Indigenous Knowledge Creation Practices: The Case of Ethiopia

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http://aisel.aisnet.org/ecis2010/62
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<th>Journal:</th>
<th>18th European Conference on Information Systems</th>
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<tbody>
<tr>
<td>Manuscript ID:</td>
<td>ECIS2010-0152.R1</td>
</tr>
<tr>
<td>Submission Type:</td>
<td>Research-in-Progress Paper</td>
</tr>
<tr>
<td>Keyword:</td>
<td>Knowledge management, Social issues, Social environment, Social influences</td>
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INDIGENOUS KNOWLEDGE CREATION PRACTICES: 
THE CASE OF ETHIOPIA

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Abstract

Knowledge management in general, and knowledge creation in particular, gives organizations a 
competitive advantage in the knowledge era. Although there is a lack of deliberate knowledge 
management and creation efforts in modern Ethiopia, the country possesses 1,700-year old indigenous 
practices of knowledge creation. This research in progress seeks to explore the extent to which 
indigenous knowledge creation practices can inform knowledge creation practices in organizations. 
We use Nonaka’s SECI model (Socialization - Externalization - Combination - Internalization) to 
guide our inquiry, and rely on a qualitative, interpretive field study approach to investigate indigenous 
knowledge management initiatives and their transferability. This research will be relevant not only to 
researchers interested in knowledge management in the developing world, but also for those interested 
in conducting research within indigenous communities.

Keywords: Knowledge Management, Knowledge Creation, Knowledge Representation, Ethiopia.
1 INTRODUCTION

Ethiopia is the only sub-Saharan country possessing an ancient written culture with its own alphabet. The country possesses a 1,700-year told traditional knowledge creation system that is embedded in their elite education linked to the Orthodox Church (Saint 2004). Among the thousands of indigenous schools serving the 40 million Orthodox Christian community, there is a special category called the Poetry School (Qinea Bet) where students learn by creating knowledge (Workneh 1971). Qinea (poetry) is an oral tradition of knowledge creation and sharing. Qinea was originally produced in the Poetry Schools of the Church and used for performing religious services. However, it has spread throughout the Ethiopian culture, and is often practiced by local singers and other individuals for social occasions (e.g., funeral and marriage ceremonies).

Despite the existence of rich indigenous practices related to knowledge creation and sharing, like Qinea, modern Ethiopia faces three problems regarding its management of knowledge. First, Ethiopia has lost documented knowledge of what enabled its earlier civilization. The ignorance of this local, indigenous knowledge has dispossessed the country in particular (and the world in general) of a rich knowledge base (Nkrumah 2003).

Second, Ethiopia has not been able to develop a modern educational system that produces students who are able to solve problems and that enables the country to be competitive in the contemporary world. The 1994 Education policy of Ethiopia requires diploma, degree and graduate level education to be practice-oriented, enabling students to become problem solving professional leaders in their fields of study and in overall societal needs (UNESCO 2004). However, classrooms are still dominated by the traditional lecture methods in which teachers talk and students listen (Serbessa 2006), memorizing the facts conveyed by the teacher. Modern education in Ethiopia does not provide education that enables instructors and students to solve practical problems creatively going beyond learning what is currently known in the text books.

Third, there is little effort put forward by modern business organizations and educational institutions to foster knowledge management. Most Ethiopian businesses have neither a strategy for managing knowledge, nor initiatives to create or use knowledge management systems. Likewise, knowledge management has not yet gained much attention within academic institutions.

Thus, when the time comes to undertake knowledge management in Ethiopia and similar countries, organizations have two choices: either they implement the best world practices in knowledge management without customization, or they adapt such best practices to work within their culture. The first choice is ill-advised, as it ignores the socio-cultural value of a country. We suggest that the second option, where best practices are combined with traditional practices, is more likely to be successful. Indeed, many believe that world best practices must embrace local technologies, local systems of knowledge, and the local environments in order to be successful (Grenier 1998). Therefore, for a country to advance in the knowledge economy, it must learn to adapt world best practices regarding knowledge management to the traditional practices that have been effective in its culture. However, the traditional practices have been understudied and largely undocumented, making it difficult to combine them with modern knowledge management practices. There is a need, therefore, to study how traditional knowledge management practices can benefit modern business organizations in particular in terms of knowledge creation and sharing.

