Once upon a time in Africa: a case study of storytelling for knowledge sharing

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Abstract

Purpose – The purpose of this paper is to report on research conducted into the use of stories and storytelling to share knowledge in a large mining company based in South Africa. The paper shows how the use of oral methods combined with other media can be used to support a number of different objectives and yield a wide variety of benefits.

Design/methodology/approach – This paper presents the results of a case study which used a largely qualitative approach to gather data on a specific community of practice within the case study company.

Findings – The research identified an innovative approach being used to combine a number of approaches to sharing knowledge through the use of stories and storytelling, in particular graphical representation of the stories and the use of graphics in conjunction with oral storytelling methods.

Research limitations/implications – This research was conducted in only one company, in one country. Further research would be necessary to further test the effectiveness of the approaches identified in this case.

Practical implications – The innovative approach of combining media and methods for sharing knowledge through stories and storytelling represent an opportunity for other organisations to use similar techniques in their efforts to improve knowledge sharing.

Originality/value – This is the first time that a case study exploring the use of stories and storytelling in the South African mining industry has used empirical research findings to evaluate the use of stories and storytelling. Significant value may be gained by others seeking to understand how best to use stories and storytelling to share knowledge.

Keywords Knowledge management, Knowledge sharing, Mining industry, South Africa, Storytelling

Paper type Research paper

Introduction

Over the past ten to fifteen years there has been a virtual explosion in interest in the field of knowledge management, as role players and stakeholders have sought to

understand the relevance and importance of knowledge management and its relationship to organisational performance. This, in turn, has led to the publication of many books and articles on virtually every aspect of knowledge management (e.g., Davenport and Prusak, 1998; Leonard, 1995; Nonaka, 1991; Nonaka and Takeuchi, 1995; Stewart, 1997). Many different views have emerged as to the nature of knowledge, knowledge management, and useful objectives for knowledge management, as well as how to leverage the value of managing knowledge as a resource. One particular aspect of knowledge management is the way in which knowledge may be shared (or as some use the term, transferred) between individuals, groups and organisations (Dixon, 2000; Nonaka and Konno, 1998; O'Dell and Grayson, 1998; Sveiby, 2001).

Part of the search for an improved understanding of how to share knowledge has led to the suggestion that the use of stories and storytelling may provide a powerful practice as part of efforts by individuals, groups and organisations to share what they know. Just as knowledge and knowledge management have been widely discussed, so the issue of the use of stories and storytelling as part of an overall knowledge management strategy has been widely commented on in the literature by observers and by practitioners (Boyce, 1995; Brown and Duguid, 2000; Denning, 2000; Snowden, 1999a). It has been suggested that the use of stories and storytelling to share knowledge represents a great opportunity to leverage a traditional means of communication, and there are a number of examples of how this has been achieved, or how stories might be used, that have been reported (Hansen and Kahnweiler, 1993; Kaye and Jacobson, 1999; Sole and Wilson, 2002). Knowledge management is an important issue to organisations (APQC, 2000; BSI, 2003; de Jager, 1999; Liebowitz and Chen, 2004; O'Dell and Grayson, 1998), as is the opportunity to share knowledge. When combined with the potential benefits of using stories and storytelling as a practice for sharing knowledge (Denning, 2000, 2001, 2002, 2004a, 2004b; Snowden, 1999a, 2000a, 2000b), research into this field appeared to be justified.

There were three primary aspects to this research into the use of stories and storytelling to share knowledge. The first of these was geographic: the research was conducted in South Africa (SA). At the time that this research project was first conceived SA was approaching its 10th anniversary as a new democracy, and over the years since the first democratic election was held many South African-based organisations had found themselves faced with the opportunity to measure themselves against competitors in a world market which had, prior to 1994, been partly or wholly denied to them. The post-1994 re-entry of SA into the global community prompted a renewed focus on the ability to survive and thrive both within the borders of the country as well as on the international stage. The second aspect of the context of the research was that it was conducted with the co-operation of a company that operates in the South African mining industry. This industry has traditionally provided significant sources of revenue and employment for those working in the formal employment sector of the country. Over recent years, the ability of South African mining companies to compete has been influenced by a number of factors (financial, technological, logistical, market-related), which have presented both opportunities and threats to organisations operating in the industry. The third aspect of the context of the research was that this was conducted as a case study investigation into aspects of one particular organisation, Kumba Resources (a company listed on the Johannesburg

Stock Exchange and with interests both in SA as well as a number of other countries), and within that organisation, a particular community of individuals, found across a large proportion of the South African operational locations of the business.

