Impact of Knowledge Management on Organizational Performance: A Case Study of Grain Marketing Board (GMB)

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Research Article

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ABSTRACT
This research sought to find the impact of knowledge management on organizational performance. The research used a case study approach in which a sample of 60 employees out of a population of 100 employees was used. The targeted population was stratified into departments from which a simple random sampling procedure was employed to come up with departmental representatives who were then summed to make the final 60 sample elements. Questionnaires and interviews were used in triangulation to collect data on the sample. An analysis of the collected data revealed that knowledge management had positively impacted on the performance of the organization through improvements in design time, costs reduction, employee flexibility and reduced employee frustration and confusion. However, the research also found that knowledge management can be negatively affected once a culture that embraces learning and sharing knowledge is minimum.

Keywords: Employee, competitive advantage, flexibility, knowledge management and performance.

REVIEW OF RELATED LITERATURE
The concept of knowledge management is not new to the Zimbabwean economy, its use can be traced as far back as the nineteen sixties when large employing organizations such as the then Rhodesian Railways undertook various knowledge management policies to solve the problems of rigidity, costs and design time. However, the way knowledge management practices were undertaken remains a subject of debate. All these prompted the researchers to evaluate the importance of knowledge management on organizational performance.

Scarborough et al (1999) define knowledge management as a process of creating, acquiring, capturing, sharing and using knowledge, wherever it resides, to enhance learning and performance in organisations. Chong et al (2000) concur with Scarborough et.al (1999) and define knowledge management as the ability to identify, utilise, share, foster, facilitate, transform and manage the knowledge based on the competences and assets of the organization. O’Leary (2002) simplifies and defines knowledge management as the practices and strategies that a company uses in an attempt to create, distribute and enable the adoption of strategic insights and specific experiences.

Knowledge management systems (KMS)
O’Dell and Grayson (1998) note that a knowledge management system should be designed to support communities of practice, focusing on different key knowledge areas thus connecting people to people (for example expert directories), people to knowledge and people to tools (for example discussion forums). O’Dell and Grayson (1998) further state that knowledge management concentrates much on behaviour changes that should reflect new knowledge and insights. Knowledge management systems can therefore be regarded as the technological vehicle that facilitates sharing and transmission of knowledge for dissemination.

Types of Intellectual Capital (IC)
Knowledge Management deals with an organization’s ability to collect, store, share and apply knowledge in order to
enhance its survival and success. Knowledge management aims to exploit the intellectual capital (IC) residing in an organization (Stone, 2008). Stone (2008) came up with three types of IC that is human, structural and customer/relationship capital.

Human capital is the knowledge, skills and abilities of an organization’s employees (Stone, ibid). As workers talk face-to-face, they share intellectual ideas (intellectual capital) which creates knowledge, skills and innovativeness. Thus the issue is how to get people to share this tacit knowledge.

Structural capital is the knowledge that is captured and retained in an organization's systems and structures. This involves technological aspects, thus the need to get knowledge from an employee's head into a computer, document or a process. Lastly, customer/relationship capital is the value of an organization's relationship with its suppliers, customers and competitors (Stone, ibid).

Intellectual capacity is the major source of competitive advantage. It is clearly recognized as having an impact on the company’s share price and economic success (Stone, ibid). Companies such as Microsoft have few assets other than the knowledge of their employees. The central theme of knowledge management is to leverage and re-use the organization’s intellectual capacity to maximum effect. Learning organizations capture, store, retrieve and distribute tangible knowledge assets such as copyright, patents and licenses. They also gather, organize and disseminate intangible knowledge such as professional know-how and expertise, individual insight and experience. Furthermore, learning organizations create an interactive learning environment where people readily transfer and share what they know, internalize it and apply it to create new knowledge (Stone, ibid).

Elements of knowledge management

Burtonshaw-Gunn (2008) postulates that information, knowledge and wisdom are major components of knowledge management. These three components can be seen to be fundamentally interlinked with the three key cultural or behavioral factors which are senior management support, common culture and trust. For knowledge management to provide maximum benefits, all of these elements need to be embraced and valued as shown in Figure 1.