The objective of this research is to better understand indigenous knowledge creation practices that have successfully survived for thousands of years, and to investigate how these practices could be applied to support modern knowledge creation (a key part of knowledge management) in organizations. To achieve this objective, an interpretive field study will be used to collect and analyze qualitative data about the indigenous practices of knowledge creation in Ethiopia.
2 LITERATURE REVIEW

Knowledge creation is the first stage in the knowledge management cycle, the others being knowledge storage and retrieval, knowledge transfer, and knowledge application (Alavi & Leidner 2001). As the objective of this paper is to explore the indigenous practices of knowledge creation and see their implications for organizational knowledge creation, we restrict our literature review to knowledge creation in general and to indigenous knowledge (IK) in particular. Literature does not describe the indigenous way of knowledge creation and the concept of knowledge creation is often associated with organizations. This can be due to the fact that the majority of IK resources are not published in academic journals (Smile et al. 2003), or that indigenous ways of creating knowledge are not well studied and documented.

2.1 Knowledge Creation

Knowledge creation, also called knowledge generation, formation, or construction (Alavi & Leidner 2001, Grover & Davenport 2001, and Foss et al. 2009), is usually portrayed as the initial step of the knowledge management process. It is arguably the most important, as the management of knowledge is impossible without first creating it (Puga & Trefler 2003). Knowledge creation has indeed been recognized as a vital and strategic element of learning and innovation for organizational success and survival (Soo et al. 1999).

Knowledge originates in an individual’s intuition (Polanyi 1966, Nonaka & Takeuchi & Umemoto 1996). But it is often the interactions between individuals that play a critical role in developing individual thoughts and creating new knowledge (Nonaka 1994).

"The individual does not think in isolation and is not an autonomous origin of knowledge" (Boland & Tenkasi 1995, p. 355).

As one conceptualizes a new idea, others may explore its various uses through dialogue, thus making it a social process (von Krogh 1998). This dialogue not only helps in the development of the original idea, but it may also spawn the creation of more ideas. From the exchange and integration of individual ideas, knowledge emerges (Nonaka & Johansson 1985, Shrivastava 1983, Duncan & Weiss 1979, Boland & Tenkasi, 1995). Although previous studies have focused on micro-level aspects, knowledge creation also incorporates environmental (macro-level) and organizational factors (Soo et al. 1999). Knowledge is created through the interactions amongst individuals or between individuals and their environment (Nonaka et al. 2000).

The creation of knowledge refers to creating new knowledge, not merely learning what another person already knows or acquiring knowledge from the outside (Nonaka & Takeuchi & Umemoto 1996). In this research, knowledge creation is viewed as the generation of a new personal belief that can be justified.

The knowledge creation process involves such steps as sharing tacit knowledge, creating concepts, justifying concepts, building a prototype, and cross-leveling the knowledge (Von Krogh et al. 2000). Individuals involved in creating knowledge face different challenges at the different steps of knowledge creation. While the knowledge creating individual shares his/her personal true belief about a situation with other team members during the second and third steps (sharing tacit knowledge and creating concepts), s/he is faced with the challenge of justifying his/her true belief in presence of others at the justification step (von Krogh 1998). Thus, knowledge creation requires a conducive environment that enables individuals to create and justify their true beliefs.

The process of knowledge creation can be influenced by different barriers and enablers (Roth et al. 1999). The SECI model and the associated “ba” of Nonaka and his colleagues is the most frequently used model of knowledge creation. The SECI model has four modes of knowledge creation that transforms the knowledge state of individuals and organizations from tacit to explicit and vice versa (Nonaka 1994, Nonaka & Konno 1998):
1. Socialization (tacit to tacit): involves the sharing of tacit knowledge between individuals through joint activities (such as mentorship programs, and apprenticeships where the individuals interact with one another in the same environment) rather than the sharing of knowledge via written or verbal instructions.

2. Externalization (tacit to explicit): involves the expression of tacit knowledge and its conversion into comprehensible forms that are easier to understand by others (explicit knowledge).

