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Relative levels of eLearning readiness, applications and trainee requirements in Botswana's Private Sector

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Abstract

The rapid growth and modernization of economies in developing countries like Botswana creates new and unmet demands for certain kinds of educated and skilled labour. The expansion of secondary and tertiary school systems has also created a problem of unemployed school leavers. The growth of Information and Communication Technologies (ICTs), globalization and the digital divide likewise, have together put new pressures on developing countries to accelerate their development to meet these demands. This paper reports the results of a survey that sought to assess levels of eLearning readiness, applications and trainee requirements in Botswana's private sector. Such baseline data can inform policymakers and researchers and promote the transformation required of private sector companies to become learning organizations. The findings suggested that eLearning readiness (eReadiness) levels were moderate to low, and that archaic technology (i. e., overhead projection) was used by more than half of the private sector organizations for training (with far less than half using digital eLearning applications). While the overall findings suggested low levels of eLearning readiness, applications and trainee requirements in Botswana's private sector, seventy percent of trainers reported that their organizations encouraged them to acquire basic computer skills to facilitate eLearning. The current eLearning situation in Botswana, and the literature reviewed, demonstrates that the integration of ICTs in both developing and developed countries was a gradual process. Public-Private Partnerships (PPPs) have expedited the change process in developed countries. However, several limitations are associated with such partnerships and this renders lessons for developing countries to emulate.

Résumé

La croissance et la modernisation rapides des économies des pays en voie de

développement comme le Botswana créent des demandes nouvelles et non satisfaites pour certains types de main-d'œuvre instruite et qualifiée. L'expansion des systèmes d'enseignement secondaires et tertiaires a également créé un problème de chômage chez les jeunes sortant de l'école. La croissance des technologies de l'information et de la communication (TIC) ainsi que l'accroissement de la mondialisation et du fossé numérique ont ensemble engendré de nouvelles pressions sur les pays en voie de développement afin de répondre à ces demandes. Le présent article provient d'un sondage qui visait à évaluer les niveaux de maturité pour l'apprentissage en ligne, les applications informatiques et les besoins de formation en ligne des stagiaires dans le secteur privé au Botswana. De telles données de base peuvent informer les décideurs et les chercheurs et promouvoir la transformation nécessaire des entreprises du secteur privé afin qu'elles deviennent des entreprises du savoir. Les résultats suggèrent que les niveaux de maturité pour l'apprentissage en ligne (maturité électronique) sont modérés à faibles et que des technologies archaïques (par exemple, des rétroprojecteurs) étaient utilisées par plus de la moitié des organismes du secteur privé pour la formation (et beaucoup moins de la moitié utilisaient des applications numériques pour l'apprentissage en ligne). Bien que l'ensemble des résultats suggère de faibles niveaux de maturité pour l'apprentissage en ligne, les applications informatiques et les besoins de formation en ligne des stagiaires dans le secteur privé du Botswana, soixante-dix pour cent des formateurs ont indiqué que leurs organismes les ont encouragés à acquérir des compétences informatiques de base pour faciliter l'apprentissage en ligne. La situation actuelle de l'apprentissage en ligne au Botswana et l'examen de la documentation montrent que l'intégration des TIC à la fois dans les pays développés et en voie de développement est un processus graduel. Les partenariats entre le secteur public et le secteur privé (PPP) ont accéléré le processus de changement dans les pays développés. Plusieurs restrictions sont cependant associées à ces partenariats et cela permet aux pays en voie de développement d'en tirer des leçons à imiter.

Introduction

At the time of achieving independence in 1966, Botswana was one of Africa's poorest countries with an overwhelmingly rural population dependent mainly on agriculture for a livelihood. Today, Botswana stands in sharp contrast to this history when compared to most developing nations, both within the Commonwealth and outside. The rapid economic growth in the past has been fuelled largely by the development of the mineral sector, especially the growth in exports of diamonds and copper-nickel. In recent years, Botswana has sought to diversify its economy to reduce dependence on earnings from mineral exports, which are expected to begin levelling off. The emphasis is to be on private sector development and foreign investment for much needed managerial and technical expertise. The Republic of Botswana 1994 Revised National Policy on Education commission report (RNPE) takes the stand that the nation's major resource is its people and that investment in their education and training is a necessary condition of national development. The commission recognized that the application of technology will be increasingly important and that the workforce will need to be adaptable and

receptive to change. The commitment by the 1994 commission has implications for the education system in the country.

