

**ORGANISATIONAL STRUCTURE OF SELECTED PRIVATE
HIGHER EDUCATION INSTITUTIONS IN BOTSWANA AND
ITS IMPACT ON KNOWLEDGE MANAGEMENT PRACTICE:
AN EMPIRICAL INVESTIGATION**

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Abstract

This study intended to identify gaps in knowledge management (KM) practices of private higher education (PHE) institutions in Botswana by determining the existence, or absence, of the right organisational structure to facilitate KM practices.

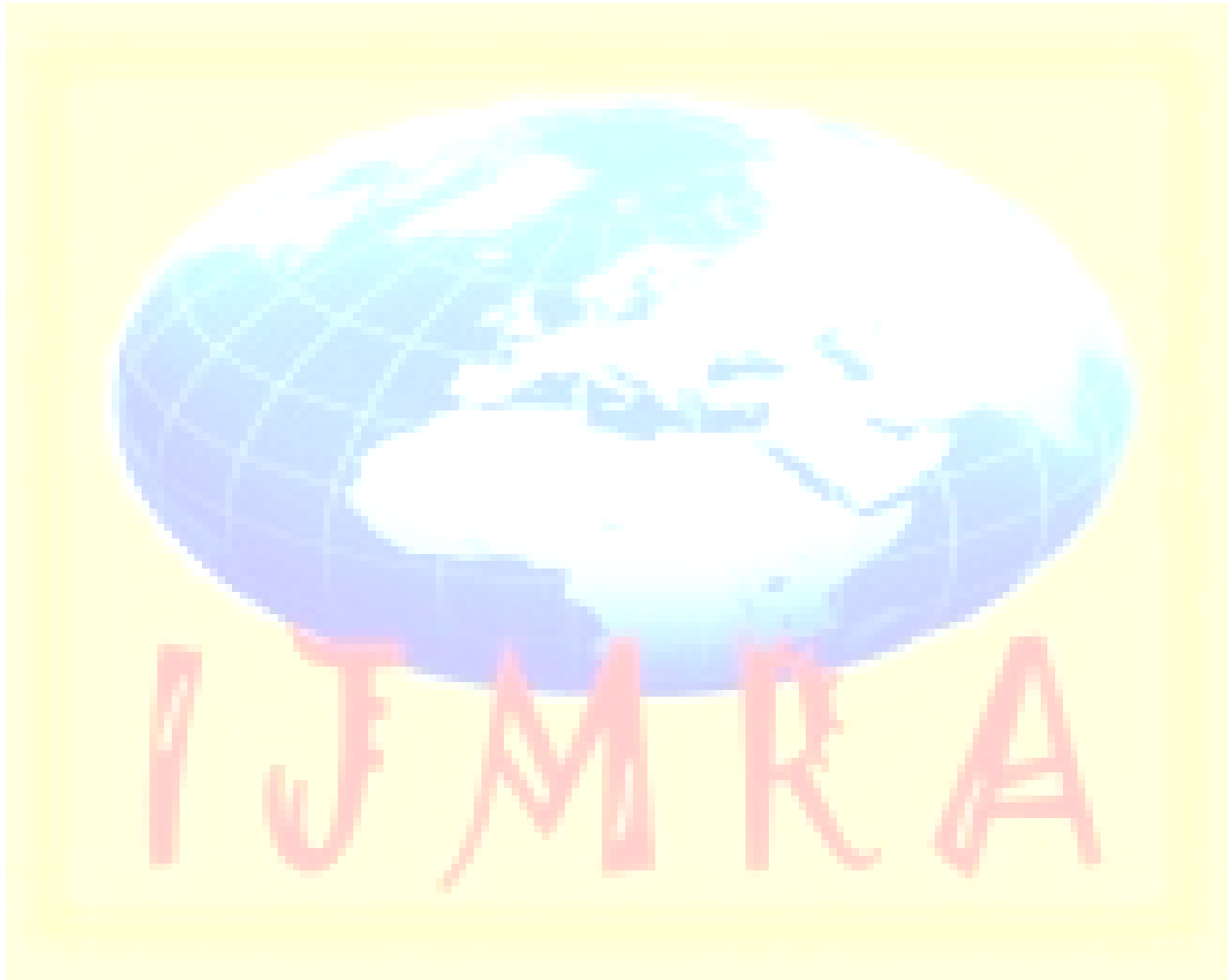
The study adopted a multimethod research approach leading to methodological triangulation whereby quantitative and qualitative data were obtained through a questionnaire and face-to-face interviews. The subjects comprised all five degree-awarding PHE institutions which were strictly regulated by the Tertiary Education Council (TEC). The population surveyed came to 670 and sample size was 350.