Kumba Resources at the time of the research was headquartered in Pretoria, the administrative capital of SA, and its business was focused around four key commodities: iron ore (accounting for about 60 per cent of revenue), coal (21 per cent), base metals (13 per cent), and heavy minerals (4 per cent). It also had a small interest in other areas, such as industrial minerals (Kumba Resources, n.d.). Kumba Resources group operational structure is illustrated in Figure 1.

Aims, objectives and scope of the study

Although there has been extensive discussion in the literature regarding the use of stories and storytelling as part of a knowledge management strategy, there has been no formal academic research identified which has been conducted within the context of SA, and specifically within the mining industry. The aim of this research was, therefore, to explore the value of stories in storytelling for knowledge sharing and to
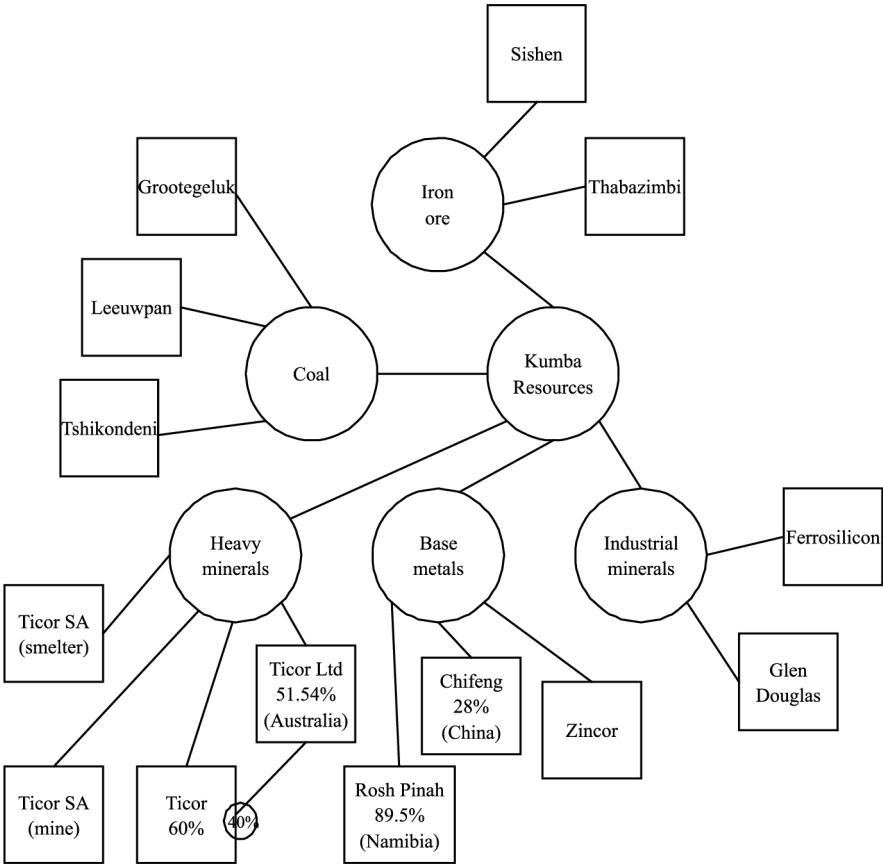
Figure 1.
Kumba Resources Group
operational structure

determine to what extent stories and storytelling have been utilised in order to improve the sharing of knowledge in the case of one company in the South African mining industry. The research project offered the potential to better understand the use of stories and storytelling to share knowledge, and to explore the extent to which stories and storytelling may already be in use in the case study organisation; and, if so, as a contributor to world-class performance.

Literature review

Stories and the telling of stories have been with us since the beginning of human existence – in one sense stories and storytelling help to define the nature of humanity. Stories, including myths, legends, and folktales (McLellan, 2002; Reamy, 2002) have been used to pass on wisdom, knowledge, and culture for thousands of years. Sole and Wilson (2002, p. 1) observed that "storytelling is a traditional and even ancient means of passing on wisdom and culture," while Denning (2004b, p. 122) wrote of "the age-old practice of storytelling". Stories have long been recognised as useful in organisations. Over 30 years ago it was observed that:

> If accounting and finance are the backbone of organisations, then the stories which permeate all organisations of any size are their lifeblood. Stories are so central to organisations that not only do organisations depend on them, but stronger still, they couldn't function without them. Big or small, every organisation is dependent upon countless stories for its functioning (Mitroff and Kilmann, 1975, p. 18).