**Figure 1: Elements of knowledge management**

| Senior management support |
|---------------------------|
| Management support means thinking of knowledge as a resource as part of its intellectual capital. Senior management support is fundamental to creating a culture of learning, innovating, sharing and achieving. |

| Information |
|--------------------------|
| Covers the what, who, when and where and relates to description, definition, or perspective, this might Consist of facts, opinions, ideas, theories, principles and expertise. |

| Knowledge |
|--------------------------|
| Covers the how and comprises strategy, practice, method and approaches and is linked to a person’s state of being with respect to somebody of information. These states include ignorance, awareness, familiarity, understanding, facility and expert. |

| Trust |
|--------------------------|
| Trust exists on an individual level through close working relationships with colleagues and is able to exist on an organization level by the adoption of a culture that rewards knowledge sharing and penalizes hoarding. People must get credit for sharing and this must start at the top to develop trust. |

| Common culture |
|--------------------------|
| Precondition to effective knowledge transfer includes the absolute need for a common language, common values and a common culture where individuals share the same understanding of concepts such as time, delegation and accountability. |

| Wisdom |
|--------------------------|
| Concentrates on the why and embodies principle, insight, moral, or archetype. |

Source: Burtonshaw-Gunn (2008).
Knowledge management strategies

Haggie and Kingston (2003) argue that knowledge management strategies focus on the knowledge, business processes and on the end results. Executing knowledge based strategies is not managing knowledge but nurturing people who have it.

Knowledge Management Strategies by Knowledge

Nonaka and Takeuchi’s Matrix Knowledge Types

This strategy is based on the principals of knowledge accessibility; that is, both as source of storage and transformation (Beckham, 1999). Nonaka and Takeuchi (1995) identify four different knowledge types which are socialization, externalization, combination and internalization. Socialization allows an individual to acquire tacit knowledge directly from other workers through shared observations and experience. Externalization involves transformation of tacit knowledge to explicit concepts. Furthermore, with internalization, tacit knowledge is transformed to explicit through documentation and hands on experience and new knowledge is internalized. Combination allows people to come up with different ideas from different sources of explicit knowledge thereby grouping and refining knowledge together.

Boisot’s I space model

Generalization of knowledge is an additional classification of knowledge management strategy (Boisot, 1998). Knowledge can be codified, diffused or obstructed. Given his social learning cycle, Boisot (1998) states that knowledge flows through size stages where knowledge is acquired from general data (scanning), later used to solve problems making use of these insights. The newly acquired insights can be used as solutions of other scenarios (abstraction). Boisot (1998) further argues that these new codified ideas can be shared amongst other works (diffusion) who encode (absorption) it to become tacit knowledge.

Knowledge management strategies by end results

Haggie and Kingston (2003) propose three value disciplines as a way to focus on organization’s activities namely customer intimacy, product leadership and operational excellence. They argue that, when pursuing customer intimacy, the focus is on the customers and their needs and desires. Product leadership focus on the products and operational excellence focus on the organization itself and its delivery processes.

Haggie and Kingston (2003) postulate that, some organizations concentrate on the relationship with their customers to increase customer satisfaction and retention, other organizations may concentrate on their products thereby constantly developing new ideas and getting them to market quickly. In addition, Haggie and Kingston (2003) also states that other organizations may focus on themselves and their internal processes thereby sharing best practices between different units, reducing costs and improving efficiency.

Importance of knowledge management

Ibrahim and Reid (2009) postulate that, knowledge management is critical for organisations to create a sustainable competitive advantage. Moreso, knowledge management initiatives help to improve business processes. Organisations can reduce business processing time simply because they can share best practices. Business processes can also improve through conversations and discussions that can generate valuable knowledge for forecast saving and cost reduction.

In line with the above sentiments, a research by Ibrahim and Reid (2009) indicate that knowledge management practices improve organization’s operational activities in a variety of ways, such as reducing the design cycle time, lead time, cost, reducing time product-to-market and improving the quality of the product. For instance at the UK car manufacturing industry, the design time was massively reduced from 120 hours to 8 hours through the utilization of the knowledge-based tools as engineers were able to design products according to specifications. In addition, sharing best practices allows the organization to improve its quality and reduce lead time and cost, since new ways and techniques of process improvement through knowledge creation and sharing processes would have been found.

Knowledge management helps in the improvement of organisational culture. Ibrahim and Reid (ibid) argue that previous surveys have revealed that social and cultural issues were the main obstacles to the success of knowledge management practices. Organizational culture can change towards a knowledge sharing culture where
employees are driven to generate and share knowledge for the purpose of organisational improvement. Employees are motivated to share their knowledge because they feel more valued for their intellectual capabilities and skills when they can see their contribution towards improvements in the organization.