The results of the study revealed the absence of the appropriate organisational structure in selected PHE institutions. The reporting structure was hierarchical with information flowing only vertically. There were not enough computers and little internet thus limiting knowledge generation and exchange. There was a serious shortage of office space, meeting rooms and recreational facilities thus reducing opportunities for staff interaction and knowledge diffusion. Results of the study can be generalised to similar institutions elsewhere operating in similar environments. In order to enhance KM practices in PHE institutions, it is recommended that the institutions adopt a systematic approach to KM and establish an organisational structure that promotes KM practices.

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It should be noted that the state of KM in organisations operating in an uncertain environment can be enhanced if the leadership enhances organisational structures of their organisations as this can detract from the organisations' effective practicing of KM.

Keywords: Knowledge management, knowledge generation, knowledge sharing, knowledge utilisation, knowledge retention, knowledge infrastructure, organisational structure



1. Introduction

Organisational structure is a critical factor in KM and the management of knowledge workers and is the backbone of the organisation. According to Lee and Choi (2007), organisational structure plays a crucial role by encouraging or inhibiting practices of KM by influencing how an organisation conducts its business in terms of how knowledge is generated and shared among employees of the organisation. It predetermines what an organisation can do and what it cannot do, as well as influencing knowledge and communication channels, the functionality of the knowledge market, trust, permeability of borders between departments and other issues (Mladkova, 2011). This study sought to determine the existence or absence of appropriate organisational structure as a KM enabler and the role it plays in facilitating KM practices of knowledge creation, sharing, application, and retention in selected PHE institutions in Botswana. The paper intended to determine if selected PHE institutions have a reporting structure that facilitates KM practices, have the right infrastructure such as information technology (IT) namely internet, intranet, computers, and buildings such as office space, meeting rooms, and lunch and tea facilities that promote employee interaction hence knowledge creation, diffusion, and utilisation.

2. Literature review

This section outlines the literature that was consulted for this study which forms the theoretical underpinnings of the study. It discusses the critical components of organisational structure with a bearing on KM practices namely the reporting structure, IT, and physical infrastructure.

2.1 Reporting structure

Amayah (2013), Graham and Pizzo (2003), and Teece (2009) argue that organisations with a centralised, bureaucratic management structure stifle the generation of new knowledge since centralization implies concentration of decision-making power which diminishes creativity, while dispersion of power stimulates spontaneity, experimentation, as well as freedom of expression – all of which are known to be the lifeblood of knowledge generation in an organisation.

Nonaka and Takeuchi (1995) classify organisational structures into three categories:

- Top-down structures;
- Bottom-up structures; or
- Combined structures (the middle-up-down model).

Most organisations in the developed and developing world comprise of a hierarchical top-down structure with a centralised and bureaucratic make-up which inhibits generation of new knowledge (Amayah, 2013). From the perspective of KM and management of knowledge workers, the top-down structure is the least effective since it is based on a strict division of labour and limits cooperation and knowledge sharing (Nonaka and Takeuchi, 1995). Also, the power and decision making responsibilities and competencies are concentrated in the hands of top managers who create basic concepts, objectives and ideas and then distribute them as tasks to their subordinates in the organisation severely limiting the role of low level employees (Robbins, Millet, and Cacioppe, 2009). Knowledge channels open only in the top-down direction and only simple explicit knowledge passes through them. Subordinates do not communicate on the horizontal level and cooperation of individual hierarchical levels is severely curtailed (Mladkova, 2011). He further posits that the bottom-up flow of knowledge is a serious challenge as hierarchical borders damage knowledge and it loses its context and different departments explain it differently. The flow of tacit knowledge is even more curtailed and it exists only in the heads of individuals and is owned and shaped only in specialised parts of departments.

Mladkova (2011) also posits that combined structures provide a much more suitable, effective and convenient environment for KM and management of knowledge workers. He views them as flexible, flat organisational structures where decision making is related to knowledge, and where knowledge is concentrated and localised in the middle or bottom level of the organisation structure which stimulates creativity and operates with both explicit and tacit knowledge but is more beneficial for work with tacit knowledge which is naturally shared in teams and communities.