The word "story" has its origins in the 13th century, with roots in both French and Latin, and literally means an account of incidents or events. A comprehensive review of story-related research from 1978 to 1991 revealed that stories typically possess a setting, the cast of characters and a plot that resolves some sort of crisis (Hansen and Kahnweiler, 1993). In a further study which traced the history of the development of studies of stories and storytelling from 1970 to 1998, stories were described as "a sequence of actions and experiences done or undergone by a certain number of people, whether real or imaginary" (Ricoeur in Boje *et al.*, 1999, p. 342). Within a business context and for the purpose of this research stories describe a sequence of decisions, actions or events (past, present or future, real or imaginary), which involve characters (named or un-named), in an organisation where a business challenge or opportunity must be addressed. Stories can be told in any format (written and/or oral) and using a variety of media (industrial theatre, storyboards, comic books, song, dance, etc.). Storytelling is a method or way in which the story is told. It can be defined as the practices, tools and role-play involved in communicating the story to the audience.

During the literature study a number of benefits of stories and storytelling were identified. These included:

- stories tend to stick in the mind longer than abstract ideas alone (Wilkins, 1984);
- stories offer an effective instructional practice, as they enable people to understand things in meaningful and relevant ways (Kaye and Jacobson, 1999);
- stories are a highly effective way to capture tacit knowledge (Snowden, 1999a; Swap *et al.*, 2001);
- stories provide the ability to communicate quickly, naturally, clearly, truthfully, collaboratively, persuasively, accurately, intuitively, entertainingly, movingly, interactively (Denning, 2000);

- stories provide an effective means for sharing knowledge in diverse populations (Snowden, 1999b);
- stories allow the communication of complex ideas in a simple, memorable form (BSI, 2003; Scholtz, 2003; Snowden, 1999b; Sole and Wilson, 2002); and
- stories engage both reason and emotion (James and Minnis, 2004).

Several practical examples were found in the literature of the value and benefits of stories and storytelling. Buckler and Zien (1996) looked specifically at innovative companies in the mid-1990s in the USA (including 3M and Apple), Japan (including Sony and Toshiba) and Europe (Club Med and Océ amongst others), where they found extensive benefits in the use of stories to reinforce the innovative culture in these businesses. Stewart (1998) discussed the use of storytelling in a number of cases, including at *Fortune* magazine, Eskom (South Africa's public electricity utility) with a Zulu *imbizo* (gathering), Xerox with copier repairmen (the Eureka success-storey database was credited with $100 million savings), IBM for winning global accounts through making tacit knowledge explicit and then sharing the knowledge through stories. A more recent illustration of the value of stories and storytelling can be found in the work of Brown *et al.* (2005, p. 148):

> We would have four or five bullet points that we were hoping that people would learn. We were spending our time focusing on the precise wording of those bullet points. What we discovered almost by accident was that the wording hardly mattered. The only points people remembered one or two weeks later were the points that had been embodied in a story. So we told a great story, then people remembered the points. Otherwise not. We found that when people would come to a meeting a couple of weeks later, they had completely forgotten the bullet points, but they could repeat the story back to us almost verbatim. Following the story, they knew what they were supposed to have learned. That was a powerful discovery.

The literature review provided the non-empirical context for the empirical aspects of the research project, the overall approach to which is described next.

Research methodology

Having evaluated the context, motivation and nature of the problem for the research, it became clear that the overall research philosophy (Easterby-Smith *et al.*, 1991; Hussey and Hussey, 1997; Saunders *et al.*, 2000) to be applied would be phenomenological rather than positivist. It also became clear, as the research design developed, that it would take both quantitative and qualitative elements (Cavaye, 1996; Darke *et al.*, 1998; Hussey and Hussey, 1997; Leedy and Ormrod, 2001; Miles and Huberman, 1994; Myers, 1997) of the overall approach to the research to best answer the research problem, whilst following a largely deductive approach (Cavaye, 1996; Hussey and Hussey, 1997; Perry, 2001). It was recognised that the research design would entail a subjective approach (Easterby-Smith *et al.*, 1991) due to the nature of the particular research methods selected. Having evaluated a number of possible research methods it was decided that a case study approach would best fit the nature of the research aim.

