Employees' responsibilities in a knowledge retention strategy: a Ugandan case study

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Abstract

When people join organisations, they come with their experiences, skills and expertise and they gain further knowledge as they execute their duties. Employees may write reports, research papers, and books; others may capture their expertise in expert systems. However, whatever is captured in these forms is modest compared to employees' total knowledge. When they leave their employment, they carry with them most of their knowledge, resulting in loss of organisational intellectual asset and erosion of organisational memory thus negatively impacting on learning and innovation. Tacit knowledge is more vulnerable than explicit knowledge to being lost.

An exploratory study was conducted in the Ugandan National Agricultural Research organisation (NARO) to identify strategies that can be implemented to minimise loss of tacit knowledge. One of the research questions this study addressed was 'how can individual employees help NARO to minimise knowledge loss?' This paper presents results from thirty six focus groups and highlights mandatory retirement, resignation, termination of contract, death, and absconding as the major reasons for tacit knowledge being lost from the organisation; it also identifies eight responsibilities for individual employees in minimising knowledge loss from the organisation. These responsibilities are: develop a spirit and attitude to sharing knowledge; capture and document processes, experiences and results; mentoring others and willingness to learn; being result-oriented and having passion for the job; be an effective team player; seek opportunities to acquire and improve knowledge; being open, transparent and trusted; and applying acquired knowledge. Whereas the authors acknowledge that management is responsible for ensuring that individual employees exercise their responsibilities in helping the organisation to minimise knowledge loss, it is not a focus of this paper to present and discuss such management responsibilities.

Undertaking the responsibilities effectively requires an enabling organisational environment. Such an environment is likely to encourage employees to engage themselves in a positive behaviour of knowledge sharing so that even when an employee who is knowledgeable in a particular aspect leaves the organisation there will be some other employees with such expertise if it is shared within organisational teams or employee groups.

Keywords: tacit knowledge, knowledge retention, retention strategy, employee responsibilities

1. Introduction

Knowledge is a strategic resource in organisations. Bollinger and Smith (2001) acknowledge that knowledge is a crucial ingredient for gaining competitive advantage and becoming innovative. Knowledge about past research and development projects, failures, successes, resources and organisational processes is the key driver in supporting effective decision-making. This requires knowledge, whether domain-specific or procedural or social, to be readily available and accessible to employees. Consequently, the ability of organisations to survive and thrive hinges on their ability to create, acquire, process, maintain and retain old and new knowledge. In the case of the Uganda National Agricultural Research organisation (NARO) the environment, in which the carriers of knowledge work, is characterised by rapidly evolving scientific and technical fields that bring about substantial experiential knowledge. Unfortunately little of this knowledge is shared and documented leaving much of it stored in employees' heads as tacit knowledge (DeLong, 2004). The departure of employees leaves significant gaps in valuable knowledge; these knowledge gaps are likely to manifest themselves in reduced capacity to innovate, poor quality of research products and services, committing mistakes in operations, costly disruptions in performance or operations, and loss of competitive advantage (DeLong, 2004). As part of a wider study on knowledge retention for learning and innovation, an exploratory study was conducted in NARO to develop a framework that can be implemented for retention of tacit knowledge. This paper presents and discusses the results of one of the research questions this study addressed which is 'how can individual employees help NARO to minimise knowledge loss?'

1.1 Challenges of tacit knowledge

Tacit knowledge is defined as “knowledge that resides in the minds of the people in an organisation but has not been put in structured, document-based form” Davenport *et al*. (1998, p. 45). It defines the “core competencies based on the skills and experience of the people who do the work” (Bollinger and Smith, 2001, p. 9) to deliver on the mandates of their organisations. It includes all knowledge “that is unarticulated and tied to the senses, movement skills, physical experiences, insights, intuition, or implicit rules of thumb, beliefs, ideas and values” (Nonaka and von Krogh, 2009, p. 635). Hatsopoulos and Hatsopoulos (1999) assert that tacit knowledge drives every human action. Venkitachalam and Busch (2012) acknowledge that “the use of tacit knowledge in an organisation can contribute to strategic benefits in the form of business innovation, financial growth and industry performance” (p. 359). So in practical settings of agricultural research organisations, tacit knowledge is probably key to intelligent behaviour for learning and generating innovations for agricultural development. As noted by von Krogh *et al*. (2000), it is knowledge of this kind that enables an employee in an organisation to clearly identify a problem or an opportunity, and then select and implement an appropriate course of action.