3. Combination (explicit to explicit): involves the conversion of explicit knowledge (created during externalization) into more complex sets of explicit knowledge, with communication and diffusion being the key areas of focus.

4. Internalization (explicit to tacit): is the conversion of explicit knowledge into tacit knowledge.

Figure 1. Spiral Evolution of Knowledge Conversion and Self-transcending Process (Nonaka & Konno 1998)

There are four kinds of ‘ba’ (context in which knowledge is shared) supporting these four processes (Nonaka & Konno 1998):

1. Originating ‘ba’ - focuses on socialization where individuals share feelings, emotions, experiences and mental models. Physical, face-to-face contact is essential in sharing tacit knowledge and knowledge creation starts here.

2. Interacting ‘ba’ - the place for externalization where people with the right mix of knowledge and capabilities are consciously selected to engage in dialogue to convert individual mental models into common terms and concepts.

3. Cyber ‘ba’ - the virtual world for combination instead of real space and time where new explicit knowledge is combined with existing explicit knowledge and made available via information technology.

4. Exercising ‘ba’ - the place for internalization where formal explicit knowledge can be applied through on the job training and active participation. Synthesis is done through action (not through thought as in interacting ba).
The ability to create knowledge can be strengthened by creating a culture that supports the different stages of the knowledge creation cycle. Each culture will have different ways in which to create and support the knowledge creation processes that stem from their cultural inheritance and traditional knowledge practices.

2.2 Indigenous Knowledge (IK)

The traditional knowledge that people in a given community have developed over time and which is based on experience is referred to as Indigenous Knowledge (Boven & Morohashi 2002). Indigenous knowledge, also called traditional or local knowledge, results from the long-standing traditions and practices of certain regional, indigenous, or local communities; it encompasses the wisdom, knowledge, and teachings of these communities (ESSP 2009). It is characterized by being developed outside the formal educational system, being embedded in culture and being unique to a given society (Boven & Morohashi 2002).
2.2.1 Indigenous knowledge in the past and present

Indigenous knowledge (IK) has enabled its holders to survive in harmony with nature (Agrawal 1994) even in problematic situations. People all over the world have been using indigenous knowledge under different socio, political, and environmental situations. There is no community that does not have IK although the degree of possession varies (Gorjestani 2000). However, there has been a tradition in the development of knowledge (especially within organizations) that does not heed IK. Many earlier theorists of scientific/modern knowledge have viewed indigenous knowledge and traditional institutions as obstacles to development (Agrawal 2004). As a result, people with indigenous knowledge are often undervalued resulting in them becoming underprivileged, localized, and under-represented (Agrawal 1994). The more a community possesses or practices IK, the more the individual or community is marginalized or stigmatized (Ocholla 2007). The tacit nature of IK is one reason leading to its marginalization and/or stigmatization (Ocholla 2007).

There is presently a shift in the views of the value of IK, for it is becoming more widely recognized as having a key role for sustainable resource use and balanced development (Grenier 1998). Most successful development efforts leverage local technologies, local systems of knowledge, and the local environment in their plans. When local IK is incorporated into development programs it can create mutual respect (between the organizations involved in the programs), encouraging local participation, and building partnerships for joint problem resolution. Thus, if proper attention is paid to IK, it can facilitate the design and implementation of culturally appropriate development programs, avoiding costly mistakes and helping build a more sustainable future (Grenier 1998).

Indigenous knowledge is the local knowledge that is unique to a given culture or society; the information base for a society which facilitates communication and decision making; the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture (Warren and Rajasekaran 1993). One of the focus areas in Knowledge Management (KM) is the conversion of various forms of knowledge to create new knowledge. By understanding the formation of IK better, we can learn to facilitate the incorporation of it in other types of knowledge.

2.2.2 Characteristics of IK

Major characteristics of indigenous knowledge include that it is: generated within communities; location and culture specific; dynamic, innovative, adaptive and open for experimentation; oral in nature; often not systematically documented; and not integrated into modern scientific and technical knowledge (Boven & Morohashi 2002, Adem 2007). Grenier (1998) added to these characteristics, by pointing out that IK includes both explicit and implicit knowledge; that it is not uniformly spread and individuals vary in their aptitude for learning, storing, and generating it; and that it is often expressed in stories, songs, folklore, dances, myths, beliefs, and rituals.

