike other methodologies which focus on both tacit and explicit sources of knowledge during the inventory analysis phase, this methodology deals with the two types of knowledge sources separately (Tacit sources at steps 2 and explicit sources at step 3).

The fourth (4th) step, which is different from the phases and activities outlined in most of the KA methodologies is about determining the use, impact and benefits of the identified tacit and explicit sources of knowledge to the organisation. This stage looks at how knowledge from the experts is transferred/shared with other employees within and outside the organisation as well as how the knowledge acquired by the organisation is benefitting (or has benefited) the organisation. This is one of the key contributions to literature on KA as it emphasises the value and significance of knowledge in organisations. Step 5 entails determining the importance of available knowledge in relation to the achievement of the organisation's knowledge objectives and vision as well as prioritising it accordingly. The criteria for identifying knowledge importance is according to financial, customer, internal, learning and growth perspectives.

The last step (step 6) of Jafari and Payani (2013)'s proposed systematic approach to KA is an assessment of an organisation's knowledge fields in critical, desirable, saving and non-critical areas. An organisation's critical area is the one that must be given first priority for the organisation to improve. The knowledge fields in the desirable area have a desirable situation while those in the saving area can be "promoted to the desirable situation by making the appropriate strategies". The non-critical area is unimportant and should not be focused on (Jafari and Payani, 2013).

The NSG's Knowledge audit methodology

This section discusses the methodology that was followed by the NSG in conducting KA. A qualitative approach will be used to describe, discuss and analyse the NSG's KA methodology.

The KA undertaken at the NSG was aimed at identifying the current and future knowledge requirements of all the business processes and applicable knowledge sources that could fulfil those knowledge requirements. Additionally, it would serve as a launching pad for an effective, rational and well-planned KM strategy.

As outlined in the terms of reference for the project, the audit ought to answer the following questions:

- What are the NSG's knowledge requirements?
- What tacit and explicit knowledge assets does the NSG have and where are they?
- How does knowledge flow within and outside the NSG?

- What knowledge gaps exist in the NSG?
- How is the knowledge secured against potential loss?
- How do employees in the NSG keep their knowledge from becoming obsolete?

The KA exercise comprised five stages as outlined in the table below.

Table 1: NSG's KA methodology

KA stages/ phases	Activities	Deliverable(s)
1. Knowledge needs analysis	<ul style="list-style-type: none"> • Conduct a knowledge survey 	<ul style="list-style-type: none"> • Survey analysis report
1. Knowledge inventory analysis	<ul style="list-style-type: none"> • Assess existing knowledge sources • Conduct individual interviews with key role players. 	<ul style="list-style-type: none"> • A report from the individual interviews.
2. Knowledge flow analysis	<ul style="list-style-type: none"> • Undertake focus group discussions with all branches. 	<ul style="list-style-type: none"> • A preliminary KA report incorporating inputs focus group discussions.
4. Knowledge mapping	<ul style="list-style-type: none"> • Develop a process map of what knowledge exists in the organisation. 	<ul style="list-style-type: none"> • Knowledge map with: <ul style="list-style-type: none"> - a description of where knowledge exists and how it flows; and - a description of gaps and duplication in knowledge assets.
5. KA reporting	<ul style="list-style-type: none"> • Compile a detailed KA report • Circulate the report to staff 	<ul style="list-style-type: none"> • KA report

Knowledge needs analysis

As a starting point, an online survey was conducted to determine the employees' views regarding the KM practices and at the NSG and determine their knowledge needs. The respondents' views on what KM is and what it is supposed to be were sought. The survey, which was circulated to all NSG staff, consisted of 20 multiple choice questions and took approximately five (5) minutes to complete. There was also provision for additional comments regarding additional knowledge requirements at the end of the survey. Included in the survey were also questions that were intended to determine the organisational culture in relation to KM.

The KM survey was easy and quick to administer and the response rate was satisfactory; with sixty nine percent (69%) responses received. Another benefit of an online survey is that it has a broader reach than other data collection techniques. Data obtained from the survey was analysed and taken into consideration in the subsequent phases of the KA process.

