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Enterprise Resource Planning (ERP) Systems – Is Botswana Winning? A Question on Culture Effects

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Abstract

As the economy of the country is improving, organisations across Botswana are increasing their investments in Enterprise Resource Planning (ERP) technology as a way of helping in the growth of their business. Some institutions that have implemented ERP systems are banks, Water Utilities Corporation, Botswana Post Offices, some embassies and the Government of Botswana. There have been some success stories, some failures and others that can neither be categorised as success or failure. Some of the problems are discovered after the implementation phase of the system. This paper theorises how ERP implementation can be affected by culture. It uses the Hofstede cultural theory to explain some factors that could have led to some problems experienced in the Botswana context.

Keywords: Hofstede cultural theory, Enterprise Resource Planning, Culture, Botswana

Introduction

An Enterprise Resource Planning System (ERP) is an information system that manages, through integration, all aspects of a business including production, planning, purchasing, manufacturing, sales, distribution, accounting, and customer service (Scalle & Cotteleer, 1999). In the past few years, ERP has become a "must have" system for many firms to improve competitiveness. More than 60% of US companies have installed or planned to install a packaged ERP system (Mabert et al., 2000). The popularity of ERP systems is also evidenced by its sales exceeding $30 billion in 2002, an increase of 300% since the late 1990s (Sheu et al., 2004). The implementation of ERP's in Botswana cuts across various spectrums such as the private companies, government and university. Many scale through the planning and implementation stages. However, a lot of problems surface after the implementation phase.

In spite of all the procedures that were carried out during the various phases of the implementation, long queues are often experienced in many offices in the capital city, Gaborone, and in some cases poor services too. Sometimes the customer will have to go back a number of times before they are finally attended to. This problem was also identified by Nkwe (2012) who said "A visit to the government departments is a nightmare; it is characterised by a lot of paper work, long queues, bureaucracy, cramped spaces

and a lot of frustrations." This is also supported by Mokgolodi, Bwatiramba, and Nsigaye (2012) who stated that "Although Information Systems like Government Accounting and Budgeting System (GABS) have been implemented, bureaucracy is still the hindrance in accessing e-Gov services".

Some other cases also worth noting are those of the new birth certificate, national identity, international passport, drivers licence, and various immigration procedures. It is really a process involving waiting in long queues and visiting several offices to process these items. Why does it have to be so when we have automated systems? Sometimes servers are down, printers are not working, and cameras are bad. At other times, it might be a case of some missing information or one case that has never been handled before. This is supported by an article in Mmegi by Chere (2012a) who states –

"I have observed that there is a high IT service demand in Botswana however; the IT service performance is very poor. A good example is the government data network, which delivers mediocre service in many instances. Their systems are often down especially the revenue and the new GABS (Government Accounting and Budgeting System). I have personally waited for over two months to receive a payment, because the GABS system was reported to be down most of the time."

Ngoungou, Tsumake, and Dick (2012), in the description of the Botswana Unified Revenue service (BURS) describe the following struggles with their ERP. Customers cannot print their own form online nor do an online return despite the automation. One has to wait on a very long queue during VAT and TAX return dates. There is a queue to collect and another queue to submit even when the customer is submitting nil returns. Banks seem to have perfected most of their procedures except at peak periods. However, processes like collection of cheque books, credit cards etc. still require manually checking several books in order to locate where the credit c`. Some other examples of problems encountered are: an officer at the desk will not use their discretion if they meet cases they have never handled before or if is not straight forward case. For example, if a document is required and you have something in the same category, the person at the desk will either send you back or often go and check with a superior officer. The use of discretion is not common. Another scenario will be that an officer will mostly not attend to the next person on the queue even if it will take only one minute and the person being attended to needs about 30 minutes because some documents need to be checked.

According to Ross and Vitale (2000), there are six main reasons why ERP systems are needed. Companies require a common database; they want to improve and standardise their process; they require on-going monitoring; they want to cut down the operating costs; they need to improve relations with customers and suppliers and finally, they need to improve their decision-making capability. With these in mind, improving relations with customers and suppliers seems to be one of the key benefits that are yet to be achieved in the way the ERP systems have worked so far in Botswana.

So what really are the problems? The question that arises is – "Could successful implementation of ERP be culture related?"

In this paper, the theoretical framework is based on the relationships of national culture attributes and the success of ERP implementation. The literature on ERP implementation challenges is examined. The challenges as they relate to culture are also examined. Finally, some concluding thoughts and useful suggestions are proffered.