Mladkova (2011) further postulates that a combined organisational structure is built on three layers as follows:

- The vertical layer – This is responsible for the management of the company including day to day operations and strategic aspects. It can be hierarchical.
- The horizontal layer – This is responsible for the creation of critical values of the organisation and it facilitates the creation, distribution and use of both tacit and explicit knowledge. This layer generally consists of project teams.
- The knowledge layer – This is responsible for the archiving and recording of both tacit and explicit knowledge. It allows for creating and using the full potential of different relationships in the firm and fully supports KM activities.

2.2 Information technology (IT)

The importance of IT infrastructure for the implementation and success of KM initiatives has been well accepted and IT has been considered the groundwork for implementation of KM practices and tools, leading to easier and faster adoption of KM practices (Bordoloi and Islam, 2012; Lehner and Haas, 2010; Hafeez-Baig and Gururajan, 2012). IT is regularly cited in KM literature as a vital KM infrastructural capability, enabling core KM activities such as knowledge creation, knowledge flow and knowledge application (Gold, Malhotra, and Segars, 2005; Pandey and Dutta, 2013). IT plays a critical role in the socialisation, externalisation, combination, and internalisation (SECI) Model by facilitating KM processes of socialisation, externalisation, combination, and internalisation (Panahi, Watson, and Patridge, 2013; Lopez-Nicholas and Soto-Acosta, 2010; Jarrahi and Sawyer, 2013).

Information technology has been identified by several KM works as a major determinant of KM success (Gordeyeva, 2010). For instance, the quality and speed of knowledge generation, transfer, and application is improved considerably with the support of IT using technologies such as intranets, knowledge repositories and group decision support systems (BenMoussa, 2009; Ajmal, Helo, and Kekale, 2010). Tiago, Tiago, and Conto (2010) posit that the expansion of internet and e-commerce technology, for instance, have allowed organisations to establish new forms of knowledge creation, thus providing them with opportunities to enhance their capability to manage and apply knowledge.

Kokemuller (2013) and Khalifa and Liu (2010) believe that in the context of KM, IT should become the enabler of KM processes to stimulate KM success. Without effective assimilation within the KM processes, IT on its own is not enough to improve organisational performance. IT is therefore useful in KM practice when fused with KM process capabilities and KM infrastructural capabilities as direct determinants of organisational effectiveness as indicated in Figure 1 (Gold, Malhotra, and Segars, 2005).