The overall approach to the conduct of the case study conformed to the recommendations identified in the literature (Cavaye, 1996; Darke *et al.*, 1998; Gillham, 2000; Jensen and Rodgers, 2001; Perry, 2001; Stake, 1995; Tellis, 1997; Welman and Kruger, 1999; Yin, 1994). According to Stake (1995, p. xi) "a case study is the study of

the particularity and complexity of a single case, coming to understand its activity within important circumstances". The unit of analysis was a cross-section group (Continuous Improvement Community of Practice (CICOP)) within Kumba Resources (2004). Yin (1994, p. 44) states that subunits or groups "can often add significant opportunities for extensive analysis, enhancing the insights into the single case". The CICOP consisted of representatives of the Corporate Services Division, Glen Douglas mine, Zincor refinery, Thabazimbi mine, Leeuwpan mine, Sishen mine, Tshikondeni mine, Rosh Pinah mine, Grootegeluk mine (see Figure 1).

Both qualitative and quantitative data was gathered, using triangulation, to assist in a comprehensive understanding of the nature of the case data (in particular, through a number of interviews, observation and the gathering of artefacts). Quantitative methods were used to assist in the assessment of maturity of the use of stories and storytelling as knowledge sharing practices in Kumba Resources, using a research instrument that was developed based on the findings of the literature search. This instrument was administered during structured interviews. The maturity assessment was based on the use of a formal six-point rating scale (similar to that used in the Capability Maturity Model® (Garcia, n.d.; SECAT, 1998) where a zero indicated that the activity was not being performed, 1 – performed informally, 2 – planned and tracked, 3 – well-defined, 4 – managed, 5 – continuously improving) through a joint assessment of the interviewer and the interviewee.

Qualitative methods were used to obtain information on the nature, purpose and use of stories and storytelling in Kumba Resources and semi-structured and unstructured interviews took place over an extended period during meetings and interactions with the case study organisation. Observation as a data collection method was included to add depth and variety to the data collected and also allowed for the identification of artefacts and documents as data sources.

Results

The data collected during the empirical research revealed a consistently low (below 1.0) level of maturity in terms of the use of stories and storytelling as indicated in Table I.

Despite the low level of maturity revealed in the initial interviews, which may have been based more on a perception of what actually constitutes the use of stories for knowledge sharing than on the reality of the incidence of use, further investigation of data gathered through the qualitative and triangulated methods (interviews, observation and gathering of artefacts) revealed that the use of stories and storytelling, though largely informal, was relatively widespread throughout the organisation and served many different purposes, as indicated in Table II. The benefits of such uses of stories and storytelling although readily identified, were not formally quantified.

It was found that storyboards were the main media used to support oral delivery of stories and storytelling. These storyboards each consisted of a series of scenes or episodes in a story, which were documented through the use of a graphical representation of the story theme and key messages or learning points. Each storyboard included a number of characters who were depicted in a setting designed to be familiar to the story listeners (for example, through the use of a background image which resembled the unique setting of each mine). Storytellers, either members of the management of the mine or specialist storytellers, were deployed to tell the stories,

Stories and storytelling maturity assessment topics	Overall maturity rating based on structured interviews
Ownership: the day-to-day ownership responsibility for the use of stories and storytelling	0.13
Executive sponsorship: the executive sponsorship for use on stories and storytelling	0.00
Objectives: the reasons and motivation behind the use of stories and storytelling	0.27
Funding: the level of financial commitment to the use of stories and storytelling	0.27
Tools and techniques: what methods are used to develop and deliver the stories	0.73
Training and education: what is offered to support those involved, whether they are the story developers, storytellers or listeners	0.07
Measures: what measures are used for the effectiveness of stories and storytelling	0.07
Success stories: what success stories exist for the use of storytelling	0.47
Benchmarking: to what extent any internal or external benchmarking of these stories is taking place	0.27
Reward and recognition: what rewards and incentives there are for participating in the use of stories and storytelling	0.13
Storytelling model: to what extent a formal model is used in the construction and delivery of stories	0.33
Capture and reuse: to what extent stories are captured and made available for reuse	0.53
Catalogue: to what extent these stories are indexed for easy retrieval	0.13
Internal and external use: to what extent these stories are used both inside and outside the immediate community	0.73
Technology: what role technology plays in supporting the use of stories and storytelling	0.60
Where not to use stories: whether there is a clear understanding of where it is inappropriate to use stories	0.20
Storytelling community of practice: to what extent a story community exists in the organisation	0.00
Story value rating scale: the value associated with stories relative to each other or on an absolute scale of values	0.13

