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TECHNOLOGICAL GROWTH AND PRE-BUREAUCRATIC STRUCTURES OF INTERNATIONAL BUSINESS IN BANKS IN UGANDA

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Abstract

This study investigated the level of technological growth and pre-bureaucratic structures of international business in some selected banks in Uganda. Specifically the study undertook to (i) determine the demographic profiles of the respondents in terms of gender, age, education qualifications, location of banks, position held in the bank and years of service;(ii) to determine the level of technological growth in the selected international banks in the study; (iii) to determine the level of pre-bureaucratic structures in the selected international banks in the study (iv) to establish whether there is a significant difference in the level of technological growth and level of pre-bureaucratic structures in the international banks and (v) to establish whether there is a significant relationship between technological growth and pre-bureaucratic structures in international banks. Using descriptive, comparative, correlational and cross-sectional strategies, data were collected from 108 top managers and middle managers using self-administered questionnaires (SAQs) as the main data collection instruments.

Data were analyzed at uni-variate level using frequency counts and summary statistics, at bivariate level using student's t-test, ANOVA and linear correlation co-efficient analysis and lastly at multi-variate level using Regression Analysis. The study revealed that majority of the respondents managers (95.4%) have offices in Kampala, (65.8%) serve banks whose existence is not beyond 20 years, (91.7%) are at least graduates, 70.4% were in the early adulthood age, (52.8%) were males, (58.3%) were middle managers and (79.6%) had served their banks between 1-10 years. The levels of technological growth were high (2.62). The study found a significant relationship between the level of technological growth and pre-bureaucratic structures (Sig.=0.038). There was no significant difference between male and female views on pre-bureaucratic structures. Technological growth had a significant effect on pre-bureaucratic structures (Sig. = 0.000). It was concluded that technological growth had a significant effect on private enterprise structures. It was recommended that banks engaged in international business should adopt appropriate technology to establish the desired private enterprise structures. It is thus strongly recommended that banks should adopt ICT full blast.

Introduction

Technology eases man's work and enhances output. Every business is basically faced with a globally competitive, frequently changing and complex environment. The environment may change in relation to the social, legal, economic, political and technological dimensions. Entrepreneurial firms must build organizations that can operate effectively in these dynamic environments- ever changing situations.

Enterprise structures are frequently used as tools for change. Structures support communication and relationship across the organization (McShare and von Glinov, 2005). Organizational structure has been defined as the frame work in which the tasks are divided, resources are displayed, and departments are co-ordinated (Darf and Marcic, 2004). Jones and George (2003) define organizational structure as the form or system of tasks and job reporting relationships that determines how employees use resources to achieve organizational goals. It is the vertical and horizontal configuration of departments, authority, and jobs within a company, which is presented in a form of organizational chart, (Williams, 2002).

Over the years several banks have undergone closure, while others have changed hands and some merged to form new entities altogether. For example Greenland bank and Teefe bank were closed while Uganda Commercial Bank (UCB) was swallowed up by Stanbic bank. Could this be a consequence of the level of technological growth of the bank or the level of pre-bureaucratic structure adopted by the bank? A sound structure is essential for the efficient and effective functioning of an enterprise because organization structure lays down the pattern of communication, flow of information and means of coordination, (Agarwal, 2008). Unfortunately, there is no ideal enterprise structure which can suit all kinds of organizations (Robbins & Judge, 2010; Agarwal, 2008; Kaila, 2007; Reddy and Hayathri, 2000). The cause of concern though is that despite the technological growth pre-bureaucratic structures are seemingly not homogeneous. While there could be several factors related to the dilemma, according to Bertalanffy's Systems Theory and Lawrence and Lorsch's (1967) Contingency Theory, technological growth could have a bearing to the possible heterogeneity.

Review of Related Literature

Technological Growth

Technological growth is the level of application of technology. An enterprise's technology is the way it goes about performing its tasks. Some tasks are relatively straight forward, others are more complex but repetitive and yet others constitute a small number of tasks that are complex with possibly very few repetitive elements. Wickham (2006) contends that individuals will tend to define their roles in relation to the demands of a particular project, rather than the expectation of a routine. In this case the enterprise may develop expert roles and ad hoc team structures.

Nzuve (2007) regards the process of transforming organizational inputs such as raw materials, capital, equipment and labour into outputs (goals and services) as technology. The type of technology used influences the way an organization is structured. Agarwal and Audretsch (2000) used the stages of product life cycle as a proxy for differences over time in the level of technological intensity to identify its effects on firm survival. The study found a positive significant effect on firm survival.