Knowledge inventory Analysis

After determining the knowledge needs and KM practices within the organisation, an assessment of existent explicit (documented) and tacit (experiential, relational and intangible) sources of knowledge was undertaken. Explicit sources of knowledge that were looked at included the corporate intranet, library, internet, statistical analyses, HR directory, emails, electronic systems, computer hard drives and official documents such as strategic plans, annual performance plans, corporate policies, standard operating procedures, cabinet statements.

To assess tacit sources of knowledge, employees within the organisation who possess extensive experience, competencies and information about the organisation were identified to participate in individual interviews. The objective of the interviews was to obtain information about the interviewees' roles, their sources of knowledge, knowledge needs as well as their interfaces with both internal and external stakeholders. Their views about the organisational culture and how KM could support their needs were also sought.

Key participants were identified that fit the following roles:

- Strategist: someone who understands the bigger picture
- Senior management: a visionary that can align the long term vision with the operational strategy
- HR Manager: someone that can convey the employee skills
- Marketer: an individual who understands the marketability of the products
- Information technologist: an individual with knowledge, skills and expertise of technology implementation

- Knowledge analyst: someone from any functional area who can integrate inputs
- Operations: Someone who understands the business of the NSG

Knowledge flow analysis

To obtain inputs from staff on how information and knowledge flow within the organisation, focus group discussions were held with employees across all organisational levels. To ensure branch representivity, individuals were selected from each branch to participate in the focus group discussions. To ensure unbiased feedback, an external facilitator was assigned to moderate the discussions.

Employees were grouped and allocated interview slots according to their job/salary levels. There were three categories; namely, employees on salary levels 1 – 8 (Lower level staff), employees on salary levels 9 – 12 (Low and Middle Managers) and employees on salary levels 13 – 16 (Senior Managers).

Grouping employees according to their job/ salary levels gave a clear indication of the information and knowledge needs per organisational level. For instance, staff who are functioning at an operational level of the organisation required different information and knowledge from those at a strategic level. An element of organisational culture that was also a spin-off to grouping staff according to their job levels was that it enabled staff to freely express their views and frustrations in the absence of their supervisors.

The focus group discussions also sought to identify the knowledge gaps and appropriate interventions to improve efficiency. During the discussions, employees were requested to propose KM initiatives that could be implemented to address the identified knowledge gaps and prioritise them according their level of urgency. The proposed list of KM initiatives helped the KM unit identify the quick wins address the knowledge gaps.

The focus group discussions revealed inherent differences of the multidisciplinary teams and provided rich data on a holistic organisational level. They also delivered important links to additional stakeholders who were not initially identified. Focus groups proved to be efficient in terms of collection of detailed, rich data – which may not have been achieved with other data collection techniques. As supported by Carey and Asbury (2016), focus groups “provide context and perspectives that enable experiences to be understood holistically”.

The results of the focus group sessions were documented and served as valuable resource to inform the development of the KM strategy.

Knowledge mapping

A knowledge map is a visual representation of the knowledge resources and assets as well as the knowledge flows within the organisation (Kumar, 2013).

Through knowledge mapping, an organisation is able to identify knowledge that exists at a given time, where that knowledge is located and how that knowledge circulates within the organisation. Furthermore, knowledge gaps and bottlenecks may be identified through the knowledge mapping processes.

Data collected from the inventory analysis and knowledge flow analysis phases is used to develop the knowledge maps.

KA reporting

The last phase of the audit process entailed the development of a detailed report on the outcomes of the assessment and dissemination of the report to staff. Included in the report were recommendations for KM unit on initiatives that needed to be implemented urgently as well as matters for consideration during the development of the knowledge management strategy.

The report was also circulated to all staff through emails and uploaded on the organisational knowledge hub. The outcomes of the KA were also presented at various structures within the organisation. Not only did the sharing of the report instil the sense of ownership among staff; it also reaffirmed their contribution to the achievement of the organisational goals.

Comparative Analysis of NSG's KA Methodology

This section presents a comparative analysis of the NSG's KA methodology against various KA methodologies discussed in KM literature.

