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OPEN SOURCE ENTERPRISE APPLICATIONS IN BOTSWANA: A READINESS ASSESSMENT

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ABSTRACT
Open Source Software (OSS) adoption has drawn much attention from various authors who advocate for a possible replacement of proprietary software platforms. The aim of this study is to investigate and publish results of a survey conducted to test the open source software readiness of companies in Botswana. An instrument, adopted from Info-Tech (http://www.myphalinks.com) and slightly modified for the purpose of this study, was used to measure the readiness status of the companies at a fair in Gaborone, Botswana. The result was that, although companies indicated that OSS could not be software of choice in the short-to-medium term, IT experts were running OSS systems like the Linux Operating System as well as other software packages as back end systems to support their major proprietary IT infrastructures. Overall, this study showed that most companies in Botswana are not yet ready for OSS adoption.

Keywords – Botswana, Open Source Software, Information Technology, Readiness

1 INTRODUCTION

IT Managers are increasingly running scared of the huge infrastructure (both hardware and software) budgets they continue to beg for from company owners and directors who, on their part, are likely to scale them (the budgets) further down rather than up. In light of the budgets that will continue to be cut, Waters (2007) posits that OSS can solve this budget problem since this alternative is available for free on the Internet and has proved to be just as robust as its proprietary counterpart. The freedom of use, the power, networking capability and customization, among other characteristics, make OSS an obvious adoption choice, Waters (2007) argues. It is in this light that this paper attempts to interrogate IT professionals with a view to ascertain whether their enterprises are ready to adopt OSS or not.

1.1 Hypothesis

H_1: Despite abundant knowledge of open source software in Botswana, companies are not yet ready for a complete OSS Adoption.

1.2 Objectives

The two broad objectives of this study are as follows:

a. To investigate whether Botswana is ready for OSS or not; and
b. To suggest recommendations Botswana can use in order to consider OSS adoption seriously.

1.3 Limitations

The sample only included those companies who exhibited at an IT fair held in Gaborone, Botswana. It is possible that other major players in ICT may not have participated at this fair rendering the findings of this paper largely questionable in terms of generalizing for the whole nation; rather we would consider the applicability of these results to companies that attended the fair only. Further, the fair was held in Gaborone only and yet other important players in the IT industry are distributed all over the country: Francistown, Mahalapye, Palapye, Lobatse, Maun, to name just a few. Nonetheless, despite these glaring limitations, the results obtained, to a certain extent, can be considered as a general trend prevailing regarding OSS readiness in Botswana.

2 LITERATURE REVIEW

Literature review in this paper attempts to: (1) define OSS, (2) articulate the advantages and disadvantages of OSS, (3) discuss general adoption issues as well as (4) express an interest at a few particular cases in Africa.

2.1 The OSS definition

There are ten features that have generally been used to define open source software. The ten features can be grouped into four principal components namely: source code (its freedom and availability to all who need it); integrity (of the source code author); discrimination (there must be no discrimination against persons, groups or fields of endeavor); and licenses (they must be distributed within the community as well as them being technology-neutral).

Several authors have coined the definition of OSS around these features. For instance, Anttila (2006) defines open source software in terms of freedom revealing that one can freely use, modify or distribute the source code as well as compiled code for as long as the restrictions of open source are upheld, (Open Source Initiative, 2009).

In a definition related to cost, Coleman (2009) argues that for companies who are cost sensitive, OSS is a good

choice as it attracts very nominal license fees: it is not free. Making clarification on the word "*free"*, the Founder of the Free Software Foundation (FSF) emphasizes that the word is not used in the context of gratis, meaning "*without cost"*. The *"free"* is as in "*freedom of use"*, stresses Stallman (2009).

OSS comes with no restrictions as to how it can be used. Various authors, Stallman (2009) and Coleman (2009), among others, emphasize that there should be no discrimination against persons or groups nor should there be discrimination against fields of endeavor. They argue that anyone is free to use the software for any field: business, genetic research, and engineering, among others. Licensing issues around open source software have been extensively debated upon as well as being used to define OSS. In this line of argument, Nieuwenhof (2008) carries out an ethical analysis of the model concluding that open source software can be defined in terms of *copyleft* and *copyright* licensing.