Cerfis and Marsili (2005) examined how different types of innovation affected a firm's survival. The conclusion was that enhanced ability to adapt to changes in technologies and markets was important for increasing survival chances. Audretsch and Mahmood (1995) also investigated the link between technology use and innovation on survival. They suggested that survival rates were among other things related to technological regime.

Entrepreneurs that pursue growth opportunities, even if such pursuit increases the potential for failure, generate knowledge that stimulates improvements in technologies and increase economic resilience. Even if the new technologies failed to work, another entrepreneur may have learned from the attempt, which may have provided an important piece of the puzzle and, ultimately, success, (Hirsch, et al., 2009).

Bank customers are able to do their banking away from the branches that physically house their bank accounts. The new channels of service delivery include the automated teller machines (ATMs), tele-banking, personal computers (PC) banking and home banking, (Nsubuga, (2001); Omara, (2011).

Twenty years down the line, there has been advancement in information and communication technology (ICT) and the banking industry has made good use of this revolution. Banks now render services and sell their products by using multiple distribution channels including online banking, Omara (2011). With information and communication technology (ICT) being the fastest growing industry in Uganda, many banks have taken the opportunity to upgrade their services and products. However, customer's ability to keep pace with technological advancement rests on several factors, (Ongkasuwan&Tantichattaanon, (2002).

Pre-Bureaucratic Structures

Structures may be simple, mechanistic or organic. Pre-bureaucratic structures are simple. Structure is perhaps better understood as a founding or epistemic metaphor of social science, rather than being a precise or functionalist concept (Sewell, 2005). Churchill remarked that "we shape our buildings, thereafter they shape us", Churchill, (2003). Once an organization's structure is established, it is intuitively considered very difficult to change and as a result strategy tends to follow it, which is essentially the counter argument to Chandler's maxim.

Every organization has a unique structure, (Wickham, 2006). It has both static and dynamic aspects. At one level it is the framework of reporting relationships that describes the organization – enterprise. Nzuve (2007) suggested that, although the selection of an organizational structure ultimately rests in the hands of the decision maker, organization size, technology and environment have a significant influence on organizational structure. However, Handy (1993) contends that in a matrix organization, which structure he described as a net, a project manager, for instance usually has more than one boss and this acts to limit discretion.

Null Hypotheses

The null hypotheses tested in this study contended on (i) no significant difference in the levels of financial growth and private enterprise structures of international business in relation to cooperate head office, location, duration of the bank, education background, age bracket, gender, position held, years in service of the respondents; (ii) no significant difference between level of financial growth and pre-bureaucratic structures of international banks in the selected international banks.

Methodology

Employing the descriptive, comparative, correlational and cross-sectional strategies, the data were collected using combination of standardized and researcher devised questionnaires with items technological growth and pre-bureaucratic structures of international banks in Uganda. Using the Slovene's formula, a minimum sample size of 142 was targeted, though 185 questionnaires were administered to the respondents where 108 (76%) of the questionnaires were retrieved.

The sample size was 142 respondents, composed of top managers and middle managers in the selected international banks. Cronbach's alpha coefficients for all items were greater than 0.7, and the totals for each variable greater than 0.8. Cronbach's alpha coefficients of 0.7 and above are acceptable (Sekaran, 2003).

Findings

Level of Technological Growth
(n=108)

Level of Technological Growth	Mean	Interpretation	Rank
The type of technology employed by the bank influences its organization (structure)	3.26	Very High	1
The bank increases the levels of authority in management hierarchy with	2.84	High	2

increase in technical complexity.			
The bank has different kinds of demands on its employees due to technology.	2.71	High	3
The bank assigns ad hoc teams	2.69	High	4
The bank maintains few branches in the country	2.68	High	5
The bank maintains many branches in the country	2.66	High	6
The bank has a small number of complex tasks with few repetitive elements.	2.44	Low	7
The bank assigns simplified tasks	2.39	Low	8
The bank assigns complex but repetitive tasks	2.33	Low	9
ICT has revolutionized the delivery channels of the bank (eg ATMs, tele- banking, and on line banking)	2.23	Low	10
Average mean	2.62	High	

Source: Primary Data 2012

Mean	Response Mode	Description	Interpretation
1.00 - 1.75	Strongly Disagree	Disagree with no doubt	Very Low
1.76 - 2.50	Disagree	Disagree with some doubt	Low
2.51 - 3.25	Agree	Agree with some doubt	High
3.26 - 4.00	Strongly Agree	Agree with no doubt	Very High

The table on the level of technological growth revealed that the type of technology employed influences the structures of the bank was ranked the highest with a mean of 3.26. This was followed by; increased levels of authority in management hierarchy with increase in technical complexity, different kinds on demands on employees due to technology, assigning ad-hoc teams, maintaining few branches in the country and maintaining many branches in the country with 2.84, 2.71, and 2.69, 2.68, and 2.66 respectively.