A research carried out by Khalifa and Liu (2003) showed that culture is an important knowledge management infrastructural capability. It shapes the behavior of organizational members through driving the norms and practices within the firm. Appropriate norms and values motivate knowledge sharing and collaboration.

Argote and Ingram (2000) propounds that knowledge management addresses business challenges and enhances customer responsiveness. This can be achieved through the production of innovative products or services and managing or enhancing relationships with existing and new customers, partners and suppliers.

Knowledge can be an organisation's most competitive advantage. Wealth results when an organisation uses its knowledge to create customer value by addressing business problems. A firm’s competitive advantage depends more on its knowledge; that is what the organization knows and how fast it can know something new (Porter, 1985).

O’Dell and Grayson (1998) indicate that knowledge management results in less-frustration. Staff members can access information themselves and there is no need to rely on the availability of other people through document libraries. Work processes are documented so that when an employee leaves the organisation or department, others can easily pick up those tasks without confusion.

Research by Moffet and Hinds (2010) revealed that, successful knowledge management implementation emancipates employees. Knowledge workers have flexibility and freedom to conduct their work according to their own intelligence, experience and initiative. They support each other as well as by technology and information infrastructure, which resultantly benefits both themselves and the organization.

Knowledge management results in better customer service. Staff members know where to find information that the customer needs at a particular time since the flow of information is managed effectively in an organisation. Moreso, there is increased competitiveness which results when a company utilises knowledge management. Management can see at a glance where the business is weaker or stronger (O'Dell and Grayson, 1998).

Research carried out by Tan and Narsurdin (2011) showed that Human Resources Management (HRM) practices (performance appraisal, career management, training and reward system recruitment) have a positive effect on organizational innovation. Their findings indicated that training was positively related to three dimensions of organizational innovation that is product innovation, process innovation and administrative innovation. Performance appraisal was also found to have a positive effect on administrative innovation. Additionally, their findings also showed that training and performance appraisals are positively related to knowledge management effectiveness.

From the research carried out by Hoegl and Schulze (2005), the results obtained were that companies that used knowledge management methods in the creation of New Product Development have accrued a lot of benefits. For instance, employees at British Petroleum (BP) Amoco use experience workshops which is one of the knowledge management methods. With this method, employees gather a vast amount of experiences and tacit knowledge which can easily pick up those tasks without confusion.

Challenges of knowledge management

Organizations may fail to identify, develop, acquire and even to share and distribute that knowledge. One of the major challenges of knowledge management is failure to form and develop a culture that embraces learning, sharing, changing and improving of knowledge in an organization. Beckham (1999) argues that many companies have attempted to implement knowledge management efforts but have failed due to the lack of an appropriate cultural context that creates and nurtures reciprocal trust, openness and cooperation.

Culture of sharing (social interaction) is another challenge in knowledge management. Sharing is viewed as reducing production as time is believed to be lost through such socialization hence this is not allowed by managers. Furthermore, creation of knowledge groups may be viewed as too expensive to undertake (Argote and Ingram, 2000). Moreso, knowledge sharing takes time and because of this, experts in certain fields may not be willing to participate in knowledge sharing as some organisations do not reward them. To override the above obstacles Argote and Ingram (ibid), noted that systems should accommodate feedback from the employees and reward brilliant contributions.

RESEARCH METHODOLOGY

The researchers employed a case study approach in order to collect data. The research adopted a case study research design in which both qualitative and quantitative techniques were used. The case study was chosen because the researchers had insufficient funds to carry a census of all Grain Marketing Board depots in Zimbabwe. The approach allowed the researchers to concentrate on a real scenario, thus proffering solutions to any business
that may want to use the stated findings for improving a real situation. Researchers find it possible to give their own judgments and opinions since they were actually interacting with the participants under study.

Permission to carry out the research at Grain Marketing Board Bindura Depot (GMB) was granted by the station’s human resources manager. Appointments with respondents were made by letters and through the telephone were applicable. The researcher hand-delivered and collected the questionnaires from the sample elements on the same day. Imprompt interviews afforded the researchers the privilege to read facial expressions of respondents and their body language.