However, being able to tap into tacit knowledge is challenging. Tacit knowledge is invisible, cannot be captured in a traditional manner, or stored and transmitted electronically. Quite often it is deeply embedded in the unconscious memory, tied to senses, highly embodied and therefore cannot be fully articulated (Spender, 1996). It may be in people’s minds and therefore difficult to communicate to other people in the form of words, numbers or symbols. Inaccessibility to some tacit knowledge to human consciousness makes it inarticulable (Busch, 2008, and O’Toole, 2011).This may be one of the explanations of people not knowing all they know.

Tacit knowledge which is consciously accessible to human memory is articulable tacit knowledge (Busch, 2008). It is the articulable tacit knowledge that can easily be shared with others. The challenge is how to improve human access to what is tied to unconscious memory so that it can be articulated for easy sharing. When they leave their employment, they carry with them their tacit knowledge. Tacit knowledge

therefore seems to be more appropriate to target for preventing loss with the departing employees through appropriate knowledge management practices. The challenge is how to retain such knowledge in organisations for employees to access or apply in their daily work.

1.2 Knowledge Retention Strategies

Knowledge retention may also be called continuity management (Beazley *et al.*, 2002). Martins and Meyer (2012, p. 80) define knowledge retention "as maintaining, not losing, knowledge that exists in the minds of people (tacit, not easily documented) and knowing (experiential action manifesting in behaviour) that is vital to the organisation's overall functioning". Argote *et al*. (2003, p. 572) assert that "knowledge retention involves embedding knowledge in a repository so that it exhibits some persistence over time". Thus knowledge retention may be looked at as an act of building organisational memory (DeLong, 2004). This ensures continuity management where knowledge is preserved and made accessible to current and new employees in an organisation.

Low or no priority given to knowledge retention has been identified as a major barrier to sharing and application of knowledge for improved organisational performance (Riege, 2005; O'Toole, 2011). Knowledge retention is of great concern in knowledge management because of persistent employee mobility resulting in significant organisational knowledge loss (Levy, 2011). In the current global and dynamic business world, skilled workers are highly mobile and aware of their value in the marketplace. Consequently, employees are likely to continue leaving organisations leading to loss of knowledge (Leonard and Sensiper, 1998). As observed by Liebowitz (2009, p. 115) "knowledge retention will continue to be a critical issue for many organisations in the years ahead".

Working for an organisation, employees may attain many years of practical experience and accumulate knowledge through individual's direct experience, organisational processes and practices, observations and knowledge, function and job routines. These employees use their minds implying that they own their means of production. When they leave, they take this means of production with them. When employees leave an organisation, it is the tacit knowledge which is at more risk of

being lost compared to explicit knowledge which remains within the organisation. It is this wealth of knowledge that organisations should strive to retain. Knowledge retention may therefore be considered as part of strategic human capital management (Liebowtiz, 2009) aiming at ensuring minimising knowledge loss. If tacit knowledge is lost it may lead to decreased employees' capacity to apply knowledge to solve problems, make decisions and perform actions. In this regard Martins and Meyer (2012, p. 79) assert that "to maintain capacity and remain competitive, critical knowledge loss should be prevented by retaining it". Therefore, for organisations to be successful in the knowledge economy they need to exhibit high abilities to retain organisational knowledge.

Whereas Levy (2011) asserts that knowledge retention activities can be undertaken immediately after a person has left an organisation, most employees are less likely to go back to share their knowledge after leaving an organisation. To this effect Liebowitz (2009) and DeLong (2004) observe that it is better to integrate knowledge retention in the daily jobs and functions of employees. From the foregoing, there seem to be three broad categories of knowledge retention strategies which can be termed as; 'Reactive' (short term), 'Containment' (medium term) and 'Preventive' (long term) knowledge retention strategies. Reactive is a short term knowledge retention strategy which is characterised by formal processes to capture knowledge from retirees at the time of their departure by conducting exit interviews (Liebowitz, 2009). The timing may vary from one day to three months. However, given the short time within which to capture experience and insights gained over many years, this strategy may not be effective. An organisation may later respond to knowledge loss by hiring a contractor or consultant, who could be the same person who left the organisation, to fill the knowledge gap.