The NSG's KA methodology can be located within the three phases of the KA methodology described by Choy *et al* (2004), namely, pre-audit preparation, in-audit process and post-audit analysis. The notable difference between these two methodologies is the emphasis placed on culture assessment and KM awareness in the pre-audit phase of Choy *et al* (2004)'s methodology. While some of the questions that were included in the NSG's KM survey were aimed at assessing KM awareness and the employee's views on the organisational culture, those elements were not considered as specific activities within the KA process. The other difference is in terms of the sequence of activities. Knowledge inventory analysis is the second (2nd) phase after the knowledge needs analysis in the NSG's KA methodology while in Choy *et al* (2004)'s methodology, it is the third activity and part of the post-audit analysis. Also, contrary to the NSG's KA methodology, knowledge mapping precedes the knowledge flow analysis in the KA methodology described by Choy *et al* (2004).

The phases outlined in the NSG's KA methodology are similar to the one described by Kumar (2013) as discussed in section 3 of this report. However, Kumar (2013)'s KA methodology does not include KA reporting. The last phase of Kumar (2013)'s methodology is knowledge mapping. In the NSG's KA

methodology, KA reporting is treated as a separate phase because it goes beyond the development of the report – it includes the sharing of the outcomes of the KA process through various communication channels within the organisation.

In comparison with the 6-stage knowledge audit model proposed Ganasan (2011), the NSG's KA methodology did cover some of the objectives outlined in the stages of Ganasan (2011)'s model such as knowledge reporting, identification of tacit and explicit sources of knowledge and provision of recommendations for the KM strategy based on the outcomes of the audit. The NSG's KA model also identified critical knowledge for achievement of the organisational goals as well as the tacit and explicit sources of that knowledge. However, it did not measure the impact of the knowledge management processes in relation to the achievement of the organisational goals. Even though knowledge re-auditing is not included in the NSG's KA methodology, the organisation supports the notion of conducting KAs on a regular basis.

While there are similarities between the objectives of phases 1, 2 and 3 of the NSG's KM methodology and those of steps 1, 2 and 4 of Jafari and Payani (2013)'s proposed systematic approach to KA, there are distinct differences that are worth noting. Jafari and Payani (2013)'s KA methodology does not include knowledge mapping and KA reporting but has the following steps instead which are not included in the NSG's KA methodology: determining organisation's enjoyment of knowledge, determining knowledge importance and auditing organisation's knowledge situations. Unlike the NSG's KA methodology which only focuses on identifying the tacit and explicit knowledge sources and analysing the flow of knowledge, Jafari and Payani (2013)'s KA methodology goes further to determine the impact of knowledge within the organisation and prioritises knowledge according to its level of importance.

Conclusion and Recommendations

The KA undertaken at the NSG provided valuable information on the status of KM within the organisation and assisted the KM unit in identifying the knowledge needs and gaps that needed to be addressed. The spin-off of the KA process was that it encouraged information and knowledge sharing across various organisational units and boosted employee morale as each contribution was acknowledged and captured. Furthermore, there was a sense of comradeship as staff members realised that they had similar knowledge needs and views as far as the role of KM in the organisation is concerned.

Despite the notable similarities and differences between the KA methodology and other KA methods discussed in KM literature, most of the KA methodologies have similar activities. While the methodology that was followed by the NSG to conduct the KA did achieve its intended objective, there is a need to pay special attention to the benefits and value of knowledge in organisations. The value of knowledge in the organisations will only be realised if it contributes

to the organisational growth, productivity and efficiency, financial benefits and market development. Through their proposed systematic approach to KA, Jafari and Payani (2013) have made a valuable contribution to literature on KA by providing a useful guideline on how incorporate the value of knowledge into KA. The proposed methodology also provides solutions for achieving/ reaching the desired state with regard to organisational knowledge.

While the choice of the KA methodology lies solely with the organisation, the following recommendations are made in terms of conducting KAs in public sector organisations:

- (i) Conduct KAs as regularly to adequately respond to the ever-changing knowledge requirements;
- (ii) Clearly define the objectives of the audit at the beginning of the project and communicate them to staff;
- (iii) Involve all staff to ensure the richness of data and obtain views from all levels of the organisation. Also disseminate the outcomes of the audit throughout the organisation to promote ownership and commitment to the KA process;
- (iv) Be cognisant of the organisation culture when deciding on the KA methodology. Customise the methodology and activities to suit culture of the organisation.

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