**Study Site**

The case study was conducted at Grain Marketing Board (GMB) Bindura Zimbabwe. The (GMB) Bindura was chosen because, just like the Harare headquarters, it houses all the information pertaining to all employees of GMB in Zimbabwe. It was also a convenient study site since one of the researchers was employed at the organisation during the study and therefore access to vital information was easy.

**Sampling Method**

The study used a sample of 60 employees from a population of 100 employees. Sixty employees comprises of 10 managers and 50 non managerial employees who were used as a sample size. The sample size comprised of 11 employees from human resources, 10 operations, 13 production, 20 marketing and 25 employees from finance and administration. This sample size was representative which gave a true reflection of the findings of the study. The researcher used a random sampling technique to ensure that every member had an equal chance of being selected. This was done by numbering small cards written “yes” or “no” in a sampling frame. The individuals of the sample then selected one card from the sample frame manually from the box.

![N=100](image)

**Data collection instruments**

The research instruments used in this research were formal questionnaires and key informant interviews. Questionnaires were used as appropriate research tools to reveal sensitive issues which respondents would otherwise feel uncomfortable to talk about in an interview. A pre-test survey was conducted in order to evaluate the validity and reliability of the questionnaire. Questions that proved to be unclear to the respondents were modified, rephrased or discarded. Edwards (2003) posits that pretesting of instruments in the field can serve as a reality check indicating to the researcher how well conceptualization of the problem matches the actual experience of the practitioner. Self administration of the formal questionnaire was maintained to ensure total response to all questions as there was a chance for probing techniques. Since the questionnaire was designed in English, there was chance to translate it into Shona to ensure that respondents understood what was being required of them.

Key informant interviews because they give the interviewer room to adjust questions as necessary, clarify and ensure that the questions are properly understood by repeating or rephrasing them (Monton, 1996). Interviews also make it possible for the researcher to take note of non verbal clues from the respondents, for example, frowns and nervous tapping which can be used to determine the final result.

**Data entry and analysis**

The data obtained was analyzed and classified into specific categories of data levels to allow determination of the type of presentations and statistical operations to be employed.
RESULTS

The table below shows responses by respondents to suggested statements on the impact of knowledge management on organizational performance.

Work Experience of the sample

Table 1: Percentage distribution of work experience of the respondents

| Position (yrs) | Frequency | Percentage (%) |
|---------------|-----------|----------------|
| Less than 1 year | 7         | 11.7           |
| 2-5           | 5         | 8.3            |
| 6-10          | 23        | 38.3           |
| 11-15         | 7         | 11.7           |
| 16 and above  | 18        | 30             |
| Total         | 60        | 100%           |

In Table 1 above the findings revealed that the majority of the respondents (38.3%) had work experience of less than 10 years.

Gender Analysis of respondents

Table 2: Percentage distribution of respondents by gender

| Gender | Frequency | Percentage (%) |
|--------|-----------|----------------|
| Male   | 46        | 76.7           |
| Female | 14        | 23.3           |
| Total  | 60        | 100%           |

The results in Table 2 above showed that most of the respondents (76.7%) were male.

Analysis of Academic and Professional Qualifications of the respondents

Figure 1: Academic/ Professional Qualifications of the respondents
The results in Figure 1 showed that the majority of the respondents (52.9%) had at least a national certificate qualification.

### Table 3 Responses to suggested statements (SS) on the impact of knowledge management on organizational performance.

|       | SA | A  | NS | D  | SD | Total Frequency |
|-------|----|----|----|----|----|-----------------|
| SS1   | 25 | 36 | 25 | 6  | 8  | 100             |
| SS2   | 43 | 28 | 18 | 6  | 5  | 100             |
| SS3   | 30 | 34 | 18 | 10 | 8  | 100             |
| SS4   | 7  | 7  | 16 | 27 | 43 | 100             |
| SS5   | 55 | 16 | 10 | 13 | 6  | 100             |
| SS6   | 27 | 30 | 23 | 11 | 9  | 100             |

Source of data: Raw Data

**Key:** SS on the impact of knowledge management on an organization.

SS1: Knowledge management creates a sustainable competitive advantage.

SS2: Social interaction affects knowledge management.

SS3: Knowledge management reduces design time and costs.

SS4: Staff frustration increases due to knowledge management.

SS5: Knowledge management gives knowledge employees flexibility.