Other authors have given similar definitions, among others, that OSS is a public property made available to all, Demaziere (2007), OSS allows the user to run the program for any purpose, study the code and adapt it as well as copying and redistributing the program, Nieuwenhof (2008) and Coar (2006) and that software is a public good with so many programmers working on it for free, Bessen (2005) and Latterman et al (2005).

2.2 Characteristics of OSS: advantages

As already been alluded, OSS is characterized by freedom of use in terms of modification and redistribution. This has been extensively discussed by, among others, Bessen (2004), Johnson (2006) and Tere (2006). Other authors, notably Sowe et al. (2007), Demaziere et al (2007), Nieuwenhof (2008) and Riehle (2007) have argued for OSS revealing that the software can be obtained and used at zero cost.

Other advantages of OSS include, among others, source code availability, non-description of use and licenses, Coar (2006). Perhaps the most attractive characteristic of OSS is the fact that computer programmers are involved in the construction of these "public goods", Bessen (2004), for no compensation. In the same vein, Nieuwenhof (2008) laments the "openness" of OSS as compared to the closed proprietary software in which programmers have no capacity to make any modifications.

No organizational structures exist in an OSS setup; open source systems, developed by unknown programmers, are simply downloaded from the Internet. In this regard, Nieuwenhof (2008) impresses that this non-existence of lines of communication normally found in formal organizations motivates communities better. Further, Freeman (2007) cites intrinsic and extrinsic motivation as the main drivers behind communities' participation. Many more have kept on adding into the whole gamut of advantages and various authors have argued strongly for companies to adopt OSS. The security issue has been well discussed in literature. For instance, Mohamed (2008) argues that OSS security matches or even surpasses that of proprietary software. This is so, Mohamed (2008) reasons, because of rapid communication among the OSS community members over the internet. In the same vein, Cox, Runge and Van de Ven (2005) have placed OSS security on top spot citing the water tight features of, among others, RedHat Enterprise Linux.

2.3 OSS Characteristics: disadvantages

Despite the glowing picture painted about OSS, it has also been associated with some disadvantages. Various authors have dwelt on the non-availability of support that can lead to projects dying. Because of the lack of proper organizational structures, it is easy for projects to collapse. This is so because developers are in no obligation, Bessen (2004), to support projects as well as the fact that there is no remuneration and no motivation (Bessen, 2004; Demaziere et al. 2005; Freeman, 2007; Henkel, 2008; Latterman et al., 2005 and others).

Intellectual rights issues are also increasingly disturbing the harmony that exists in the OSS community. This is due to the fact that some countries now patent OSS products, defeating one of the tenets of the open source initiative (OSI) - freedom of use. Finally, not much publicity is given about existing projects, Nyakudya (2010), leading to their dying silently.

2.4 Adoption Issues: Readiness

In terms of e-Readiness, Mutula and van Brackel (2006) have already passed a clean bill concluding that Botswana, in terms of IT, is ready. This paper discusses OSS readiness and on this front, Botswana has been subjected to some tests to try and ascertain its readiness. These tests revolve around the four identified constructs- overall needs and expectations, people, processes and technology**.** These constructs are used by Info Tech to test and report on companies' OSS-readiness status. Many authors have also coined useful contributions regarding OSS-readiness of companies. Abushama, for instance, discusses some readiness key success factors (KSFs), key among which are, building Free OSS (FOSS) communities of participants/contributors, managing FOSS communities and trust as well as social accountability mechanisms. Abushama further argues that organizing FOSS developers and coordinating communication is very important. Trust and accountability among projects participants also remain prime in determining whether a company is ready to adopt OSS or not. They conclude by noting that, "we think there are more KSFs not covered in this letter/paper yet to be considered here as future work for investigation."

Nepelski and Swaminathan (2007) discuss OSS adoption in terms of "Who leads and why". They carried out a study in 25 European Union countries and asserted that "OSS diffusion across these countries was still in its early stage". The results showed that only 9% used OSS operating systems such as the Linux while 7% engaged OSS database applications. They conclude by ranking the leading adopters as Poland, the Czech Republic and Hungary emphasizing that in-house IT expertise has a huge influence on adoption of OSS.