Containment is a medium term knowledge retention strategy that offers a better solution than a reactive strategy for capturing knowledge from a retiree for a period of one to three years before he or she is eligible for retirement (Liebowitz, 2009 and Levy, 2011). This provides an opportunity to explore all facets of the knowledge possessed by the retiree and also ensures that the knowledge is captured relatively well. Lastly, the preventive strategy seems to be the best strategy. This is the long term strategy where knowledge retention starts early, for example, three months

from the time an employee is recruited, and continues until he or she retires or resigns (Levy, 2011). This strategy is a deliberate facilitation of knowledge sharing and flow amongst staff in order to avoid its loss through attrition (Butler and Roche-Tarry, 2002). This makes knowledge retention part of strategic human capital management and part of the organisational social fabric (Liebowitz, 2009), a strategy suitable to retain knowledge from all employees irrespective of the reason for leaving the organisation. This paper focuses on the responsibilities of employees in a preventive knowledge retention strategy.

1.3 The case study organisation – NARO

The organisation chosen as the case study was NARO which is a public institution established on 4th December 1992 by an act of Parliament (NARO Statute, 1992). It is responsible for guidance and coordination of all agricultural research activities in the national agricultural research system in Uganda. Its mandate is to ensure the generation, adoption and dissemination of appropriate and demand-driven technologies, knowledge and information through an effective, efficient, sustainable, decentralised and well-co-ordinated agricultural research system. NARO has 840 employees of whom 244 are females and 596 are males.

NARO comprises of the council as its governing body, committees of the council as its specialised organs, a secretariat for its day-to-day operations with fifteen semi-autonomous public agricultural research institutes (PARIs) strategically located across the whole country under its policy guidance. Six of these PARIs are national research institutes (NARIs) mandated to manage and carry out agricultural research of a strategic nature and of national importance. The other nine PARIs are zonal agricultural research and development institutes (ZARDIs) mandated to manage and carry out agricultural research specific to their agro-ecological zones.

NARO is faced with increasing movement of intellectual capital. Analysis of the human resource database shows that in a period of 20 years, from January 1994 to December 2013, 879 employees left the organisation due to several reasons: resignation for better job prospects or to be self-employed (344), attainment of mandatory retirement age (167), death (151), termination of contracts (133), end of contract (39), and absconding (18). Results further show that more than 50% (483)

of the employees who left the organisation were the support staff followed by scientists (289) and technicians (107). Of the 879 employees who left the organisation, around 10% had PhDs, nearly 20% had masters' degrees, over 14% had bachelors' degrees and more than 50% of them had diplomas and certificates. The results do not show a particular pattern of staff departure which implies that staff departure is unpredictable except for those who are almost retiring. The unpredictability of employee departure highlights the need to understand the responsibilities of individual employees in a preventive knowledge retention strategy.

2. Methodology

An exploratory study that aimed to establish the responsibilities of individual employees in helping NARO minimise loss of tacit knowledge was conducted in NARO, from 15th November 2013 to 10th January 2014. This study was implemented using a "multi-category design" (Krueger & Casey, 2009, p. 25) focus group (FG) approach involving three organisational categories of employees at each PARI, notably; scientists, technicians and support staff. The FGs were "small and moderated group discussions" (Smithson, 2000, p. 104) with an average size of five participants per FG. The specific topic of interest was 'minimising knowledge loss due to departing employees' and there was exploration of among other aspects, the responsibilities of individual employees in minimising loss of tacit knowledge.

2.1 Sample of the Focus Group participants

Thirty six FG discussions were conducted in 12 PARIs and the Secretariat. Twelve FGs were for scientists, 11 for technicians and 13 for support staff. The FGs involved 161 participants of whom 59 were females. The size of the FGs ranged from two to eight participants with an average of five participants. The duration of each FG discussion ranged from 50 minutes to 1.5 hours.

On the understanding that quality data from a FG are generated based on the synergy of the group interaction to reach consensus, participants were purposively selected on the basis of having worked in NARO for more than five years and in positions of management. At each PARI, the research scientists' FG comprised of heads of research programmes while the one of technicians comprised of the heads

of technicians from each research programme including research laboratories. The FG of the support staff at each PARI comprised of the heads of finance, administration, human resource, procurement and audit, all of whom play a role in supporting the research and development process. The FG at the secretariat comprised of the heads of units. The Director General, the two Deputy Director Generals and the Directors at each PARI were not involved in the FGs to make sure that the participants discuss issues freely. In order to reach consensus and achieve clarity, a probing approach was used. This not only formed the basis of written notes taken during the FGs but also for clear messages being recorded while observing anonymity.