SS6: There is a positive relationship between knowledge management and productivity.

**Key: Responses to SS**

SA: Strongly Agree; A: Agree; NS: Not Sure; D: Disagree; SD: Strongly Disagree

**Suggestions for improving knowledge management systems**

The following suggestion for improving knowledge management were highlighted by the respondents: training and development, rewarding employees for sharing knowledge, encouraging knowledge acquisition by employees, promotion of a culture of both learning and sharing knowledge.

**Analysis of table 3**

The majority, 61% of the respondents agree with the statement that knowledge management creates sustainable advantage while only 14% of the respondents thought otherwise. On the statement that social interaction affects knowledge management, an overwhelmingly 71% of respondents agreed with the statement with as big as 43% of the respondents strongly agreeing to it. However, 11% of the respondents disagree with the suggested statement. On SS3, the majority 64% of the respondents are in favour of the statement, while on the other hand only 11% of the respondents disagree with the statement. On SS4, 14% of the respondents agree with the statement while 70% of respondents were against the statement. The majority, 71% of the respondents agree with the statement that knowledge management gives knowledge employees flexibility while only 19% of respondents were against the statement. On SS6, 57% support the statement and only 20% respondents were against the statement.

**DISCUSSION OF THE FINDINGS**

The table indicates that the majority of respondents agree that knowledge management creates a sustainable competitive advantage and the statement that knowledge management reduces design time and costs at Grain Marketing Board. Only a few of respondents disagree with the statement. These findings are in agreement with a research by Ibrahim and Reid (2009) which indicates that knowledge management practices improve organization’s operational activities in a variety of ways, such as reducing the design cycle time, lead time, cost, reducing time product-to-market and improving the quality of the product. For instance, at the UK car manufacturing industry, the design time was massively reduced from 120 hours to 8 hours through the utilization of the knowledge-based tools as engineers were able to design products according to specifications.
The table also indicates that staff frustration actually decreases due to knowledge management and above all employee flexibility is achieved. This concurs with the results of O’Dell and Grayson (1998) who indicate that knowledge management results in less-frustration. Staff members can access information themselves and there is no need to rely on the availability of other people through document libraries. Work processes are documented so that when an employee leaves the organization or department, others can easily pick up those tasks without confusion. Research by Moffet and Hinds (2010) also reveal that, successful knowledge management implementation emancipates employees. This means knowledge workers have flexibility and freedom to conduct their work according to their own intelligence, experience and initiative. They support each other as well as by technology and information infrastructure, which resultantly benefits both themselves and the organization.

The majority of respondents agree with the statement that there is positive relationship between knowledge management and productivity. This is in line with the results from a research carried out by Hoegl and Schulze (2005). The results obtained were that companies that used knowledge management methods in the creation of New Product Development have accrued a lot of benefits. For instance, employees at British Petroleum (BP) Amoco use experience workshops which is one of the knowledge management methods. With this method, employees gather a vast amount of experiences and tacit knowledge which comprises both technical knowledge and personal knowledge about relationships and team structures.

The table also indicates that the majority are of the view that social interaction negatively affects knowledge management. The sole reason being that, production is reduced as time is believed to be lost through such “socialization” hence this is not allowed by managers. Furthermore, creation of knowledge groups may be viewed as too expensive to undertake (Argote and Ingram, 2000). Moreso, knowledge sharing takes time and because of this, experts in certain fields may not be willing to participate in knowledge sharing as some organizations do not reward them. To override the above obstacles, Argote and Ingram (ibid), noted that systems should accommodate feedback from the employees and reward brilliant contributions.

**Findings**

The purpose of the research was to find the impact of knowledge management on organizational performance. The study found that knowledge management creates sustainable competitive advantage for an organization, reduces design time and costs just to mention but a few. It was also found that, there is a positive relationship between knowledge management and productivity. The research findings also revealed that for Grain Marketing Board to fully benefit from knowledge management they must train and develop staff, rewarding employees for sharing knowledge, promoting a culture of knowledge sharing and allowing employee participation in decision making.

**CONCLUSIONS**

The research findings show that there is positive relationship between knowledge management and organizational performance. It was also observed that properly designed knowledge management systems gives employee flexibility and reduces design time and organizational costs. However, the research recommends that there is need to carry out further research at a wider scale involving other parastatals in order to generalise the research findings from this case study.

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