Theoretical Model

Academic and professional adherents in business disciplines generally concentrate their attention on one of two approaches to understanding culture – Hall (1976) and Hofstede (1980, 1994, 2001). Cultural theories from Hofstede and Hall have been used to explore the influence of national culture. Hofstede (2001) defines culture as a collective programming of mind that differentiates members of one group from other. Hall (1976) sees culture as a screen which lies between a person and his environment and enables him to decide what is more important for him.

In this study, Hofstede's configuration is used since it is a well-tested and known theory. It is the most comprehensive research study of national cultures and has been used in some ERP studies which are discussed under ERP and culture. Hofstede's configuration of cultural dimensions consists of four main elements of culture—power distance, individualism vs. collectivism, masculinity vs. feminism, and uncertainty avoidance—with each country scored on a scale of 0 to 100, relative to comparisons in the sample. His index, based on his study of IBM employees in 85 countries around the world, is a useful alternative to the traditional categorisation of culture.

Power distance refers to people belief's about unequal distributions of power and status, and their acceptance of this inequality by declaring it a precise way of keeping social system balance. In high power distance cultures, individuals with positions in a hierarchy inherit considerable power (Hofstede, 2001). Employees in these cultures tend to accept centralised power and heavily depend on their superiors for initiation (Rodrigues, 1998). Furthermore they are less likely to be involved in any decision making process (Rees, 1998). On the other hand, in lower power distance cultures, individuals are less likely to accept centralised power and expect to be consulted in decision making (Rodrigues, 1998). Therefore employee participation is more likely to be acceptable in lower power distance culture (Rees & Porter, 1998). On the whole, high Power Distance Index (PDI) societies exhibit large emotional distance, and subordinates will rarely approach their managers with criticism. In a low PDI country, on the other hand, interdependence between workers and managers will be larger and emotional distance smaller. PDI was measured based on (1) the percentage of employees that choose consultative leadership as the ideal leadership style; (2) the percentage that chooses autocratic or directive leadership as the typical leadership style; (3) the mean response to "how often subordinates are afraid to express disagreement" (Chang, 2012).

Uncertainty Avoidance refers to how uncomfortable people feel during an imprecise and uncertain situation (Yeniyurt and Townsend, 2003). In high Uncertainty Avoidance cultures, organisations have the characteristics of resistance to new technology and not taking potential risks about technology (Hofstede, 2001). This resistance can also be found at individual level, where people show their dissatisfaction with new technology because of getting used to doing things by the traditional way (Shore & Venkatachalam, 1996). Uncertainty Avoidance Index (UAI) measures the extent to which members of a society accept ambiguity and uncertainty. Countries with a high UAI score tend to maintain rigid codes of conduct and belief, and are less likely to be tolerant of unorthodox behaviour or ideas. They prefer to let rules and laws govern society, as there is less tolerance for the uncertainty that the future brings. UAI is based on (1) how often nervousness or tension is felt in the workplace; (2) whether the organisation's rules should be followed, even when doing so is not in the company's best interest (Chang, 2012).

Masculinity versus feminism refers to the extent of roles division between sexes to which people in a society put different emphasis on work goals and assertiveness as opposed to personal goals and nurturance (Pheng & Yuquan, 2002). A high MAS (Masculinity) score corresponds to clearly defined gender roles in society, whereas with societies with a lower score, people are more likely to accept overlapping roles. Also, countries with a low MAS score tend to tend to prefer cooperation, consensus and modesty, to competition, assertiveness, and achievement—values which are

rewarded with material means in high MAS communities. For instance, a country scoring high on MAS will prioritise aggressive economic growth strategic measures aimed at issues sustainability. The scores on this index are calculated based on how important is it for the members of a society to (1) work with people who cooperate with others; (2) have security of employment; (3) have the opportunity for high earnings; (4) have the opportunity for professional advancement (Chang, 2012).

Individualism versus Collectivism are the cultural dimension which describes the degree of interconnectedness between the individual and the group (Everdingen & Waarts, 2003). In individualistic countries, relations between individuals are loose and people care more about themselves and their family. In collectivist cultures, an individual considers himself as a part of society, thinks about the society as a whole and would think less of personal benefits (Yeniyurt & Townsend, 2003). In other words, collectivist societies are integrated and individuals from these societies think in "we" terms but in individualist societies, individuals think in "me" terms (Rodrigues, 1998). A high Individual (IDV) index implies a stronger emphasis on assertion of one's individual identity, maintenance of an environment that allows one to voice an opinion that may be against the majority, and the prevalence of the expectation that one looks after oneself. A low IDV signals the predominance of collectivist values. The measure is based on how important it is for people to (1) live in an area desirable to self and family; (2) have sufficient time for personal or family life; (3) work with people who cooperate; and (4) have good physical working conditions (Chang, 2012).