The University of Botswana had been the only pubic university in the country and engaged to a large extent in human resource development to serve both government and the private sector. However, a second national university and private tertiary institutions have recently appeared. eLearning was launched at the University of Botswana (UB) during 2001. The educational rationale driving eLearning at the UB can be illustrated in the definition coined as, "the appropriate organization of ICTs for advancing student-oriented, active, open, collaborative and life-long teaching and learning processes" (University of Botswana, 2009). This marked the start of the strategic roll-out of eLearning in the country. Web Course Tools (WebCT) is currently the online learning management system (LMS) being used and has recently merged with Blackboard LMS. A videoconferencing system also links up the main campus and other campuses to deliver continuing education and to reach remote students. At the junior secondary school level, computer awareness for every child is provided and some students opt to take Computer Studies offered as a subject at senior secondary schools. Private sector companies have recently offered to provide internet connectivity to selected schools as the majority are not connected as yet and such public-private partnerships are encouraging.

Statement of the Problem

eLearning as a new innovation has not yet attracted much research especially in Botswana's private sector; this study seeks to address this gap. Studies conducted in eLearning and related areas (Batane, 2004; Bose, 2005; Kyeleve, 2000; Mooketsi, 2002; Nganunu, 1993; Ojo & Awuah, 1998; Sathiaraj, 2003; Wilson, 2006), while not focused in the private sector, have contributed to the theoretical basis for this study. The University of Botswana's mission statement and vision, the Botswana vision 2016 and the Botswana Maitlamo ICT Policy, have also influenced the conceptualization of the study. In order to achieve the statue of excellence, there is need for research to guide the aspirations of the University becoming a leading academic center; and Botswana thus becoming an educated, productive, innovative and informed nation. The emphasis of this study has therefore focused on Botswana private sector eLearning readiness, applications and trainee requirements.

Purpose of study

The study's purpose is to determine the degree to which eLearning is practiced in Botswana's private sector. . The objective was to solicit critical information regarding private sector eLearning readiness, applications and trainee requirements, and to identify possible gaps. The findings are intended to guide the planned growth of eLearning initiatives in the private sector, and integrate them with the curricular function of the University of Botswana and other tertiary institutions as these are the main producers of the human resources in the country.

Another purpose of the study was to provide Public-Private Partnerships (PPPs) benchmarks for Botswana and developing countries from developed countries such as Canada, where best practices have emerged over time.

Limitations of the study

The study had several limitations that are discussed here to help the reader decide on the possible degree of generalizability of the results. The study targeted selected private sector companies in Gaborone (Botswana). There was no evidence that research in eLearning in the private sector was ever conducted and as such not much empirical data was available. Some comparison of the study are based on studies conducted elsewhere, especially Canada and Europe where much research has featured in eLearning in the private sector. Other limitations arose from the questionnaire instrument used and the low response rate. The interview portion of the study was limited by budgetary and time constraints; therefore descriptive statistics were used to a greater extent. The study was limited to exploring eLearning readiness, applications and trainee requirements in an urban setting, which would not necessarily reflect all economic social status in the country. It was hoped that the sample would provide adequate insight into eLearning in the private sector and also provide lessons from a global context.

Relevant Literature

The use of Information and Communication Technologies (ICTs) was identified as one vehicle that might elevate both the University of Botswana and the nation to better meet the goal of educated and skilled labour. There is need for tertiary institutions in developing countries to become the focal points in providing leadership in educational technology as they produce the teachers and trainers in developing nations.

The diffusion of instructional technology innovations and computer awareness projects into the Botswana educational system has since emerged through the awareness and activities of progressive government commissions, policies and collaborative efforts with foreign agencies (Republic of Botswana, 1994). It is on that basis that eLearning as an innovation was identified as a major focus for this study. The University of Botswana has adopted the Leadership Academic and Student Ownership (LASO) Model. The LASO Model for Technological Transformation in Tertiary Education has been adopted to act as a guiding framework for the technological transformation of tertiary institutions in Botswana. The model's emphasis is on the importance of integrated top-down and bottom-up approaches and suggests that effective technological infusion occurs when leadership is matched with corresponding academic staff and learner's ownership and readiness (Uys, 2001). Despite these developments in eLearning in Botswana, the degree to which the private sector is committed to the use of eLearning has not been investigated.