IK can play a very important role in solving problems and formulating policies if it can be integrated with other forms of knowledge. Such integration is facilitated essentially through the exchange of information from one community to another. Exchanging IK within and between developing countries and between developing and industrial countries involves the following steps (World Bank 1998):

1. Recognition and identification: involves technical and social analyses to identify IK as some IK may be embedded in a mix of technologies or in cultural values, rendering them unrecognizable at first glance to the external observer;

2. Validation: involves an assessment of IK’s significance and relevance (to solving problems), reliability (if not being an accidental occurrence), functionality (how well does it work), effectiveness and transferability;
3. Recording and documentation: is a major challenge because of the tacit nature of IK (it is typically exchanged through personal communication from master to apprentice, from parent to child, etc.);

4. Storage in retrievable repositories: Storage is not limited to text document or electronic format; it could include tapes, films, story telling, gene banks, etc;

5. Transfer: This step goes beyond merely conveying the knowledge to the recipient; it also includes the testing of the knowledge in the new environment. Pilots are the most appropriate approach in this step; and

6. Dissemination to a wider community: adds the developmental dimension to the exchange of knowledge and could promote a wider and deeper ripple impact of the knowledge transfer. Exchange of IK is the ideal outcome of a successful transfer and dissemination.

Indigenous knowledge is a resource that can help to solve local problems, to prevent conflict, to build solidarity in communities, to manage local affairs, and thus contribute to global solutions (World Bank 2004a).

2.2.3 Knowledge creation practices in Ethiopia

Indigenous knowledge in Ethiopia related to medicinal plants, social insurance and rangeland management are studied and documented to a certain extent (World Bank 2001, 2002, 2003, 2004b, and 2005). However, the manner in which this knowledge is developed and the role of knowledge generation in traditional Church Schools is not well understood or documented.

There are thousands of Church schools with highly complex educational systems in Ethiopia. These schools have a variety of indigenous educational practices. In terms of the students’ role and participation in the educational process, the elementary Reading (Nibaba) and Hymen (Zema) schools require students to memorize only (even without understanding the meaning). The Scripture Interpretation (Andimta) schools require students to understand not only the given meaning, but also inherited meanings by looking at information in a multi-dimensional way. This helps students to critically examine the content of knowledge and become critical thinkers. Another specialized church school are the Poetry Schools (Qinea Bet) that require students to actively create and share knowledge. In the Poetry School, students learn by creating knowledge (Workneh 1971).

Qinea (poetry) has been the oral tradition of knowledge creation and sharing for over 1700 years in Ethiopia, especially in the 40 million Orthodox Christian community. Originally, the Poetry practice of knowledge creation was restricted in the Church Schools for performing religious services, but now it is well-spread and embedded in the Ethiopian culture and is often practiced by local singers and other individuals for social occasions (e.g., funeral and marriage ceremonies). Qinea refers to both the output, the knowledge in the form of a poem resulting from a “live” process of knowledge creation, and the process (poetry). A Qinea (poem) often has two levels of interpretation, a veneer (wax) and a deeper meaning (gold) (Levine 1972), the deeper meaning depending upon symbolism or allusion in the surface meaning (Hirst 1997). Thus, when a well learnt speaker says some thing, his message may have double meanings (wax and gold) and the listener should be capable of understanding/mining the hidden meaning/gold (Levine 1972). This requires both the speaker and the interpreter to have some discretion in choosing and constructing the context in which the interpretation is to be built and this discretion is formal in the Amharic language (Hirst 1997); at least in contrast to the English language.

