
Reflection of a Knowledge Audit Methodology for Unstructured Business Processes: A Case Study in a Hong Kong Enterprise

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Structured Abstract

This paper briefly presents a knowledge audit methodology based on narrative-enabled knowledge elicitation and activity-based knowledge representation to analyse the tacit knowledge embedded in unstructured business processes. The methodology was implemented in a Hong Kong company with successes.

Purpose – This paper aims to present the reflection of a knowledge audit case study in a public utility company in Hong Kong

Design/methodology/approach –Design-Based Research (DBR) approach was adopted in this knowledge audit research. DBR is a systematic study of materials and sources in order to establish facts and reach new conclusions through a series of iterations.

Originality/value –This research opens a new gateway in knowledge audit study, exploring the relationship between knowledge audit and knowledge elicitation as well as knowledge representation methods in unstructured business processes where no prior work exists.

Practical implications –Reflecting on the implemented case study help perfecting and formulating the design of an upcoming case. Besides, reflection is a crucial step in DBR approach.

Keywords –Knowledge Audit, Knowledge Representation, Knowledge Elicitation, Activity Map, Design-based Research

Paper type – Academic Research Paper

1 Introduction

Knowledge audit is recognized as the first and crucial critical step in any knowledge management initiative (Hylton, 2002a; Liebowitz *et al.*, 2000). It is defined as a systematic and scientific examination, review, assessment and evaluation of a company's knowledge health in terms of its existing explicit and implicit knowledge resources, its information and knowledge policies (Hylton, 2002b). Besides, Knowledge Audit is also commonly carried out to help identify appropriate strategies for knowledge retention (e.g. combating knowledge loss due to staff retirement). Knowledge audit can be performed by two major phases, namely knowledge elicitation, and knowledge representation. Traditional knowledge elicitation methods adopted in knowledge audit, such as questionnaire and interviews, and knowledge representation methods, such as knowledge inventory and maps, could hardly be applied in current trend when structured business processes are gradually replaced by unstructured business processes. Existing knowledge mining methods biased over explicit knowledge than tacit knowledge extraction, while existing knowledge representation methods are inappropriate for activity-based analysis and team interpretation. This paper illustrates a case study implemented with a newly developed activity-based knowledge audit methodology in a public utility company in Hong Kong. The new methodology and the reflection of its iterations are discussed.

2 A Case Study in a Public Utility Company in Hong Kong

A knowledge audit methodology (Figure 1) has been developed with four phases, including audit preparation, knowledge elicitation, knowledge representation and audit results reporting using the design-based research (DBR) approach. The DBR approach focuses on interventions and their effect in multiple contexts. DBR approach serves the dual purposes of contributing to both theory and practice, materializing the research in two distinctive but interwoven streams of inquiry (Andriessen, 2007).

This knowledge audit methodology features on an indirect knowledge elicitation method, including anecdote circle, sense making and individual knowledge map, to elicit contextual implicit knowledge. It also features on the application of an activity-based knowledge representation method, namely activity-based knowledge map, to visualise the complex interplay among the stakeholders, knowledge and activities involved in unstructured business processes. Without visualising the complex relationships,

knowledge audit analysis work in unstructured business processes could be difficult and inaccurate.

Phase 1 Audit Preparation	<ul style="list-style-type: none"> ◆ Project scope and objective were defined. ◆ Project respondents were nominated.
Phase 2 Knowledge Elicitation	<ul style="list-style-type: none"> ◆ Individual-Activity Maps were constructed ◆ Knowledge items and categories were identified.
Phase 3 Knowledge Representation	<ul style="list-style-type: none"> ◆ Knowledge-Activity Map was constructed by mapping knowledge items with individual activity maps
Phase 4 Audit Results Reporting	<ul style="list-style-type: none"> ◆ Audit results were generated from knowledge-activity map

Figure 1 Methodology of the latest DBR Iteration

3 Design Based Research (DBR) Reflection

Existing knowledge audit results are analysed and recommended after the auditors' interpretation on the outputs from the knowledge elicitation processes (individual activity map, anecdote circle and sense-making), and knowledge representation processes (traditional knowledge audit results and activity-based results). Due to the auditors' authority, the clients usually regard the auditor-deduced knowledge audit results, recommendation and strategy as ideal plans which are ready for immediate execution. This phenomenon reflects the auditors' dictation in the process of knowledge representation analysis, offering a slim chance for the clients to conduct internal communication and reflection to co-generate a knowledge management strategy with the auditor. In this regard, the existing knowledge audit methodology in the market and the previous iterations in this knowledge audit research focus on the auditors' role to collect and analyse data, and thus, knowledge audit findings. The crucial role of team members in the interpretation of knowledge audit results to deduce team-centric action plans is neglected.