Bates (1992) contends that "technological decisions need to be preceded by policy

and educational decisions" (p. 265). In this regard Botswana has an international reputation for being relatively neutral in its policy-making. The success of policy initiatives, as reported earlier in this paper, which are supported by sound diffusion strategies, portrays Botswana as prime ground for technological transformation. However, research in developing countries has identified three (triad), multi-faceted challenges that work against the effective diffusion and adoption of ICT and these are operational, contextual and strategy factors (Jain, 2001; Ojo & Awuah, 1998). The triad has served as a theoretical framework for the research project. Botswana has adopted a new ICT Policy (Maitlamo) to serve as a road map in the implementation of technology enhanced service delivery and education (Republic of Botswana, 2005). There is therefore the need for Botswana and other developing countries to adopt authentic diffusion strategies to be able to deal with operational as well as contextual implementation challenges that slow the diffusion of ICT innovations. PPPs have become a necessary adjunct in technological transformation worldwide despite their several shortcomings and need to be explored by developed countries using benchmarks from developed countries.

Electronic Learning (eLearning)

Electronic learning (eLearning) as it is commonly called, is defined as learning that takes place anytime someone uses electronic means for gathering information that is acquired without another live person present (Zhang & Nunamaker, 2003). eLearning is Internet–enabled learning and is an integral part of distance learning. However, eLearning is not just about using Web-based technologies or distance learning, but it is a way in which individuals or organizations exchange information and gain knowledge. It can include a wide range of learning strategies and technologies from courses available online, CD-ROMs, DVDs to videoconferencing (Sigala et. al. 2002). eLearning can be synchronous or live, as in the case of Internet conferences, in which geographically separated teachers/trainers and students/trainees can gather in an online classroom. eLearning can also be defined as instructional content or learning experiences delivered or enabled by electronic technology (The Commission on Technology and Adult Learning, 2001).

eLearning Readiness (eReadiness)

There have been several attempts to develop surveys that assess learner readiness for online learning and some have been tested for reliability. A thirteen item survey proposed by McVay Lynch has been shown to demonstrate an acceptable level of reliability for university students but less than acceptable reliability for technical level learners (McVay Lynch, 2002). In order to benefit from eLearning, companies are advised to conduct considerable up-front analysis to assess their readiness. Several instruments are in the market that can assess readiness for eLearning. However, almost all of these instruments are developed to be used in countries that have a mature field of human resources development and not in developing countries where such maturity levels might not be the case.

The results of a study that examined organizational readiness of companies for

eLearning in Turkey revealed that the companies surveyed were on the overall ready for eLearning but needed to improve themselves, particularly in the area of human resources in order to be able to successfully implement eLearning. Although the instrument had been developed according to the cultural characteristics of Turkish companies, it could easily be adapted and used by companies of other emerging countries. The study confirmed that the personal characteristics (gender, age, education level, and computer experience) of participant managers had no effect on their overall perception for the organizational readiness. The questions in the instrument represented some of the significant issues organizations face when adopting eLearning as found in other instruments in the literature. The researchers also believe that using the survey instrument with more than one manager of a company might provide more reliable and verifiable data on its eLearning readiness since such an assessment model relied on the self-reported perceptions of users. Aspects of this eReadiness study were used in the Botswana private sector study.

eLearning Readiness, Applications and Trainee Requirements

eLearning in Canada is an eCommerce trend that is expected to have a significant impact on Canada's Private Educational Services firms and their customers. It involves the use of technology (e. g., the Internet) to help deliver learning programs (e.g., online courses, ePerformance support, etc.). It has been suggested that Canada will provide the most stable adoption rates for eLearning in the world. It was also estimated that 90% of all new training in Canada will occur over the Internet by the year 2005 (Kaufman, 2001 as cited in Industry Canada, 2002).