In the Church, the process of composing the poem (Qinea) takes place in prayers during festivals and special ceremonies. The person who delivers the poem stands in front of other people that can understand and share his poem. Then he starts to produce the poem orally. The length of the poem can range from 2 to 33 verses of various sizes (Workneh 1971). These verses are delivered orally within a few minutes and without any previous preparation. It is done by retrieving relevant information from memory (history, religious teachings, and personal experience) and from actual observation about the current ceremony/event, and by joining them in a form that best expresses the event. Through the
poem, knowledge is created and the author becomes a knowledge creator. Combining his previous knowledge with the ceremnoial events and capturing the viewers' expectations, he expresses new knowledge that best describes the event. In essence, the author is accessing his own tacit knowledge and incorporating sensory information and explicit knowledge to orate new knowledge. This is related to the transformation of tacit knowledge into explicit knowledge.

3 THE RESEARCH QUESTION

How can a corporation mimic or capture this type of knowledge creation? What can we learn from gaining a better understanding of this form of knowledge creation? From the review of literature on knowledge creation, we have seen that knowledge can be created by individuals and communities outside of an organizational environment and leveraged within an organization. However it is not clear how knowledge created outside an organization can be evaluated for internal use and integrated with existing knowledge (Alavi & Leidner 2001). Furthermore, the knowledge creation processes used in one context may or may not fit within a different context.

There are wide ranges of indigenous ways for creating knowledge. Much of the literature on indigenous knowledge focuses on using the knowledge in areas related to health care (medicine), agriculture, and community projects. But the indigenous knowledge creation processes have not been well enough understood to be used to inform the knowledge creation processes in the modern world. The modern scientific community has limited understanding as to how knowledge is created by indigenous communities. We seek to shed light into this phenomenon, by investigating how communities create indigenous knowledge relevant for their problems at hand, and how their practices could inform to knowledge creation in the context of modern organizations.

Our main research question, therefore, asks: *How do indigenous knowledge creation practices inform the knowledge creation practices of organizations?* Our objective is to transfer relevant insights about the knowledge creation process within a rich, but understudied, context to an organizational one.

In addressing this question, the focus will be to see in what ways the traditional knowledge creation practices resemble or differ from the modern knowledge creation practices and how they can be used to complement each other. To guide our efforts, we will leverage the SECI model (and its associated ba) to investigate how it can be complemented with a traditional knowledge creation practice that has a potential to show differences in interest, power, and political dynamics in social contexts.

4 RESEARCH METHOD

This research seeks to explore indigenous knowledge creation practices, about which little is known. Given that we will need to consider the social and institutional context of indigenous knowledge creation, we elected that a qualitative research approach would be the most appropriate.

The underlying philosophical perspective for our research will be interpretive. Indeed, ontologically speaking, the indigenous practices that we will be studying are socially constructed among the Church School teachers, students, and Church members. Epistemologically speaking, the understanding of such practices is dependent upon the interpretation of the participants and the researchers involved in the research.

Guidelines for data collection and analysis have been suggested for studying indigenous knowledge (Grenier 1998), and they will be adopted in this study. Specifically, we plan to leverage qualitative data in its natural settings; to conduct individual interviews (versus group interviews); to include prolonged observation periods; to seek understanding of not only the what, but also the when, where, who, why, and how; and to create field notes while in the environment being studied (versus after leaving the site).
4.1 Data sources

There are thousands of Church schools in Ethiopia, which have been working for over one thousand years and providing a variety of education that ranges from low to high level of complexity. The target of this study (Qinea/poetry schools) is well known in providing creative education - an education which promotes creativity and innovation of students. Students are transformed from being passive recipients (silent listeners) to active creators of knowledge.

Thus the data sources of this study are experts and students at the indigenous knowledge creation schools (Qinea Schools). The Church Schools in the Ethiopian Orthodox Church tradition are hierarchically classified based on their experience and quality of education. Although there are thousands of schools in the country offering introductory and advanced level education, there are only few schools that provide expert-level education for graduates of the lower level schools who want to become experts and teachers (Dagne 2003). Students learn the knowledge creation skill by first studying at a lower school and then going to one of the few expert-level schools if they want to master the knowledge and become teachers. Although a beginner needs to spend two or more years to become a teacher of Qinea, becoming a composer requires lesser time. The time for a student to become a composer depends on previous knowledge of religious thoughts of the Ethiopian Orthodox Church and its languages (Geez and Amharic). If one has such previous knowledge, it may take few months to be a good composer. There is no strict admission and timeframe in traditional Church schools. Thus, a student may join a school at any time and finish the desired level at his pace.