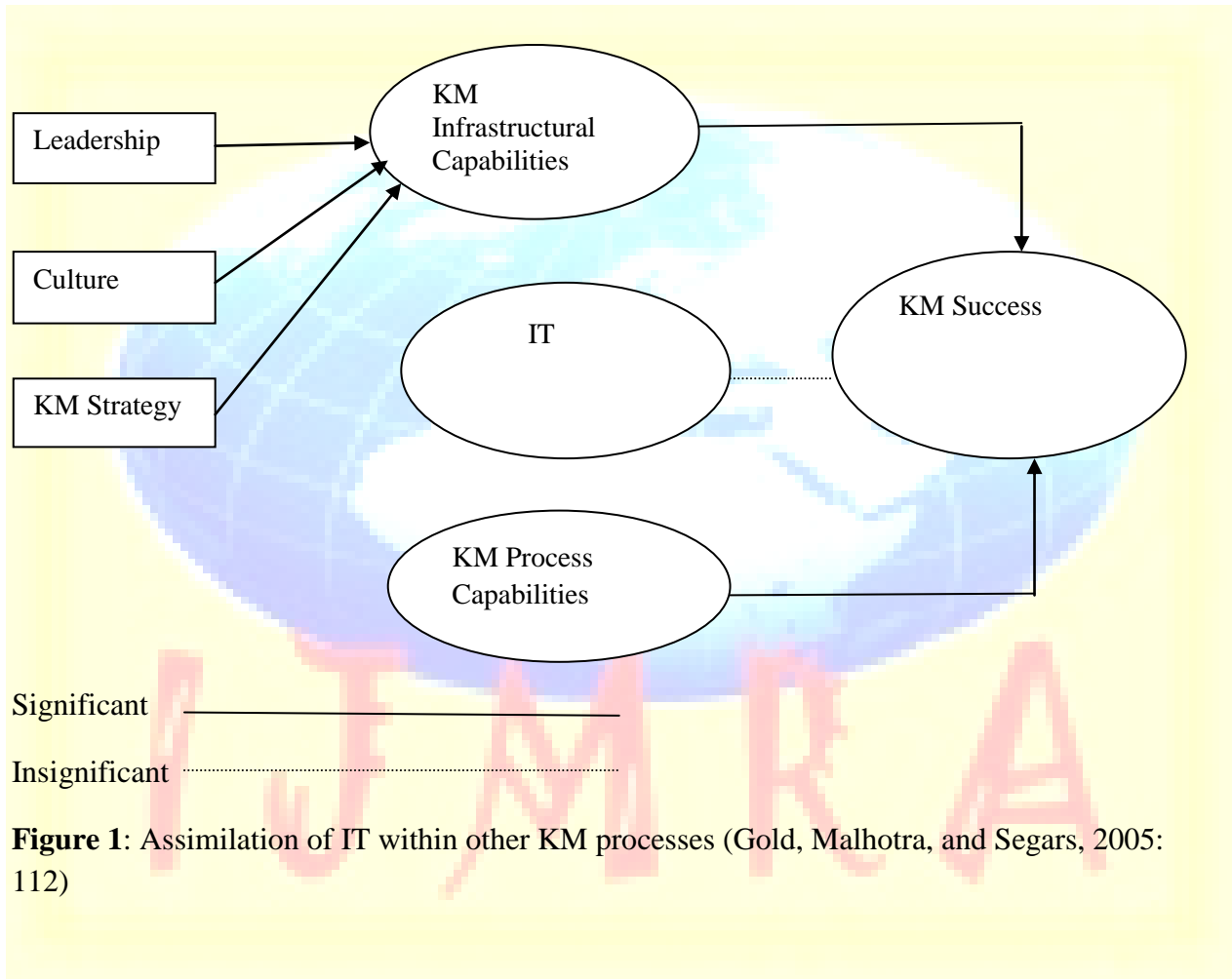


Figure 1: Assimilation of IT within other KM processes (Gold, Malhotra, and Segars, 2005: 112)

According to Figure 1, IT assimilation within KM process capabilities is critical to the achievement of KM success. It shows IT as a component of other elements of KM practice that include KM strategy (the balancing act between the internal capabilities of the firm and the external environment), culture (a supportive culture is vital for the successful implementation of KM initiatives), and leadership (a KM Officer or Manager who sets the overall directions for the organisation’s KM programme and assumes responsibility and accountability for KM-related

activities) (Yu, Kim, and Kim, 2008; Tong and Mitra, 2009; Hansen, 2009; Chen and Huang, 2011; Wendling, Oliveira, and Gustaud Macada, 2013; Woodman and Zade, 2012; Jones and Mahon, 2012).

Smith and Lumba (2008) believe that IT provides one of the most powerful focuses of KM developments hence a broad range of IT systems offering capabilities in KM needs to be promoted. It is thus necessary for an organisation to determine whether the IT in place is adequate and whether it is being used effectively enough to support KM. The organisation's top leadership should ensure the following with regard to IT (Smith and Lumba, 2008):

- Employees are using existing IT systems effectively as their normal work practice;
- IT systems are fully established, supported and financed in the organisation;
- Technology is a key factor in enabling and ensuring that the right information is available to the right people at the right time;
- The organisation's IT systems make the employees' search for information easier;
- IT promotes effective communication across departmental boundaries and time zones;
- There is adequate investment in IT infrastructure to support groupware and collaborative computing tools; and
- IT tools are being used to make sense of changes in the organisation's environment, create new knowledge and to make wise decisions about the right course of action to take.

It was the essence of this study to establish, through the questionnaire and interviews, whether these IT aspects exist in selected PHE institutions covered in this study. The study also sought to establish if there was adequate infrastructure such as office space, meeting rooms, and tea rooms to create space which facilitates KM practices in these organisations.