Private Educational Services (PES) is a sector in Canada that comprises privately owned or operated, either for profit or not, establishments primarily engaged in providing instruction and training in a wide range of topics. Seventy-five percent of employees of PES firms have direct access to the internet, up from 66% in 1999. Thirty-three percent of PES Websites offer interactivity and 43% of business applications over the Internet are for education and training, 10% use extranets while 29% use intranets (Industry Canada, 2002). The Canadian experience therefore renders benchmarks for Botswana and other developing countries. It also alludes to the notion of learning organizations, as they acquire knowledge and innovate fast enough to survive and thrive in a rapidly changing environment. They also create a culture that encourages and support continuous employee learning, critical thinking and risk taking with new ideas and disseminate the new knowledge for incorporation into their day-to-day activities (Industry Canada, 2002).

The Context of Public-Private Partnerships (PPPs) and Criticisms

In pursuance of alternative innovative ways of financing projects, building infrastructure and delivery of services, governments around the world are focusing on forging public-private partnerships. Collaborative ventures through PPPs have become appropriate tools for making the best from public and private sectors. The United Kingdom, Australia and the United States stand out as world leaders in the

implementation of PPPs. Public-private partnership activities in both the United Kingdom and Australia are conducted through comprehensive government programs rather than on a one-off basis as is the case in Canada and the United states. The Canadian Council for PPPs (CCPPP) has defined PPPs as a cooperative venture between the public and private sectors built on the expertise of each partner that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards (CCPPP, n.d.). PPPs or P3s are also defined as government services or private business ventures which are funded and operated through partnerships of government and one or more private sector companies (Wikipedia, n.d.).

In Botswana and other developing countries, private sector companies usually assist government sectors in the provision of public ICT needs such as hardware, software and internet connectivity. However, such provision is on an ad hoc basis and usually not in the form of systematic partnerships. The Canadian International Development Agency (CIDA) and the Canadian Council on Africa (CCAfrica) [http://www.ccafrica.ca/] have also established partnerships with developing countries with a focus in capacity building in a wide range of areas that include eLearning. Canada and many developed countries are therefore better placed to provide ICT resources and expertise to enhance eLearning practices suited to meet the demands of developing countries as they continue to thrive in an increasingly competitive global environment (McManus, 2007). Furthermore, CCAfrica continues to provide eLearning Africa (eLA) participants (a premier gathering place for experts and stakeholders engaged in ICT-based education, training and development on the African continent), bursaries to cover their travel and lodging. This eLA/Canadian partnership, in collaboration with other developed countries, has led to significant capacity building in ICT in Africa and other developing countries. Such partnerships could also develop spin offs of more systematic PPPs that would pursue specific objectives in eLearning.

PPP lessons for Developing Countries

Canada has developed considerable expertise over the years in the provision of public-private partnerships and the CCPPP has compiled comprehensive research publications that include a collection of award winning PPP projects that could serve as benchmarks for developing countries. The results of these Canadian studies show strong support among Canadians for using the PPP approach (see for example, CCPPP, 2009). Nevertheless, PPPs like most innovations have several limitations associated with them.

Limitations of Public-Private Partnerships

A major criticism raised against PPPs is the loss of public control that occurs when private sector companies are involved in financing, building or delivering public services. Canadians have remained suspect of partnerships that place shareholder value above public interest. On the other hand, PPPs are also seen to be contributing towards job losses. Likewise, the Indian experience with PPPs in

education shows that much caution is needed when selecting a private stakeholder due to the overall responsibility they are assigned to implement the whole process of education of students without invested interest. The PPP partner should therefore demonstrate a reliable set of skills for it to be selected (ICT Regulation Toolkit, n.d.).

A second natural concern with PPPs is whether entering into an agreement with an industry player, government is not distorting the market by backing a certain player or technology, and that PPPs are anti-competitive. The same concern applies to both multi-lateral and bilateral donors, and also to those donors who may sometimes be seen as favouring their own industry in providing development assistance. The last concern relates to the period after the private sector partner has been selected, and whether the government and/or customers remain locked in? It is recommended that this concern be addressed during the design phase of the PPP project, and weighed against the desire of the private sector party to be certain whether to continue or not (ICT Regulation Toolkit, n.d.).