In the same vein, Kim (2005) analyses the adoption in Brazil terming it the "growth of a national strategy". Kim (2005) laments that in 2003 when Luis Inacio Lula da Silva became president; he took a bold decision to switch from Microsoft Windows and Office to open source software. Although the decision was controversial, it helped Brazil cut costs, increase technology diffusion and accessibility to the people at large and improved the lives of millions of people.
Other related circumstances led to Iran adopting OSS- a situation of crisis adoption- in which Vaisam (2007) paints an account of how the country has largely adopted OSS due to the US embargo on its economy. In response, Iranian universities are now obliged to produce software engineers (mostly women) and these are constantly developing software for the nation using the OSS model.

Ven, Verelst and Mannaert (2008) also extensively discuss why companies should adopt or not. In their impressive submission, they produce a detailed matrix of claims and counter claims depicting arguments for and against OSS adoption. They use five factors namely cost, source code, maturity, vendor lock-in and external support. In conclusion Ven at al. (2008) advise decision makers to consider organizational specifics before a final decision to adopt is taken. Tong (2004), on cost, agrees with Ven et al. (2008) and Nyakudya (2010), among others, arguing that initial acquisition costs are negligibly low and downloading software such as Apache is free. Henkel (2008) cites Nokia and Philips as having widely adopted some OSS as well as the OSS development approach.

In similar developments, Tieman (2010) discusses the Malaysian example which reached a 97% adoption rate of OSS. Rising OSS adoption has been noted in Government and Finance throughout the world. In this line of argument, Dean (2008) records interesting developments by noting the results provided by the Open Source Census. Dean (2008) further reveals that "government agencies have 123 different open source packages installed per machine while financial services companies have 117- showing a very strong and positive adoption rate.

In another line of argument, Dean (2008) ranks Europe at position 1 (68 OSS packages per machine) with USA lagging behind (51) in OSS usage.

In related arguments, Profitt (2009) compares OSS adoption in Europe and China and posits that China is rising fast.

2.5 Adoption Issues: Republic of South Africa

A white paper discussing the South African (SA) experience explains how OSS adoption, with particular emphasis on the public sector, is gaining ground. The paper explains why OSS, the implementation processes, important results as well as the benefits and drawbacks of OSS in the SA context. Many perceived benefits are, among others, increased competitiveness, more local and foreign investment and improved access to and participation in economic advancement. Perhaps the most plausible development is the creation of the OSS policy by the SA government as this is bound to be followed easily by all stakeholders.

2.6 Readiness Issues in Africa

OSS has had a slow traction in Africa, Bessen (2004). It is therefore in order if we devot a small portion of this paper to discuss a few selected cases in Africa that have made some positive strides towards OSS readiness. This study is on OSS readiness in Botswana and a mention of similar initiatives in Africa puts the paper into the right perspective. In the African context, OSS readiness in Africa, as discussed by Bruggink (2003), presents case studies of Uganda, Ghana, Zambia, Tanzania and Burkina Faso.The following findings were made:

Uganda
A fifth of the ICT registered companies use OSS in Uganda, citing Linux as the main operating system in internet service providers (ISPs). The government is also in the meantime crafting an ICT policy.

Tanzania
Some use UNIX while others are on Linux. Yet others use both LINUX and UNIX as the operating system.

Burkina Faso
There is very limited use of OSS and various authors have argued that it is the young organizations who can easily adopt new technologies as compared to older ones.

Republic of South Africa
The country has introduced an OSS web portal as well as a policy framework.

Ghana
Here, a consulting company established a web portal using OSS. This proves that OSS diffusion has taken root in the country.

Zambia
Cold Reed, a small web design company in Zambia develops web sites using OSS like PHPNuke, PHPB, Plone and MySQL.

With these few cases of the African experience, it is encouraging to note that the continent has knowledge of OSS, is gaining traction and can one day adopt it.The study is therefore designed to investigate the OSS adoption phenomenon further to find out what Botswana can also contribute towards adopting the free software.

3. METHODOLOGY

The study investigated some Botswana information technology (IT) companies regarding open source software (OSS) readiness. The sample was made up of 38 IT professionals representing their companies in their capacities as Information Technology Managers and Administrators. A seemingly short but powerful tool, adopted from Info-Tech, was used to interview these IT professionals at an IT fair in Gaborone in August 2010 to ascertain whether or not their enterprises were sufficiently prepared for OSS. A total of 19 questions addressing specific crucial areas to prepare for OSS were designed covering overall needs, processes, people and technology. The instrument is a very simple tool

and does not have questions about company current software as its main purpose is to simply focus on the question: "Are companies OSS ready in Botswana?"