3. Research methodology

This study adopted the multimethod research approach where multiple data sources were triangulated, wherein an in-depth interview (qualitative) (focusing on a smaller, carefully selected and knowledgeable sample) was used to support and confirm the results of a

representative survey (quantitative) for understanding the perspective of selected lower level employees in PHE institutions on the existence or otherwise of appropriate organisational structure in their institutions. This study adopted the equivalent status/simultaneous designs denoted as QUAN+QUAL where quantitative data was collected simultaneously with qualitative data and the two data forms had equal status or weight. Quantitative data (large sample) was analysed first and qualitative (small sample) data analysis followed to confirm and validate the findings of quantitative data. In terms of priority, this study gave equal priority, (that is, weight, or status) to the quantitative and qualitative aspects (equal weight design).

This study's target population was all academic staff of PHE institutions in Botswana offering degree programmes, ranging from lower level to top management. The sample frame thus comprised, firstly, the list of all the five PHE institutions in Botswana which offer bachelor's and master's degrees and which were strictly regulated by the Tertiary Education Council (TEC) and the Botswana Training Authority (BOTA) and had been operating for twelve months or more. Secondly, the sample frame also comprised the list of all academic staff members who had worked for the institution for at least 12 months. The units of selection therefore were the education institutions in the first instance and academic employees in the second instance. The total population surveyed (that is, all academic employees of these institutions including top management) came to 670.

The sample size based on the sample size table was 350 (The Research Advisors, 2006). Table 1 shows the population of academic staff in the PHE institutions in this study and the sample size from the different strata.

Table 1: Strata, population, and sample size

Strata	Institution A	Institution B	Institution C	Institution D	Institution E	Total (N _i)	Sample size
Middle management (N ₁)	33	28	13	9	8	N ₁ = 91	n ₁ = 14% of n = 48
Lower management (N ₂)	39	33	15	11	9	N ₂ = 107	n ₂ = 16% of n = 56
Non-managerial teaching staff (N ₃)	181	142	58	47	44	N ₃ = 472	n ₃ = 70% of n = 246
Total (N)	253	203	86	67	61	N = 670	n = 350

This study adopted the stratified sampling technique which is used when the population to be sampled does not constitute a homogeneous group. The researcher formed strata on the basis of common characteristics of the items to be placed in each stratum thus ensuring that elements in each stratum were most homogeneous within each stratum and most homogenous between the different strata implying that strata were purposively established based on the past experience and personal judgment of the researcher. Different strata comprised academic staff in middle management, lower management and non-managerial teaching staff and then units were selected from each stratum to comprise a sample as shown in Table 1.

For collecting qualitative data, the researcher used purposive sampling (non-probability sampling) to select respondents for interviews from within the group of academic staff members of the five PHE institutions covered in this study ranging from general teaching staff to top academic management.

4. Research findings

The constructs of organisational structure and its influence on KM was measured with the scale ranging from 1 to 5 (1 = not at all and 5 = absolutely). As shown in Table 2 and Figure 2, the mean scores in all items range from a low figure of 1.96 to a high of 3.66 and standard deviations ranging from 0.71 to 1.14. Respondents were of the view that information flowed vertically most of the time in their organisation (top-down and down-top) as this item scored the highest mean of 3.66. They also indicated that the top leadership had not established a well-structured, flexible, up-to-date knowledge map to lead staff in the direction of the knowledge they required - as evidenced by a mean score of 1.96.

Table 2: Analysis of organisational structure and KM (ordered on the mean)

Items	Std. Deviation	Mean
To what extent does information flow vertically most of the time in your organisation (top-down and down-top)?	.85	3.66
To what extent is there cooperation among employees in the organisation which fosters knowledge management practices?	.71	2.87
To what extent do employees in your organisation have easy access to social networks (Face-book, Twitter, Linked-In etc) that facilitate interaction hence knowledge-sharing within the organisation and outside?	.81	2.84
To what extent does top leadership of your organisation ensure the existence of formal networks in order to facilitate effective dissemination of knowledge?	1.02	2.75
There is adequate infrastructure (office space, meeting rooms, tea rooms, internet, intranets) to create space which facilitates knowledge management practices in my organisation	1.13	2.43
To what extent has your organisation's top leadership established a well-structured knowledge map to lead staff in the direction of the knowledge they require?	1.14	1.96

Results in Table 2 mean that respondents were of the view that employee' access to social networks was limited. This was confirmed by the qualitative findings whereby virtually all interviewees indicated that, while the internet was there, social networking sites such as Facebook, Twitter, Myzamana (local site), Skype, YouTube, and so on were blocked or only opened during lunch time (in some institutions) citing inadequate bandwidth. Some interviewees indicated that internet was so slow that it was almost impossible to download anything

meaningful. This was made worse by the fact that there were very few computers in most of these institutions.