Reconciliation of divergent interests of PPP stakeholders

Several tips on how to reconcile stakeholder divergent interest have been suggested. In Singapore, competitive tenders are used to determine private sector partners for their PPP. A second strategy is to have, as far as possible, technology-neutral competitive tenders in an effort to avoid pre-determining the best technology, software or solution in the tender and thus allowing fair competition. Other possible approaches suggested are to separate parts of the PPP project where applicable to enable a change of roles (e. g., replacing the management company easily if need be). There is also the need to consult industry beforehand on their particular interest and ownership and replacement rules, and include these in the PPP contract. Lastly, the service contract should be limited in order to allow the choice for renewal of the tender or not (ICT Regulation Toolkit, n.d).

Research Methodology

Complimentary descriptive methods were predominantly used in the study (i. e., questionnaire survey, seminar and interview). The survey entailed self explanatory questions about the respondent's behaviour to seek to explain their attitudes or intentions and how they are linked to their background (May 1993). Some focus group seminar and short interviews (qualitative approach) were also used to a lesser extent to complement the questionnaire survey. The feelings, accomplishments and experiences of individuals were solicited so as to assess the degree to which eLearning is used in the private sector. The combination of several methods was essential in that qualitative research plays a discovery role in the study, while the quantitative aspect plays a confirmatory role, thus they compliment each other in this respect (Cohen & Manion, 1994).

The study also opted to use the two designs because these were found not only to be less expensive but also gave information about a larger population by means of

sampled individuals (May, 1993). Descriptive research also affords to produce statistical information about phenomena that interest policy makers and educators, and the design is also less expensive (Borg, Gall & Gall, 1996).

Sampling

The unit of analysis of the study was a sample of selected private sector companies in Gaborone (Botswana). Purposive sampling (also referred to as judgmental sampling by Gay and Airasian, 1996) was used. The researcher's own experience and prior knowledge was used to identify criteria for selecting a stratified sample. The BOCCIM directory of companies that listed most of the private sector companies in the country also served as a guide. The study investigated the relative levels of eLearning readiness, applications and trainee requirements.

Instead of using all the private sector companies listed in the Botswana Confederation of Commerce, Industry and Manpower (BOCCIM) Directory 2002–2003, only 40 companies in the city of Gaborone were selected. The sample size was found to be adequate. However, Borg et al. (1996) stated that for surveys there should be at least 100 subjects. On the other hand Cohen and Manion (1994) purport that:

There is … no clear cut answer, for the correct sample size depends upon the purpose of the study and the nature of the population under scrutiny … a sample size of thirty is held by many to be the minimum number if researchers plan to use some form of statistical analysis on their data. (p. 90)

In lieu of the above, the researcher was careful and cautious of the sampling error by making sure that the sample was representative of the population under survey. The return rate of 23 is slightly lower than the required minimum yet better than the first return rate. It is for this reason that frequencies were used as opposed to the more sophisticated statistical analysis. The focus group seminar, where aspects of eLearning were explored, also provided useful data that was used for triangulation purposes. The data was also representative of company practice given that ICT managers responded representing their respective private sector companies.

Instrumentation

The major instrument of the study was the questionnaire. The categories in the questionnaire were also used as an open-ended guide to collect qualitative data using focus group interviews. The questionnaire instrument was adapted from one designed by the University of Botswana needs assessment conducted earlier Questionnaires have advantages over interviews for collecting data. Borg et al. (1996) state that "the cost of sampling respondents over a wide geographical area is lower and time required to collect the data typically is much less" (p. 289).

However, questionnaires cannot probe into respondents' opinion and feelings.

Focus group interviews according to May (1993) "provide qualitative depth by allowing interviewees to talk about the subject in terms of their frames of reference" (p. 94). Furthermore, Cohen and Manion (1996) state "it is believed that in an interpersonal encounter people are more likely to disclose aspects of themselves, their thoughts, their feelings and values than they would in a less human situation. The respondents feel at ease". (p. 282). May concludes that

Group interviews constitute a valuable tool of investigation, allowing the researcher to focus upon group norms and dynamics around issues, which they wish to investigate. (p. 94)

The two instruments were therefore used to compliment each other. Whilst it is noted that there should be a balance between group size and interactive participation, May (1993) however suggests that "this will depend on what is possible in circumstances over which the researcher may have no control as well as the aims of the investigation and the resources available" (p. 95). The focus group seminar was where participants responded to eLearning aspects using the components of the questionnaire as a guide.