The response to each of the questions required only one of two possibilities: Yes (Y) or No (N). A Yes answer scored 1 point while a No meant 0 (zero). As the respondent answers (Y or N), the instrument keeps a tally. The parts of the questionnaire were designed as follows:

Part A:
This portion addressed overall needs and expectations in which respondents had to answer to questions that sought to ascertain (1) if any awareness about the benefits and potential challenges of OSS had been exposed, (2) whether their companies had ever thought of trying OSS and (3) whether specific areas had been identified which could be run using OSS.

Part B:
In this section, emphasis was on processes. Respondents were asked questions based on (1) licensing and Intellectual Property (IP) issues, (2) OSS support strategy, (3) change management, release management and others and (4) OSS policy.

Part C:
People are an important aspect of any organization. To this effect, this part posed questions that addressed, among others, people who work on OSS projects after adoption, support, new skills if OSS comes on board and training.

Part D:
This section dealt with technology emphasizing on the need to test for hardware compatibility in case of OSS adoption. The questions mainly dwelt on integration of the OSS solution.

38 IT companies attending an IT fair in Gaborone took time to answer "Yes" or "No". It was not possible though to interview everyone as some companies' representatives had not been "cleared" by their companies to speak about OSS.

4. FINDINGS

The purpose of this study was to investigate whether Botswana is OSS ready or not. According to Info-Tech OSS Readiness Assessment standards, a score of 0 to 10 reflects that an enterprise is not yet ready to adopt OSS applications. As a remedy, the guidelines suggest that there is need to address areas in need of improvement so that a re-assessment can be carried out.

Appendix 1 shows the criteria determining whether a company is OSS ready or not. This is given by accumulating points as the respondent answers Y (1 point) or N (0 point). The cumulative frequency determines the status of the company.

Apparently, all companies (38) interviewed at the fair fall in the 0 to 10 points category and this indicates that they are all not yet ready for OSS adoption. According to the Info-Tech guideline employed, the other two categories (11 to 14 points) and (15 to 19 points) describe enterprises that are "getting there" and "ready now" respectively.

The participants in this study were IT Managers or System Administrators who worked in companies each employing less than 100 employees and ran systems using proprietary software.

It should be noted that questions relating to the issues about 'Release management', 'Assignment of a Business Analyst to study and learn the OSS applications' and 'Whether an Architect has been appointed to work full-time on open source or not' all scored a mean of 2.00 and a standard deviation of 0.00. The interpretation of this finding is that all the 38 companies answered "No" to each of these three issues.

All other results are displayed in Tables I through IV (n=38 for each) using simple descriptive statistics that are in line with such type of study where the response was simply "Y" (for yes) or "N" (for no). The mean and standard deviation for each question are recorded.

Table 1: Questions 1 to 5
Mean and Standard Deviation

	Have key IT and business stakeholders been educated?	Has the enterprise determined that OSS is a good fit for your organization?	Have you documented specific OSS areas?	Have you consulted a legal open source expert to identify acceptable licenses	Has the IT manager decided on a support strategy for the OSS application?
Mean	1.92	1.95	1.95	1.95	1.92
SD	0.273	0.226	0.226	0.226	0.273
Yes	3 (7.9%)	2 (5.3%)	2 (5.3%)	2 (5.3%)	3 (7.9%)
No	35 (92.1%)	36 (94.7%)	36 (94.7%)	36 (94.7%)	35 (92.1%)

****SD**=Standard Deviation

Table 1depicts the number of companies answering "Yes" or "No" for questions 1 to 5 on the question. Similarly, Table II does the same task for questions 6 through 10. Table III and IV complete the summaries for questions 11 to 15 and 16 through 19 respectively