One interviewee stated:

“Access to the internet in order to share knowledge through emails and social networks is severely restricted due to the shortage of computers in the institution. As many as ten people share a computer. Even lecturers have to bring their own laptops to use in school and after work or they have to go to the library or computer laboratory to scramble for a few working computers with students, meaning that the lecturers have no access to current issues therefore cannot carry out research unless they buy their own laptops which most cannot do because of low remuneration”.

The above sentiments were supported by another interviewee who retorted that social networking sites such as Facebook, Twitter, Myzamana (local site), Skype, YouTube, and so on are blocked citing inadequate bandwidth, and also fear that employees were spending time on issues that had nothing to with work.

On whether there were formal networks to facilitate dissemination of knowledge, most of the interviewees alluded to shortage of effective formal networks for knowledge dissemination. For instance, one interviewee stated:

“There are no effective formal networks to disseminate. There is intranet which is used to communicate with staff in the institution but then the communication is one way with the facility being mainly used to give instructions to employees on what they need to do. Employees cannot use the same facility to proffer suggestions as they will be reprimanded”

Asked whether there was adequate infrastructure to facilitate knowledge-sharing, most of the interviewees gave a straight ‘no’ in response to this question. According to some of the interviewees, their institutions did not have functional meeting rooms with staff meetings being held in staffrooms (in the presence of other staff members who did not belong to the department). They did not have staff canteens with employees having to go home for lunch or to obtain lunch from nearby shopping malls. There were no tea rooms for staff to take tea with tea

being taken in the staffrooms where other employees not taking tea would be busy with their work. This meant that there was no opportunity for informal knowledge exchange.

One interviewee stated:

“While physically meeting rooms are there and labelled such, practically they do not exist as they have been converted to office space due to shortage of office space. The few remaining ones are either locked and getting keys is a mammoth task, or occupied by students who become very rude should one try to disperse them arguing that they do not have sitting space for independent study. Even if a meeting room is available, the rooms are so small that they can only accommodate four people at the most, yet some departments have up to twenty or more members. This makes it very difficult to conduct departmental meetings”.

The above sentiments from the participants in the interviews are an indication that there was a strong perception among participants that the physical infrastructure of selected PHE institutions covered in this study did not adequately promote KM practices of knowledge generation, sharing, utilisation, and retention due to inadequate computers, little and slow internet, lack of office space, lack of meeting rooms, and lack of tea and lunch facilities.

Reporting structure

Respondents were asked to state whether their organisational structure (reporting structure) was hierarchical or not, that is, whether it was top-down and bottom-up. Responses shown in Figure 2 indicate that 96.4% of the respondents' organisational structures were hierarchical while 3.6% were not.

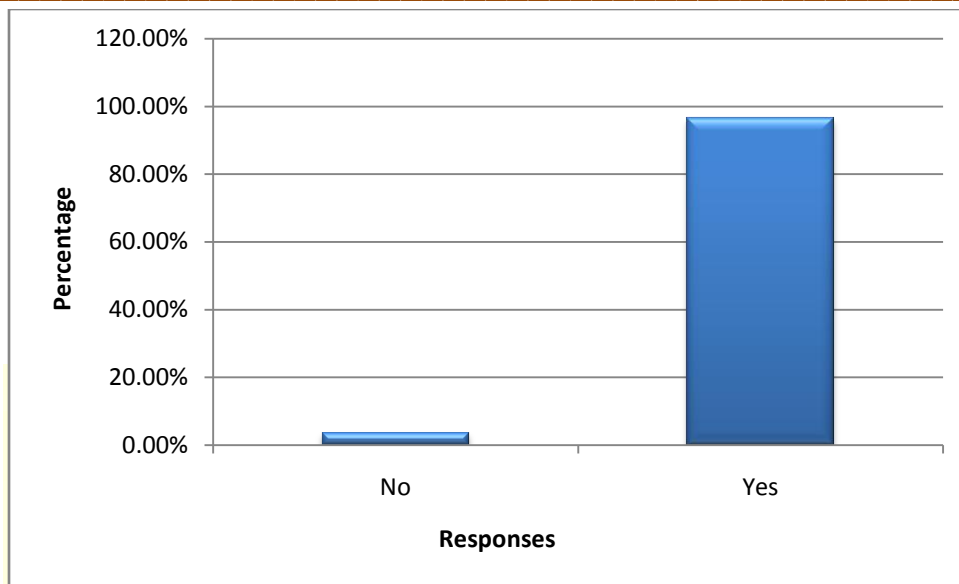


Figure 2: Whether organisational structures of PHE institutions were hierarchical or not