In structured business processes, best practices are usually applicable. (Snowden, 2007) Experienced knowledge auditors simply apply their professional expertise to

analyse knowledge audit results and formulate team knowledge management strategies. However, in unstructured business processes, the users' thinking and learning process is valuable and irreplaceable even by skilful knowledge auditors. People should notice that in complex and changing situations, there are no right answers, at least not for very long. The establishment of team interaction and momentum to continually evaluate the team knowledge reservoirs is the most valuable (Eppler and Sukowski, 2000). External parties shall be invited in team conversation to offer advice, yet not dictate the direction of team knowledge management strategy. In the design of the next iteration, team learning element will be introduced to the analysis of knowledge representation phase to encourage team members to reflect, interpret, analyze, communicate and internalise the audit findings in the environment of the studied unstructured business process. Indeed, employees are equipped with the contextual knowledge, cultural sensitivity and practical experiences to analyze the audit findings. With the opportunities for extendable and thorough sharing and discussion, employees could co-generate a team-centric knowledge management strategy which has flexibility to be accommodated to changing circumstances in unstructured business processes.

4 The Next DBR Iterative Case Design

The DBR reflection above sheds light on the design of a team-centric knowledge representation analysis in the new iteration. The design rationale stemmed from two origins. Firstly, the Visualisation In Participatory Program (VIPP), adopted by the United Nations and UNCIEF (Salas *et al.*, 2010), offers the insight of an action-reflection-action analysis in participatory facilitation style in team setting. Another inspirational input is triggered by the concept of theories of actions by Argyris and Schön (1974), who advocate that a team's hypothesis guide the way they plan, implement and review their actions. The action-reflection-action facilitation style and the theories of actions concept contribute to the construction of the team-based knowledge audit analysis framework in Figure 2. The way framework could be explained by two sub-processes, including the sub-process of the conversion from *Ground Truth to Insights/ Hypothesis*, as well as the conversion from *Insights/Hypothesis to Opportunities*.

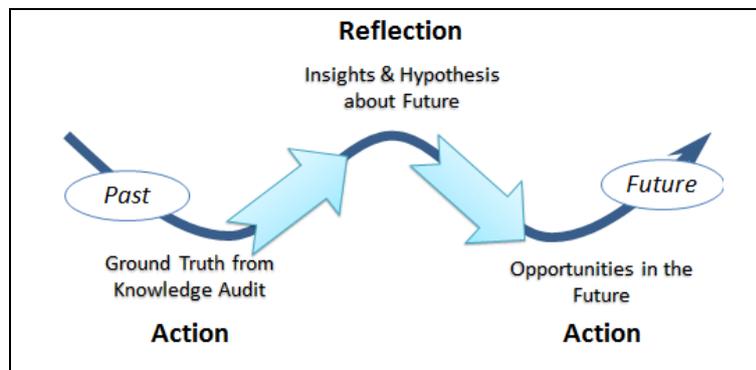


Figure 2 A team-based knowledge audit analysis framework

4.1 From Ground Truth (Past Actions) to Insights/Hypotheses (Reflection to Future)

Analysis of the ground truth from knowledge audit results help trigger insights on the team hypothesis. The auditor will show and illustrate to the team about the knowledge audit findings, such as the critical implicit and explicit knowledge categories, critical knowledge workers, the knowledge activity maps, in a rotating plenary setting. Team members will express innovative and constructive insights/hypotheses after the auditor's presentation. The insights/ hypotheses, whether macro or micro, are discussed and regarded as the guiding principles in the formulation of a team knowledge management strategy. Double-loop learning is fostered while hypotheses are identified. The fact that the root cause(s) of errors requires a modification of an organization's underlying norms, policies and objectives is therefore addressed. The team then learn to learn the governing principles and the subsequent action strategies, which lead to problems, and thereby modify the guiding principles in order to produce desirable consequences (Argyris and Schön, 1974). The insights/hypotheses are important to guide the overall knowledge management plan in the future, conducive to team decision-making and dispute-resolution. The techniques to be used in this sub-process are open for the team's discretion, while idea generation methods such as knowledge café, buzz groups, and brainstorming could be suggested.

4.1 From Hypotheses (Reflection to Future) to Opportunities (Future Actions)

The articulated hypotheses from last sub-process are investigated to identify clear implementation opportunities in a team's real work. In this sub-process, team members

match hypotheses with upcoming events to create robust and testable action plans. This phase is important in getting participant to the table that will have their hands, hearts, and minds to think into the “bones” of the solution. This sub-process generates robust solutions that take into account a range of situations, creates ownership for the solution rather than imposing it, and sets the stage for learning and adaptation at the level of implementation. The goal of this phase is not to generate an absolutely ‘correct’ knowledge management plan, but an adapting and commonly agreed one, because agility rather than accuracy is the critical success factor in the management of complex and unstructured business processes. The team-centric knowledge audit analysis process shall not be seen as a once-off event as today’s opportunities may turn into tomorrow’s ground truth.

5 Conclusions

This paper mainly focuses on the reflection of a case study in a public utility company in Hong Kong. The authors deduce a team-centric knowledge audit analysis framework such that respondents could discuss and co-generate action plans based on the knowledge audit results. The rationale of a team-centric analysis approach is that knowledge auditors is often not qualified in interpreting the knowledge audit results of unstructured business processes, in which best practices is not applicable to the fast-changing and complex environment.

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