Table 2: Questions 6 to 10
Mean and Standard Deviation

	Change management	Incident & problem management/support process	Software asset management	Release management	IT procurement
Mean	1.97	1.97	1.97	2.00	1.95
SD	0.162	0.162	0.162	0.00	0.226
Yes	1 (2.6%)	1 (2.6%)	1 (2.6%)	0 (0%)	2 (5.3%)
No	37 (97.4%)	37 (97.4%)	37 (97.4%)	38 (100%)	36 (94.7%)

****SD=**Standard Deviation

Table 3: Questions 11 to 15
Mean and Standard Deviation

	Has the enterprise created an OSS policy to govern open source?	Has an OSS Architect been appointed to work full-time on open source?	Have you assigned a Business Analyst to study and learn the OSS application?	Have you determined what new skills are needed?	Do you have a training plan?
Mean	1.95	2.00	2.00	1.95	1.95
SD	0.226	0.00	0.00	0.226	0.226
Yes	2 (5.3%)	0 (0%)	0 (0%)	2 (5.3%)	2 (5.3%)
No	36 (94.7%)	38 (100%)	38 (100%)	36 (94.7%)	36 (94.7%)

****SD=**Standard Deviation

Table 4: Questions 16 to 19
Mean and Standard Deviation

	Have you considered experimenting with OSS?	Have you conducted an assessment on infrastructure issues?	Have you conducted a preliminary analysis of approaches and technologies?	Have you discussed on potential choices are available?
Mean	1.89	1.97	1.97	1.95
SD	0.311	0.162	0.162	0.226
Yes	4 (10.5)	1 (2.6%)	1 (2.6%)	2 (5.3%)
No	34 (89.5%)	37 (97.4%)	37 (97.4%)	36 (94.7%)

****SD=**Standard Deviation

Only one company answered "Yes" while 37 responded with a "No" (Mean=1.97, SD=0.162) to the following constructs:

i. Change management
ii. Incident & problem management/support process
iii. Software asset management
iv. Have you conducted an assessment on infrastructure issues?

Further, two companies answered "Yes" while the remainder (36) replied "No" in some eight constructs. The Mean for each of these constructs was 1.95 with a standard deviation of 0.226. The following issues apply to this category.

i. Has the enterprise determined that OSS is a good fit for your organization?
ii. Have you documented specific OSS areas?
iii. Have you consulted a legal open source expert to identify acceptable licenses for OSS?
iv. Has the enterprise created an OSS policy to govern open source software?
v. Have you determined what new skills are needed?
vi. Have you discussed if potential choices are available?
vii. Do you have a training plan?
viii. Has any procurement regarding OSS been done?

Three "Yes" and 35 "No" answers (Mean=1.92, SD=0.273) related to:

i. Have key IT and business stakeholders been educated?
ii. Has the IT manager decided on a support strategy for the OSS application?

In other words, three companies answered "Yes" while 35 responded "No" to the above questions. Last but not least, four "Yes" and 34 "No" answers (Mean=1.89, SD=0.311) applied to only one construct:

i. Have you considered experimenting with OSS?

From the above representations, it is evident that the scores were not enough to qualify any company as having reached a stage of OSS readiness. A score ranging from 0 to 10, according to the tool used (http://www.myphalinks.com), indicates that "The enterprise is not yet ready to adopt an OSS application at this time". All the 38 companies surveyed fall into this category. However, the tool makes a suggestion for a company falling into this category to "Address areas that are in need of improvement and re-assess readiness once the challenges have been properly resolved".

An extra question was deliberately directed to the IT expert representing each IT company in question. This was due to the fact that almost all the answers to the pertinent questions reflected a "No" answer and that this would indicate a poor knowledge base regarding the open source phenomenon. The question was specifically to solicit the individual feelings of the IT experts as these are the people who are on the ground and are experimenting with all sorts of software packages. On a scale ranging from "1 = No knowledge" to "5 = Abundant Knowledge", all the 38 (100%) participants said that they were abundantly familiar with OSS products and they used them quite often, although in the background. This finding is consistent with Nyakudya (2010)'s observation that OSS knowledge in Botswana was abundantly overwhelming. As a result, we cannot reject the hypothesis that despite abundant knowledge of open source software in Botswana, companies are not yet ready for a complete OSS Adoption.