What the organisation should do in order to ensure that there was adequate infrastructure to facilitate knowledge sharing

Respondents were asked to state what selected PHE institutions should do so as to ensure existence of adequate infrastructure to facilitate knowledge sharing. The most commonly listed elements were:

- Identification of skills gaps to facilitate the right training;
- Increasing internet availability;
- Provision of adequate office space;
- Facilitating social interaction/promotion of social events;
- Conducting workshops on knowledge sharing;
- Promoting departmental and interdepartmental meetings/committees; and
- Facilitating formation of staff associations to represent employee interests.

5. Conclusion

Results of this study revealed that organisational structures of selected PHE institutions were hierarchical, meaning that there was limited free-flow of information and ideas within the concerned organisations. There was vertical flow of information and ideas most of the time with little or no lateral or horizontal flow which facilitates faster and more effective movement of

knowledge and ideas. This implied that information was centralised in the hands of top management who decided how much of it should flow down to lower level employees and when. This centralisation of information stifles the generation of new knowledge when employees just wait to be told what to do and only give feedback on what they will have done. Employees will not have an interest in sharing what they know with their colleagues because the organisational climate does not allow them to do so leading to hoarding of knowledge which is dangerous for organisations operating in highly regulated environments since this reduces their operational efficiency.

The above views are supported by the work of Amayah (2013) who argues that organisations with a centralised, bureaucratic management structure stifle the generation of new knowledge while organisations with a decentralised organisational structure promote the creation and sharing of knowledge, especially the more critical tacit knowledge. He adds that centralization can reduce individuals' interest in sharing knowledge with other units or departments within the organisation while diffusion of knowledge will increase among organisational units where formalisation is less. Selected PHE institutions' hierarchical structure with centralised decision-making hampered KM practices hence their organisational structure had a negative impact on KM.

PHE institutions covered in this study did not have adequate infrastructure to facilitate KM practices. There was a general perception among respondents that selected PHE institutions were characterised by a shortage of infrastructure that promotes knowledge discovery, sharing, utilization, and application. There was also lack of effective formal networks for knowledge dissemination, lack of professional staff associations where staff could enhance their professional skills through sharing ideas as is the norm in other universities, staff meetings as avenues for management to make announcements with no feedback expected, no intranet hence no effective internal organisational communication system, no meetings between top management and lower level employees because top management was hesitant to meet the people whom they thought had misgivings about them, lack of functional meeting rooms with staff meetings being held in staffrooms, lack of facilities like tearooms where staff could gather informally to share ideas prompting individuals to have lunch in their cars, blockage of social networking sites such as

Facebook, Twitter, Skype, YouTube, and so on citing inadequate bandwidth, and very slow internet because of the national problem of bandwidth in Botswana. The absence of such critical infrastructure indicates an absence of an important KM enabler (organisational structure) as it means KM activities were seriously hampered.

The above scenario sharply contrasts with the research of Gold, Malhotra, and Segars (2005) who discovered that besides IT infrastructure which facilitates knowledge-sharing, the physical environment in which the organisation operates is a crucial foundation on which KM rests, and key aspects of this environment which have a bearing on knowledge-sharing are the design of buildings and the separation between them, the location, size and type of offices, and the type, number and nature of meeting rooms, among others. The physical environment can foster KM by providing opportunities for employees to meet and share ideas through venues like tearooms, cafeterias, water coolers, and meeting rooms where employees mingle and learn from and share ideas with each other. Such facilities were limited in selected PHE institutions.

This study revealed that IT tools such as knowledge expert directories and video-conferencing facilities were lacking in the institutions covered in this study. These would facilitate communication and interaction between the main campuses and satellite campuses. These are critical requirements for any organisation operating in different geographical locations and that needs to effectively link with corporate headquarters. Their unavailability represents a deficiency in a critical KM enabler.

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