Table I.
Structured interview topics

Table II.
Objectives identified for the use of stories and storytelling in Kumba Resources

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As part of the initiation process	Improving teamwork
As part of reorientation process	Kumba Way values
Assisting with training	Making values better understood
Building teamwork	Management communication tool
Create a visionary focus	Mine transformation process
Customer relations improvement	Performance management
Facilitating improved leadership	Performance tracking
Financial impact awareness	Safety and health management
Generating action plans	Supporting continuous improvement initiatives
Improving productivity	Understanding business fundamentals
Improving safe working conditions	Understanding of the planning process

both in English (the official business language of the company) as well as in a number of African languages (appropriate to the needs of the story listeners) to enhance the story-listening experience. Each business unit or mine developed their own storyboard (often using external assistance from a professional graphic artist), or adapted storyboarding used at other mines, an example of which is illustrated in Figure 2.

The key learning points arising from the research are that:

- the concept of the use of stories and storytelling was recognised at all three levels of the case study organisation (Kumba Resources as a whole, Kumba Resources knowledge management function, and the Kumba Resources CICOP);

- the concept of world-class performance was understood (if not always well-defined) and formed part of the objectives at all three levels of the organisation;

- stories and storytelling were in active, if relatively informal use in the CICOP during the research project;
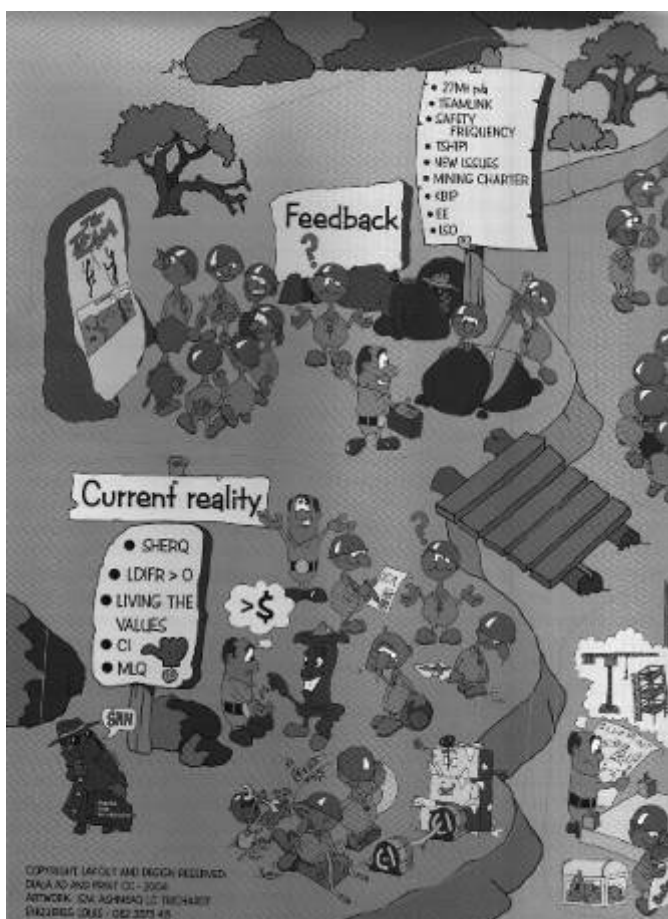
Figure 2.
Sishen mine storyboard

- the use of stories and storytelling was inconsistently applied across the CICOP (a characteristic of the low level of maturity); and

- use was made of a specific tool to support knowledge sharing through storytelling (the storyboard) that has had relatively little coverage in the management literature.