ERP Implementation Challenges

ERP systems impose great challenges on the adopting organisations. They require substantial material and managerial resources, a redesign of business processes and patterns of work flow, and a process of mutual adaptation of the system and organisational structure (Ke & Wei, 2008). In changing business structure and organisational structure, it could be a whole re-engineering process to avoid silos and systems that are not integrated. Policies and strategies might have to be written or modified to include the new structure. It will sometimes involve some staff being laid off and some new ones employed. A lot of retraining of staff also takes place. All these have to be done well for the implementation to be successful. In addition, ERP implementation involves many stakeholders— the project manager, project team members (employees from various business units), internal IT specialists, vendors and consultants. The leadership as well as competence of these stakeholders will determine to a large extent the success of the project (Markus & Tanis, 2000). Lee and Lee (2000) have noted that it also includes multiple tasks such as software configuration, system integration, testing, data conversion, user training and system rollout. On the whole, ERP implementation is very complex and care needs to be taken at all the stages of implementation and after the system have gone live.

ERP and Culture

There have been several definitions of culture, but for the purpose of this study, Hofstede (1991) will be used. He defines culture as the collective programming of the human mind that distinguishes the members of one human group from those of another. Culture in this sense is a system of collectively held values. Looking at culture from this angle, culture differs across continents, nations and ethnic groups. According to Smith (2010), culture affects how people observe, interpret, perceive, and react to the world around them.

The business models, including operating processes underlying most ERP software packages used in Southern Africa reflect the UK and American industry practices and culture. Such operating processes are what we implement as a one size fits all when implementing ERPs. It is most likely

that the business models and operating processes in the African countries are likely to be different, having evolved in a different cultural, economic, and regulatory environment.

A study by Watson et al. (1994) reveals that culture overrides effects of technology. They investigated the role of culture in decision making about a project by comparing a group facilitated with a Group Support System and a manual group and found the same results for both groups. They attributed these results to culture and concluded that culture is a more dominant factor than technology and it is very hard for technology to break "culturally well-established patterns of group behaviour".

Sheu et al. (2004) investigated ERP implementation at several multinational companies in the U.S.A., Taiwan, China, and Europe to examine the dimensions of national differences and how they affect ERP implementation practices across nations. Their findings suggest that language, culture, politics, government regulations, management style, and labour skills impact various ERP implementation practices in different countries. Their results indicate that culture influences the training programme which is an important factor for ERP system success. They claim that cultural perceptions about information format could also affect the ERP implementation. They contend that no universal ERP system can be implemented in different countries successfully without resolving misfits resulting from national differences. If facilities are located in different countries, national differences such as national culture, language, management style, politics, regulations, customs, etc. can affect the way of doing business.

Another study by Everdingen and Waarts (2003) which used the survey approach, investigated the influence of national culture on ERP adoption across 10 countries in Europe. Using Hofstede (1983) and Hall (1976) cultural theories, their results showed a positive relationship between individualism and long term orientation in ERP adoption. However, masculinity, power distance, uncertainty avoidance, monochromic and low context were found to exhibit a negative relationship. These findings were based on mid-size companies and countries from the same continent. Their prediction is that the results could be different with large organisations and cultures across a different continent.

A study by Chadhar and Rahmati (2004) explored the influence of national culture on ERP systems acceptance in two organisations across two countries. The countries selected (Australia and Saudi Arabia) for this study, are completely different from each other in their cultural dimensions. The purpose behind their selection is to find out how users using the same system, working for same kind of company, working for the same functional area and the same job responsibilities but who are different in power distance, uncertainty avoidance, individualism versus collectivism and low versus high context differ in how they are interact with the system. The paper was not conclusive; it was a report of an ongoing research regarding ERP system drivers, characteristics, limitations, user satisfaction and culture and information systems.

The authors, whose views were examined above, among others, have looked at the influence of culture and ERP implementation, however, no comprehensive studies of dimensions of national differences and how they affect the ERP implementation in Botswana or Africa was encountered during the literature survey.