Further probing them on why their organizations were not taking any initiative towards OSS, some of the responses were:

1. "It is the prerogative of the IT director and not me. I am just a software engineer", quipped one company IT expert; Others said:
2. "We are not allowed to even talk about OSS because most of it does not work, and is neither compatible nor secure";
3. "Our bank is fully supported by Microsoft Software and we find it reliable. We use OSS though on the sidelines to run some utilities and this fact is privy to us only";
4. "Our company uses Linux Operating System and that is where it ends. The top management is not privy to such information but for sure, they enjoy the benefits in secrecy";
5. "Changing from proprietary software to OSS is scary and full of risks because there is no support in OSS. We have fully paid long-term licensers governing our proprietary software and hooking onto OSS would sound funny".

The above sentiments were just the recorded few of the many responses obtained. The IT experts believe that OSS is reliable, secure, easy to update and customize, cheap and a good candidate for adoption. The issue now rests, as identified by Nyakudya (2010), with the company owners. More importantly, the National ICT Policy in Botswana can well be used as the vehicle through which OSS can be made software of choice. If, among others, Iran (Vaisam, 2007), Brazil (Kim, 2005), Europe (Proffit, 2009) and Malaysia (Tieman, 2009) have managed to drive the OSS initiation process through their respective central governments, then Botswana cannot be an exception.

5. DISCUSSION

This paper examined the simple question, "Are Botswana companies OSS ready?"

Nyakudya (2010) alluded to the fact that Botswana has abundant knowledge of OSS as exhibited by the overwhelming supporting evidence of 62 IT experts questioned on the issue. Similarly, and most significantly, Mutula and van Brackel (2006) have proved beyond doubt that Botswana is ICT ready. In their study to investigate the

e-readiness of SMEs in Botswana, they have made some important observations, one of which is that SMEs in Botswana commonly use information and communication technologies (ICTs) in the form of Microsoft Office applications, computers, Internet access and email, among others, although not for strategic purposes. They also observe that the SMEs do not fully exploit the ICT potential due to lack of e-commerce infrastructure, lack of skills and the continual use of obsolete technologies. Despite this downside, Mutula and van Brakel (2006) have set a necessary pre-condition for the current study, that ICT professionals of SMEs understand the various technologies and this most likely includes OSS.

It is the aim of this paper to now explore the possibility of adopting OSS but only after a readiness assessment has been carried out.

We have however found that 38 companies in Botswana are not yet ready to adopt OSS. A limitation though is that the sample used (n=38) at the fair may not truly reflect the overall perception of the whole country. However, Jankowicz (1991) has suggested that even if a proportion of the respondents reply in a particular way, there is an assumption that the others would have replied identically. Therefore, the results drawn from the analysis of part of the respondents can be generalized for the wider community of companies. Also, regarding the rate at which the 38 companies answered "N" (No) to almost every question, it is more than likely that a much larger sample would yield exactly the same results. For the results to be credible, the argument still stands: there is still need to carry out a full scan of the whole country, probably with the aid of a Government department/ministry that deals with national ICT issues. To avoid sentiments expressed by some company owners such as, among others, "Proprietary software is paid for and hence cannot just be thrown away", "Proprietary software is more stable as compared to OSS", "Proprietary software is more authentic than OSS" and "It is company policy not to go for OSS", (Nyakudya, 2010), it is relevant to engage the Government through the Ministry of Transport and Communication which bears the mandate to implement and drive all ICT projects at a National Level. One of the features of the National ICT Policy of Botswana advocates for total connectivity, a project under the banner, Connecting Communities Program (CCP) (ICT Policy). Because of the freedom associated with the software, as observed by, among others, Stallman (2009), Coleman (2009) and Bessen (2004), OSS can be an easy and convenient vehicle to take the nation to full realization of this mandate by 2016 as expounded in the Vision 2016 statement of the Nation of Botswana.

The overall implication for this paper is to redo the scan of the whole country, the results of which could be declared either conclusive or otherwise.

6. CONCLUSION AND FUTURE RESEARCH

Based on the premise that OSS is well known, and even used, in Botswana, future research initiatives should be focused on why companies are not taking a bold step to switch systems from proprietary to OSS when the whole of the developed world has sung praises about the phenomenon. A positive and plausible approach would be to make the OSS subject a national issue agenda item spearheaded by the Ministry of Transport and Communication, as earlier alluded, who are the custodians of all ICT issues of the nation and who have the power to invoke laws and regulations of the ICT sector. This, it is hoped, would help promote the OSS initiative to take a firm grip in Botswana, in particular, and Africa in general. Meanwhile, we can rest this case and conclude that, for all intents and purposes, of the 38 companies interviewed, none of them is OSS ready.