The pre-data collection seminar was conducted for the respondents and only few participants (4) attended the focus group seminar. However, brief interview sessions were held with the managers either at the time of delivering or collecting the questionnaire instrument, depending on when they had time. A post data collection focus group seminar had been planned so respondents could discuss the findings of the study; this part of the study did not occur due to time constraints. This was also to serve as some form of Dissemination and Utilization (D&U) of the study's results. D&U is a critical aspect of the construct of 'sustained interactivity theory' that suggests that researchers and practitioners should interact during or after the research study (Day et. al. 1993). Copies of the report were sent to the UB and local libraries and aspects of the findings are being published internationally.

Validation of Instruments

Questionnaires and interviews must meet the same standards of validity and reliability that apply to other educational research. According to Borg et al. (1996), "Validity is the appropriateness, meaningfulness and the specific inferences made from the instruments" (p. 290). The questionnaire was given to selected individuals for validation purposes. The selected group validated the instrument on the basis of the statement of the content, construct, readability and clarity and precision of expression. The pilot used individuals outside the selected private sector companies to provide critical feedback. Points of ambiguity in the content were identified and corrected to meet the desired quality of the instrument in terms of clarity, readability and precision.

Data Collection Procedures

The researcher sought verbal permission to use Information Technology (IT)

departments in the respective private sector companies used in the survey. Covering letters were attached to the questionnaires to serve as some formal document requesting the selected private sector companies to respond to the questionnaire instrument. A sample of 40 private sector companies were initially identified and questionnaires distributed by post using the BOCCIM Directory and only three were returned. Thereafter, 30 questionnaires were distributed and 23 questionnaires were collected for coding which constitute a 77% return rate. However, four questionnaires (17%) did not indicate company names. A major reason for the initial low response rate was due to BOCCIM directory contact persons' failure to pass on the instrument to relevant IT personnel. When questionnaires were distributed directly to IT departments of the selected private sector companies, the researcher not only received a high return rate, but also created some critical networking with people in the ICT field.

Data Analysis

Data were analyzed using the Statistical Package for Social Scientists (SPSS) and descriptive statistics (frequency counts were deduced for each question). The frequency counts were used as the major statistical data analysis method due to the reason that the numbers of the respondents were small. A coding scheme was also developed to assist in the coding of the survey data. Data from the seminar and brief interviews was used to complement the quantitative data source. While a triangulation approach was used to pick up biases and strengths that complimented each other, the questionnaire survey was the main method used in the study.

Results of Study

The results are reported in coherent summary form under selected headings. The results firstly, provide the demographic data and secondly detailed findings of the selected components of eLearning that relate to the research question that sought to assess the relative levels of ICT skills, training practice, applications and trainee requirements.

Demographic Characteristics of Respondents

The results provided in this section show the distribution of the private sector respondents by age, gender, qualification, organization and rank. The results show that almost half of the respondents 48% were between ages 26 and 35 years, while 39% were between ages 36 and 45 years. Four percent were between the ages 46 and 55 years and nine percent were missing this information.

The majority of the respondents (70%) were male while only 17% were female. This suggests some gender bias in favour of males. According to their qualifications, 26% had Masters and post graduate qualifications while 57% had diploma and degree qualifications. Only four percent had certificate qualification while 13% were reported missing. Finally, the findings suggest that the majority of respondents were in the Information Technology management level of the sampled private sector companies and were better placed to provide the required

professional judgment. It was however, not possible to differentiate the manager, system analyst or user support technician ranks as these terminologies could denote similar levels and/or roles within rank categories.

Results on eLearning Skills and Training Practice

The results on the first research question on current eLearning readiness of staff are reported under selected headings on a wide range of selected skills. The summary findings are provided in Table 1.