Discussion

Table 1 shows a comparison of the various indexes for four countries including Botswana. USA and UK were chosen because most of the ERP systems come from there. South Africa was chosen because it is a neighbouring country where Botswana imports its technology from. Individual scores for cultural dimensions for each country were taken from Geert Hofstede's website while that of Botswana was taken from Chang (2012) who attributed the source to some other work. This is because the Botswana index was not available in the Geert Hofstede's site.

Table 1: Cultural distance among nations

	PDI	IDV	MAS	UAI
UNITED STATES OF AMERICA (USA)	40	91	62	46
UNITED KINGDOM (UK)	35	89	66	35
SOUTH AFRICA	49	65	63	49
** BOTSWANA	60	30	41	52

Source: Geert Hofstede's website (http://geert-hofstede.com/countries.html) -2013
**Botswana - Chang (2012)

A look at the data reveals that USA and UK have high IDV and MAS scores which are relatively close to one another. A very high IDV implies a highly individualistic culture. This translates to a society in which people look after themselves and their immediate families. In the business world, employees are expected to be self-reliant and display initiative. Hiring and promotion decisions are based on merit or evidence of what one has done or can do. They also have a high Mass score, which means they are considered a Masculine society. It means people strive to be the best they can be and the winner takes all the mentality. Typically people live to work so that they can earn monetary reward and attain higher status. South Africa though with a relatively lower IDV and MAS score also scored highest in these two areas and so might exhibit some similar culture to those of USA and UK. The case for Botswana is completely different. Botswana scored highest in PDI and UAI. A high PDI score for Botswana might indicate that people to a large extent accept a hierarchical order in which everyone has a place. It reflects inequalities, centralisation is popular, and subordinates expect to be told what to do. A relatively high UAI score also indicates there is a preference for avoiding uncertainty. This leads to rigid codes and belief and leaves no room for unorthodox behaviour and ideas. A low score in IDV and MAS translates to a society in which people are community oriented and decisions are rather done as a group rather than one person taking the initiative. A low Mass score means the country is considered a feminine society. It is not driven by competition. The dominant values include caring for others and quality of life. Standing out from the crowd is not admirable.

One of the former presidents of Botswana, during his term referred to lack of productivity as "culture of laxity" Masire (1991). This view is also identified by Mogotlwane (2008) who said that Botswana has her own unique cultural context which differs from those of western societies. He noted that not only is there political pressure, there are also cultural differences regarding leadership. He described the leadership within the public sector being treated like a family institution with the leader being a father figure where those who are in leadership positions have power, authority and control over their subordinates. He described the problem emerging from this as exploitation of human knowledge and innovation from junior employees. According to Mogotlwane (2008) the current work practices in the Botswana public sector have been in place for a long time and were designed to meet non IT work environment. Since they have been in place for a long time they have become culturally accepted. Chere (2012b) also notes that Botswana is a technophobic society, this could mean that things can get worse by trying to deliver services online. To a large extent, the national culture will most likely affect ERP implementation success. According to Ke and Wei (2008), ERP implementation success is positively related to organisational culture along the dimensions of learning and development, participative decision making, power sharing, support and collaboration, and tolerance for risk and conflicts. ERPs are built for cultures where Individualism and Masculinity are high.

Suggestions and Conclusion

No matter how hard man tries, it is impossible for him to divest himself of his own culture, for it has penetrated to the roots of his nervous system and determines how he perceives the world ... people cannot act or interact in any meaningful way except through the medium of culture. Edward T. Hall (1966, p.177)

The quote above implies that it is difficult to change a man's culture. How then does Botswana gain from exploiting ERPs? Changes will definitely be required to some of the cultural beliefs related to work practices. Employees will need to have more influence on things related to their work and be empowered to make decisions and get away from the culture of laxity. As mentioned earlier, the six main reasons which underscore the need for ERP systems are a common database; improved and standardised processes; on-going monitoring; cutting down the operating cost; improving relations with customers and suppliers and improving their decision-making capability. In terms of common database, there is a lot of reward being derived from the use of ERPs but in some cases, the integration part is still not well achieved. The use of ERPs does improve and helps standardise processes and allows for monitoring. However, not much can be said yet as to if the operating cost is reducing or if improved relations with customers and suppliers and decision-making capability is being achieved.

These conclusions are tentative and introductory to the subject being discussed. Another factor apart from culture that could have affected implementation could be the type of training received. The author would like to explore the subject in a more detailed manner later. There might also be need to do more research and come up with systems that are more suited for societies with high PDI and UAI rather than customising the people to the system which is a more difficult process.

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Biography

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