All data sources will be selected using non-probabilistic sampling. This technique is preferred when the objective of the sampling is to identify specific target groups who either possess characteristics or live in circumstances relevant to the social phenomenon being studied rather than to represent a population (Mays & Pope 1995).

4.2 Data collection techniques

Data will be collected through participant observation, interviews, and documents analysis. Participant observation will be possible because the first researcher has years of experience as a transmitter/teacher of religious teachings. Moreover, he has the needed prerequisite knowledge to study Qinea, and has been an active member (and even a teacher) in the Orthodox Church. The plan is for him to be enrolled as a student of Qinea. The fact that he is already perceived as an insider to the community will be a tremendous advantage, in terms of getting access to, and earning trust, from the participants.

In-depth interviews will be conducted with principal teachers, referent experts, and students. Again, given that the first researcher will spend a considerable amount of time with target participants, it will be possible for him to build relationships and gain in-depth knowledge of the social reality of the studied phenomenon. The interview protocol is available upon request.

As to document analysis, this will be facilitated by the first researcher’s knowledge of the local languages (Amharic and Geez), culture and religion. Given the minimized language and cultural barriers, it will possible for this researcher to better understand the documents (such as the poems) produced in context.

Data will be collected in two phases. In Phase 1, two top Qinea Schools and 4 near-by feeder (lower level) schools will be covered. The two top Qinea Schools will be selected based on their current status/rank in the Ethiopia Orthodox Church. We will ask the Qinea teachers from these schools to each recommend two feeder schools. Although more or less similar techniques are applied by Qinea schools, considering these schools will allow us to compare findings across schools of the same and different status. In Phase 2, the Qinea teacher at the Holy Trinity Spiritual College (Addis Ababa), which offers Qinea as a supplement to the degree, along with five referent experts of the Ethiopian Orthodox Church, will be interviewed for triangulating the results of Phase 1.
4.3 Data analysis techniques

The data that represents the complex social reality under study is expected to be complex itself. To make sense of complex data, successive interpretation will be done during and after data collection. Detailed and intensive examination of the data will be necessary to bring out amazing complexity of what lies in, behind, and beyond those data (Strauss 1987). The analysis of the qualitative data will be supported by computer tools, such as Computer Assisted Qualitative Data Analysis (CAQDAS).

Field notes, transcribed interviews, and collected documents will be scrutinized closely, and mapped to the SECI and Ba models. As suggested by Miles and Huberman (1994), after each type of contact (via an interview or observation), we will keep track of:

- the key issues or themes that emerged;
- the information we got (or failed to get) on each of the target questions; and
- the new or remaining target questions (or observations) to consider for the next contact.

A contact summary will be produced for each contact, and each contact summary will be summed up to form aggregates at each site, and for each type of insider. Field reports containing key findings will be written before leaving the indigenous schools such that participants will have an opportunity to corroborate these findings. Rereading the field notes on a regular basis will help us correct errors and remain focused on what has been done, what was learned through the exercise, and what still needs to be done.

To make sense out of the data in the contact summary, we will extract general meanings that explain the phenomena under study. For this purpose, we will do data categorization/matrix for the key issues/themes that emerged, which will be followed by conclusion drawing and verification, as suggested by Miles and Huberman (1994). Throughout the different data analysis activities, the concepts that emerge from the key themes about knowledge creation will be compared with the SECI knowledge creation model of Nonaka and his colleagues, as previously presented.

5 EXPECTED CONTRIBUTION

The traditional knowledge creation system to be studied in this research is expected to have some implications to the modern knowledge creation process. Identifying these implications will enable the knowledge management field to benefit from the traditional knowledge creation systems that have been serving the information and knowledge needs of their users for thousands of years. In the traditional knowledge creation process, experts access their tacit knowledge, incorporate explicit knowledge and orate new explicit knowledge. The techniques are used to transmit context-dependent messages that can be understood and interpreted by only those with similar knowledge of shared context (Hirst 1997). This knowledge creation process may bear new light on the methods of knowledge creation within the modern day firm.

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