Table 1. *Summary Table on eLearning Readiness of Staff*

Item	Response in percentage		
	Often/Always %	Sometimes %	Never/Rarely%
Staff create documents on their own	100	0	0
Staff are able to use e-mail to communicate at work	96	4	0
Staff utilize copy/paste functions to avoid retyping when working on a computer	87	13	0
Staff utilize Excel to create worksheets where necessary	83	17	0
Staff can utilize word to create handouts	79	17	4
Staff is able to store files in one or two folders (i. e. My documents)	78	22	0
Staff open and navigate between multiple computer programs during session	61	39	0
Staff are able to create PowerPoint slides to accompany presentations	61	26	13
Staff download text of the world wide web	57	17	26
Staff can create folders on computer to organize files	56	44	0
Staff are successful in finding training and learning materials on world wide web	43	44	13
Staff are able to organize e-mail messages	39	44	17
Staff can search for training and learning materials on the world wide web	39	35	26
Staff utilize available computer labs to do job related computer based activities	30	13	57
Staff have difficulty determining most recent document when using multiple documents	26	52	22
Organization use of "smart classrooms" in training	17	9	65
Staff can utilize electronic discussions for interaction or collaboration amongst themselves	13	26	57
Staff cannot find saved documents they have created	13	35	52
Organization use of video conferencing, audio conferencing and computer conferencing	9	4	87
Staff utilize filters to automatically put into folders	9	30	61
Staff use computer graphics program (e.g. Photo editor, Photoshop)	4	39	57
Staff can use chat to conduct real time electronic discussions with trainees	4	26	70
Staff are able to create web pages	0	17	83
Staff use professional discussion lists to monitor events	0	39	61
Staff update their training materials/activities at least once a year	0	0	100

Note: Often/always column used to rank order the shaded scores

The results on the first research question show that the acquisition levels of eLearning skills in the private sector are moderate to low. All staff (100%) reported that they were able to create documents on their own. More than 50% reported using Excel to create worksheets, e-mail to communicate at work, copy and paste functions, Word documents, files and folders, navigation between programs and PowerPoint. However, the majority, (more that 50%) of respondents reported low

levels of skills acquisition in a wide range of skills (i. e., finding documents, using folders to organize e-mail, use of multiple documents, use of graphics, photo shop, electronic discussion, searching on the web, discussion lists, chat, video/computer-conferencing, smart classrooms, updating training materials, and the use of computer labs for computer based training).

Given respondents' low confidence in the use of these skills, the overall findings suggest that the readiness levels of eLearning in Botswana's private sector were moderate to low as indicated in the summary Table 1. This finding also demonstrates that the training practice in the private sector was still at the initial stages. However, respondents reported in the open ended questions, interview and seminar that some of the private sector organizations were initiating Computer Based Training (CBT) while some were gradually moving away from classroom based training to eLearning. The findings suggest that the private sector is at the point of initial awareness according to diffusion of innovation process and are likely to integrate ICT in their training and thus move into the implementation stage. The results for the second part of the first research question that sought to assess the levels of eLearning applications and trainee requirements are provided in Table 2.

Table 2. *Levels of eLearning applications and trainee requirements*

Item	Response in percentage			
	Often/Always %	Sometimes %	Never/Rarely %	Missing %
Trainers encourage trainees to acquire computer basic skills to facilitate learning	70	9	17	4
Trainers utilize overhead projection to show transparencies during training	61	17	13	9
Trainers require trainees to create graded papers/reports	48	22	26	4
Trainers require trainees to use power point to generate slide shows for presentations	48	17	30	4
Trainers require trainees to use Excel to present data for their projects	39	35	22	4
Trainers use lecturers and examinations as the primary mode	39	35	17	9
Trainers encourage trainees to use e-mail to ask questions after class	35	35	26	4
Trainers encourage and reward trainees who use multimedia resources for learning	35	13	48	4
Trainers encourage and reward trainees who search world wide web and share resources	30	9	57	4
Trainer utilize ICT to enhance learning and extend learning beyond classroom	22	26	39	13
Trainers provide opportunities and encourage trainees to serve as peer tutors via ICTs	22	26	48	4
Trainers provide stakeholders with electronic frequently asked questions to save time	22	17	57	4
Trainers require trainees to deliver class presentations using ICTs	13	35	48	4
Trainers utilize other forms of eLearning technologies to evaluate trainee learning	13	30	48	9
Trainers utilize online quizzes and test to evaluate learning	13	30	52	4
Trainers utilize online surveys to assess training and learning	13	26	57	4
Trainers utilize word comment/tracking tools to provide feedback on assignments	13	13	74	0
Trainers encourage trainees to monitor discussion lists on issues in their discipline	9	17	70	4
Trainers utilize multimedia software to create simulations & animation	9	9	78	4
Trainers encourage trainees to create web-pages to develop virtual identities for learning	9	9	78	4
Trainers encourage trainees to use ICTs to enhance and extend education	4	44	35	17
Trainers require trainees to use word comment/tracking tools for peer evaluation	4	17	74	4
Trainers convert exemplar trainee work into web-based resources for reference	4	17	74	4