With specific reference to world-class performance in relation to stories and storytelling in the Kumba Resources CICOP it was found that:

- the transfer of best practices was largely happening on an informal basis (a characteristic of a low level of maturity);

- benchmarking of the use of stories and storytelling in the CICOP was rare, and where it was in evidence was informal;

- although the concept of quality management was well-established in the Kumba Resources business as a whole, as well as in other CICOP activities, very few specific actions had been taken to apply this concept to the use of stories and storytelling in the CICOP;

- the concept of capability maturity was in current use in the CICOP but that this concept had not been applied to the use of stories and storytelling in the CICOP;

- despite the low level of maturity reported in the use of stories and storytelling in the Kumba Resources CICOP, extensive activity was taking place, albeit on a largely informal basis; and

- stories and storytelling were recognised as practices capable of supporting the knowledge management strategy of the organisation.

Practical implications

As a result of the study a number of specific recommendations were made to enhance the effective use of stories and storytelling as part of the organisation's drive to achieve and sustain world-class performance. These recommendations were made in each of the areas (eighteen areas in total) that had been identified through the literature review as being important to the successful implementation of stories and storytelling to assist in knowledge sharing (as shown in Table I). The recommendations made specific reference to the maturity associated with each of the eighteen attributes that had been used as part of the maturity assessments (through the initial interviews) and that had provided the investigative and analytical framework used for the later, qualitative, data gathering phase of the study.

As there was a generally informal approach reported in the maturity assessments and later confirmed through the in-depth investigation, the recommendations were focused on ways in which the level of maturity might be increased in line with the traditional Capability Maturity Model®. Hence although the recommendations were focused initially on changing an informal approach (or where absent, such as in the case of a community of practice for stories and storytelling, to establish the practice) to one that was planned and tracked (level 2), it was recognised in the recommendations that further actions would be required to further improve the maturity to level 3 (well-defined), 4 (managed) and 5 (continuously improving) over time. No attempt was made in the recommendations to prioritise between the eighteen attributes; as such a

prioritisation was recognised to depend on the approach used in each of the Kumba
Resources CICOP members.

The recommendations included that the Kumba Resources CICOP should:

- Ensure there is a clear ownership, both locally where the stories are developed and used, as well as more broadly across the organisation.
- Have clear and consistent executive sponsorship across the organisation, rather than at the level of the individual operational sites as at present.
- Have clearly defined, documented and measurable objectives, appropriate to the purpose for which the stories are to be told.
- Ensure that appropriate funding is in place to support the development and implementation of stories and storytelling. In addition they should ensure the proactive management of funding for stories and storytelling.
- Ensure they are making best use of the various tools available (e.g., different modes of delivery, multimedia, industrial theatre, etc.).
- Evaluate what training and education is required (for the development, telling and listening to the stories).
- Ensure that plans are put in place to measure the effectiveness of the use of stories and storytelling.
- Ensure that success stories are identified and used consistently across the organisation.
- Explore the benefits of benchmarking their efforts, both internally and externally with other organisations.
- Investigate an appropriate reward and recognition system for the use of stories and storytelling.
- Ensure a consistent approach is implemented in terms of the use of the selected storytelling model.
- Identify appropriate ways to ensure effective reuse of the stories, hence leveraging their investments.
- Maintain a catalogue of stories with a classification system that not only ensures speedy and flexible retrieval, but also will promote more active use of the stories.
- Evaluate the extent to which the storytelling practices used in the community may have applicability elsewhere, both in other communities within Kumba Resources or outside the organisation, such as with customers or suppliers or business partners.
- Evaluate what technology is appropriate to support the use of stories and storytelling.
- Investigate the conditions under which it would be inappropriate for the use of stories and storytelling.
- Evaluate the formation of an additional community of practice within the broader organisation (Kumba Resources) with the specific objective of supporting the use of stories and storytelling.
- Evaluate the development of a value rating scale for the relative value of the stories in use as well as the ways the stories are told.

Conclusion

Knowledge management, the sharing of knowledge and the use of stories and storytelling to share knowledge are all issues which have received attention from observers and practitioners over a number of years. This research has made a contribution to an improved understanding of the potential to enhance the sharing of knowledge in one organisation through the use of stories and storytelling, and future research might be usefully focused on the role that stories and storytelling have to play in the broader cultural context of those involved. The research identified in particular an innovative approach to the support of oral delivery of stories through the use of storyboards, and further work may be of value to explore in other organisations the value of this approach. The findings of this study originate from a case study organisation which operates in one of the largest industries in one of the largest economies on the African continent: this research may therefore represent an opportunity for other knowledge management observers and practitioners, whether in the mining industry in SA or elsewhere, or indeed in other organisations in other industries and other countries, to learn from the experiences from this research.

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