2.2 Analysis of the Focus Groups

The overall approach to analysis was a thematic analysis of the conversations or discussions guided by analytic induction (Bryman, 2012). A note-based analysis strategy was adopted and supplemented by listening to the recorded conversations to verify the notes and the quotes. Analysis of transcribed notes followed the "classic analysis strategy" (Krueger and Casey, 2009, p. 118 – 122). However, instead of using a manual method, Microsoft Excel was used. This not only saved time and paper resources but it was neater and easier to move similar responses and cluster them. For each question, all the bulleted issues raised in the discussion were transcribed in Microsoft Excel in the column of responses. This was done for all FGs. If an idea had already been said by a previous group, it was not written again for another group but just indicated by '1' under the relevant group column. The column of responses kept growing as new ideas emerged from groups. The '1s' were added together for each category of FG to establish how frequently an idea was said. Use of frequencies also minimised transcribing efforts by tallying new ideas with what had already been said.

Similar ideas or responses per question were given a specific colour code. The colour codes helped to cluster similar responses for further analysis. Each colour code was assigned a cluster ID number so that all responses with the same cluster ID belonged to the same cluster. The responses were then sorted by cluster ID numbers to group together all related responses.

3. Results and discussions

In all FGs participants discussed freely. Bringing together participants from similar job categories helped to improve their degree of comfort with each other. For example, they might not have felt free to contribute to the discussion if their directors were around as pointed out by FG 6.

> FG 6: 'If the director was here most of us would keep quiet'

If an issue was not accepted by some participants, they would explore it until consensus was reached. In some cases, issues were rejected as not being correct. Contrary to the researcher's assumption that the participants would have low interest in the topic given the strong bias to hardcore scientific disciplines, they exhibited a great enthusiasm. Participants appreciated that minimising knowledge loss is one of the crucial problems affecting the organisation.

> FG 5: 'This is a very important topic of discussion, why did you wait for this long before addressing it?'
> FG 30: 'Given the importance of this topic, we hope this is not just to fulfil your academic requirements. What assurance do you have for us that the results of this study will not just be in your thesis and not implemented?'

This interest generated a lot of ideas across all the PARIs and FGs. A number of them were frequently repeated showing the degree of similarity in opinions and issues held by many. Frequency was used to establish the ideas that seemed to be very important to the participants. Whereas frequency of what was most often said was noted to identify emerging themes, it does not mean that these were the most important themes. As Krueger and Casey (2009, p.121) notes, "sometimes a really key insight could have been only said once in a series of groups". What was critical was to be able to identify a gem when a visionary individual or group says it, even if it is once. The FGs discussed and identified responsibilities of individual employees to help NARO minimise knowledge loss. The results are summarised in Table 1.

Table 1: Employees' responsibilities in retention of tacit knowledge in NARO

Responsibilities of individual employees	Total FGs for the response			Total (out of 36 groups)	%
	Scientists	Technicians	Support staff		
1. Develop a spirit and attitude to sharing knowledge	9	10	10	29	81%
2. Capturing and documenting processes, experiences and results	10	7	8	25	69%
3. Mentoring others and willing to learn	9	7	8	24	67%
4. Being result-oriented and having passion for the job	8	7	8	23	64%
5. Effective team player	9	7	6	22	61%
6. Seek for opportunities to acquire knowledge	7	2	3	12	33%
7. Open, transparent and trusted	2	4	5	11	31%
8. Applying acquired knowledge	0	1	2	3	8%

3.1 Develop a spirit and attitude to sharing knowledge

Minimising loss of tacit knowledge requires that every individual develops a spirit and attitude to sharing it. This was indicated by 81% of the 36 FGs. There was no noticeable difference among FG categories of participants. Such a spirit and attitude by all employees will ultimately lead to being committed to ensuring that what is known by each person is made known to others. This can be through formal mechanisms like task-related activities, workshops, seminars, meetings, publishing and disseminating achievements, failures and lessons learned or through informal mechanisms like communities of practice. Eventually a knowledge sharing culture will be developed in NARO which will help to eliminate knowledge hoarding and hiding tendencies among employees.

3.2 Capturing and documenting processes, experiences and results

This responsibility was expressed by 69% of the FGs with no difference between categories. Participants emphasised that it should be a responsibility of every employee on a routine basis to capture and document work flows for others to know what happens as this will ensure continuity as expressed by FG 2.

> FG 2: It should be mandatory that every staff documents his or her workflow processes, experiences, results and lessons learned and make them available and accessible to others.

Capturing lessons learned or good practices throughout the life cycle of every project can serve as one of the activities for long term knowledge retention strategy.