Note: **Often/Always** column used to rank order the shaded scores

The results on the second research question show that 61% of respondents used

overhead projection to show transparencies during their training. On all the other eLearning applications, less than 50% reported using these. The findings therefore suggest very low levels of eLearning applications in private sector practice as they tend to use projected media and other useful but archaic technologies. However, a significant majority (70%) of trainers reported that they encouraged trainees to acquire basic computer skills to facilitate learning. The overall findings therefore show that the levels of eLearning applications are quite low and that trainee requirements are still to be met to achieve the required levels to befit an informed nation as enshrined in Botswana's Vision 2016 (Republic of Botswana, 1997).

Discussion and Conclusion

There has been commitment to the development of ICT in education in Botswana as enunciated in official documents (Government of Botswana, 1994, 1997 and 2005). Several studies conducted in Botswana and other developing countries have attempted to investigate aspects of eLearning and the incidence of ICTs in the school system. However, the degree to which eLearning is used in the private sector had not been investigated. This study investigated the relative levels of eLearning readiness, applications and trainee requirements in Botswana's private sector. The literature reviewed demonstrates that ICT integration in the private sector is considered a necessary adjunct given the role private sector has to play in transforming both schools and communities using ICTs. It is therefore important to recognize that the widespread use of eLearning and ICTs has generally been found to be a leading contributor to a country's economic success. Lessons from developed countries also show high levels of ICT integration in the private sector and the forging of Public-Private Partnerships has resulted in fruitful synergies and outcomes. PPPs have been used with caution in developed countries due to their several shortcomings and these insights into PPPs provide the required benchmarks and lessons for developing countries.

The building of an ICT development programme that takes into account the unique challenges of Botswana and other developing countries (operational, contextual and strategy factors), will require creativity, cooperation and support from both education and the private sector, and even partnerships with developed countries. Such partnerships have the potential of creating the necessary steps that will enable Botswana to achieve the cherished Vision 2016, and the effective implementation of *Maitlamo* ICT policy.

Conclusion

eLearning action plans in developing countries such as Botswana should emphasize the potential of PPPs to contribute to the expansion and innovation in education and training delivery. These plans should establish partnerships between the public and private sectors in order to encourage exchanges of experience, technology transfer and improvement in entrepreneurial skills so as to achieve systemic change. However, lessons leant from developed countries show that much caution should be taken when forging such partnerships and that more research is necessary to inform the implementation of such partnerships. There is

need for research to investigate not only the resources necessary for scaling-up eLearning in the private sector, but also the attitudes of private sector personnel as well as pedagogical practices prevalent in eLearning in Botswana and other developing countries as these are critical attributes to the successful implementation of eLearning.

Canadian companies and institutions of higher education have become world leaders in providing innovative online learning solutions, as well as ways of thinking about the provision of online learning tools, even in the context of the rise of Open Source Software (OSS) solutions and newer business models. Many research products have emerged from Canadian universities especially on Open Source technologies. These technologies have been adopted in many countries in the developing world to help fuel their burgeoning learning infrastructures and they offer many lessons for institutions in Africa as well as private sector companies in developing countries. There is therefore the need for tertiary institutions in Botswana and developing countries to become the focal points in providing leadership in eLearning and other innovative ICT practices.

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