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APPENDIX 1

University of Botswana
Research Topic

Open Source Enterprise Applications in Botswana - Readiness Assessment

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This questionnaire is for IT Experts (IT Managers/ IT Directors, etc) to determine whether or not your enterprise is sufficiently prepared for Open Source Software (OSS).

- A total of 19 questions that address specific crucial areas to prepare for OSS in terms of **overall needs**, **process**, **people**, and **technology**.
- A readiness assessment section that analyzes the overall score and provides a final answer about whether or not the enterprise is ready to get into OSS.
- You can know that your organization is ready for OSS adoption in a few minutes.

State your company: ……..

Number of employees in your company: _____

State your position in the company: _____

1 = No knowledge; **2**=Less Knowledge; **3**=Average Knowledge; **4**=More Knowledge; **5** = Abundant Knowledge

	1	**2**	**3**	**4**	**5**
Using the scale above, state your OSS knowledge Level (Use √)					

Use the following questionnaire to determine if your organization is ready to use OSS. For each question, enter the score that best represents your organization's current situation. After you have completed the questionnaire, your readiness score will be automatically calculated.			
Overall Needs and Expectations		**Y/N**	
1	Have key IT and business stakeholders been educated about the benefits and potential challenges of open source?		
2	Has the enterprise determined that OSS is a good fit for your organization?		
3	Have specific areas of opportunity for the use of OSS been identified and documented?		
Processes		**Y/N**	
1	Has the enterprise consulted a legal open source expert (internal or external) to identify acceptable licenses and to validate that a potential OSS application will not create compliance, intellectual property, or other types of issues?		
2	Has the IT manager decided on a support strategy (internal IT resources vs. a vendor) for the OSS application?		
3			
a	Change management		
b	Incident & problem management/support process		
c	Software asset management		
d	Release management		
e	IT procurement		
4	Has the enterprise created an OSS policy to govern open source?		
People		**Y/N**	

1	Has an OSS Architect been appointed to work full-time on open source?		
2	Have you assigned a Business Analyst (BA) to study and learn the OSS application? This person will support the users during the pilot project and will conduct demos to validate whether the OSS meets the business requirements.		
3	Have you determined what new skills the development/apps team will need to learn to deal with OSS (e.g. Linux, Perl, Python, PHP, Apache, and business apps)? Do you have a training plan to deal with any skill gaps before the OSS implementation?		
4	Do you have a training plan to deal with any skill gaps before the OSS implementation?		
5	Have you allocated time for the team (i.e. developers, BAs, OSS champion) to experiment with OSS applications and learn about open source?		
Technology		**Y/N**	
1	Have you conducted an assessment of whether the current infrastructure and applications are compatible with OSS? If there are gaps or issues, do you have a plan to deal with them?		
2	Have you conducted a preliminary analysis of whether the current integration approaches and technologies used in-house can be used to integrate an OSS solution?		
3	Have you discussed potential integration scenarios with the development team to be clear on what choices are available?		
Overall Readiness Score			
OSS Readiness Assessment			
Score	**Analysis**		
0-10	The enterprise is not yet ready to adopt an OSS application at this time. Address areas that are in need of improvement and re-assess readiness once the challenges have been properly resolved.	Not Ready	
11-14	The enterprise is in a good position to initiate an OSS project at this time. Further improvements, however, are recommendable prior to starting the implementation. Continue to work on those areas outlined as needing improvement as the enterprise enters the vendor selection phase.	Getting There	
15-19	The enterprise is in an ideal position to adopt OSS. Move to the evaluation/selection phase.	Ready Now	

Source: http://www.myphalinks.com; *Modified slightly for the purpose of this study*

The overall score is obtained as follows:

For each “Y”, a 1 (one) is added to the overall score and for each “N” a 0 (zero) is added. From the above table, the three categories are clearly stated with a score from 0 to 10 indicating that the company is not ready to adopt OSS. **=overall score for a respondent (company representative).