3.3 Mentoring others and willing to learn

This responsibility was expressed by 67% of the FGs. They noted that mentoring others and being willing to learn should be self-motivated and occurring throughout the individual's employment time. Maximum benefits can be derived if both the mentor and the mentee are 'mentorable' and willing to learn from each other even beyond one's specific discipline.

> FG 23: 'The attitude of wanting to be seen as the only one who knows more than others will be no more'.
>
> FG 12: 'It is better that everyone is counsellor, encourager, a good listener, and observer. Each one of us should be ready to help others in their work-related challenges'

3.4 Being result-oriented and having passion for the job

The FGs emphasised that if individuals exercised 'being result-oriented and having passion for the job' they will be committed to their work and will undertake self-reflection on critical organisational and work-related issues. In addition, individuals will yearn to belong to professional and social network communities to share and learn from them. They will cherish organisational values, policies and aspirations, and also make efforts to continue networking and collaborating with staff who left the organisation. Participants emphasised that this will ultimately help in retaining employees' tacit knowledge in organisations.

3.5 Being open, transparent and trusted

A third of the FGs expressed that being 'open, transparent and trusted' is likely to create freedom for employees to willingly share their information, ideas, views, and experience. Employees who trust each other are likely to help each other to improve their job functions. In addition, it will invoke reciprocal relationship in sharing knowledge and strengthen team spirit among employees.

3.6 Being an effective team player

Two thirds of the FGs submitted that every employee should be an effective team player for knowledge to be retained within NARO. They emphasised that this requires having a team spirit, being social and working together especially in solving hard problems. Being effective team players is enhanced by being in good relationships with colleagues, communicating effectively and respecting one another. Observing the foregoing will facilitate retention of tacit knowledge within teams and communities of practice within the organisation. Tacit knowledge is better captured through experiential learning, being involved in a task or an activity or working alongside an expert.

3.7 Seeking for opportunities to acquire knowledge

Seeking opportunities to acquire knowledge was highlighted by a third of the 36 FGs. There was a noticeable difference between categories with only two technicians' FGs indicating so. Opportunities such as reading beyond one's discipline, attending knowledge sharing sessions, accepting responsibilities for one to learn how functions are performed and changing mindset to take up new knowledge are likely to enhance knowledge retention even when other employees leave the organisation.

3.8 Applying acquired knowledge

The eighth responsibility of individuals in helping NARO to minimise loss of tacit knowledge is applying of acquired knowledge. Although it was mentioned by only three FGs, it seems to be a critical role. This is because applying acquired knowledge can lead to individuals being creative and innovative in implementing job functions as noted by one of the FGs.

> FG 15: 'Knowledge can only be useful if it is applied to add value or solve a problem and it results in more knowledge being created'.

Participants emphasised that organisational environment will influence how individuals play these roles to effectively contribute to knowledge retention.

4. Conclusions

This study explored the responsibilities of individual employees in retaining tacit knowledge in the Ugandan National Agricultural Research Organisation. The study established that employee departure is quite often unpredictable and therefore knowledge retention efforts should start as soon as a person is employed in an organisation. This research has provided empirical evidence on the importance of individual employees as key agents in knowledge retention.

By creating an enabling organisational environment, employees are likely to engage themselves in a positive behaviour of knowledge sharing so that much of the knowledge can remain circulating within organisational teams or communities of practice. Even when an employee who is knowledgeable in a particular aspect leaves the organisation there will be some other employees with such expertise if it is shared within the teams. This study has also helped to understand that having formal mentoring and apprenticeship programmes is likely to minimise loss of tacit knowledge when employees leave.

Teams should be put together to work on projects or tasks as this will enhance sharing of difficult-to-document knowledge. By watching more experienced colleagues, new employees will acquire knowledge to perform newer challenging tasks and to train others, which will minimise knowledge loss from the organisation.

Retained tacit knowledge within the organisation can be accessed for improved learning and innovation along the research for development continuum. This may reduce the time needed for the generation of research technologies. Theoretically, this research gives an insight into the responsibilities of individual organisational employees in retention of knowledge which can form a framework for further studies into advancing the understanding of retention, maintaining and exploitation of knowledge in organisations.

Given that in any organisation, there are formal and informal social networks with some individuals being connectors, hubs or peripheral, further research could probe the role of each employee types in retaining and maintaining knowledge in national agricultural research settings. In addition, since this research was exploratory and

focused on a single case study, further research is required to explore the phenomenon in other similar organisations.

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