ICT has revolutionized the delivery channels of the bank, was ranked the lowest with a mean of 2.23. This seems to contradict with the earlier studies carried out by Nsubuga, (2001) and Omara, (2011) which posited that the new delivery channels are increasingly becoming substitutes for "brick and mortar" bank branches. However, this low rating could be a result of "mind-set" obsessed with reluctance to adopt changes.

This is supported by the view propounded by Bakkkabulindi (2007) who reported that despite the widely acclaimed pros of technology in general and ICT such as computers in particular (Bakkabulindi, 2007; Balunywa, 2000) many people pay lip service to the same. This is alluded to by Baguma 2001. The overall average mean of technological growth was 2.62, interpreted as high.

A study by Bakkabulindi (2007), which concurred with Yaghi (1977) to the effect that many persons who utilize computers have no computer education degrees or diplomas, some of them have never attend computer training workshops strongly supports the study findings. They acquired the basic knowledge through gambling (cited in Zziwa, 2001; 37; Bakkabulindi; 2007: 200). The low levels of ICT should be reversed via formal training (Baruchara, 2002).

Zziwa (2001) reported finding low levels of knowledge and use of computers in managing student information on admission, academic work and so on; other studies established low levels of knowledge and use of internet in Makerere as a tool for reporting to information needs of academic staff (Agaba, 2003; Niwe 2000) and as a boost to distance education (Ezuru, 2002). This finding is in agreement with Nnassanga (2001) who found low levels of student participation in ICT usage and management in the East African School of librarianship and information science in Makerere University. This may be suggesting that although ICT is in place, not all cadres are knowledgeable at the same level of adaptation.

Table of Pre-Bureaucratic Structures

	Mean	Interpretation	Rank
Pre-Bureaucratic	2.58	High	3

Source: Primary Data

The table on Pre-Bureaucratic structures revealed that the banks have not clearly moved from one type of structures to another. It is evident that there are elements of pre-bureaucratic structures with a mean of 2.58. Unfortunately, however, there is no ideal structure which can suit all kinds of organizations (Robbins and Judge, 2010; Agarwal, 2008; Kaila, 2000; Reddy and Hayathri, 2000). The Contingent theory building on the Systems Theory predicts that when an enterprise grows technologically, its structure changes.

Significant Difference in the Level of Pre-BureaucraticStructures in Relation to the Bank's Duration (Years of Existence)

(Level of Significance = 0.05)

Construct	Mean	T-value	Sig.	Interpretation	Decision Ho
Pre-Bureaucratic structures	3.00	0.771	0.547	No significant difference	Accepted

Source: Primary Data 2012

Using Fisher's One Way Analysis of Variance (ANOVA) at a 0.05 level of significance, the hypothesis of no significant difference in the level of pre-bureaucratic structures in relation to the banks duration was accepted.

Significant Difference in the Level of Pre-Bureaucratic Structures in Relation to the Bank's Location (Level of Significance = 0.05)

Construct	Location	F	Sig.	Interpretation	Decision on Ho
Pre-Bureaucratic	Between Groups	2.065	0.109	No significant difference	Accepted
	Within Groups				
	Total				

Source: Primary Data 2012

According to the Analysis of Variance (ANOVA) at a 0.05 level of significance, the hypothesis of no significant difference in the level of pre-bureaucratic structures in relation to the bank's location was accepted. At pre-bureaucratic level the Sig. = 0.109, at the bureaucratic level the Sig. = 0.161.

Significant Difference in the Level of Technological Growth in Relation to Education Background (Level of Significance = 0.05)

Construct	Education Background	F	Sig.	Interpretation	Decision on Ho
Technological Growth	Between Groups	0.379	0.823	No significant difference	Accepted
	Within Groups				
	Total				

Source: Primary Data 2012

Using the Analysis of Variance at a 0.05 level of significance, the hypothesis of no significant difference in the level of technological growth in relation to education was accepted. The results revealed that the level of technological growth was perceived by all managers in virtually the same way irrespective of their education background. Thus the level of technological growth was assessed by managers in the same dimensions regardless of their education background.

Significant Difference in the Level of Technological Growth according to Position held by Respondents (Level of Significance = 0.05)

Source: Primary Data 2012

Construct		F	Sig.	Interpretation	Decision on Ho
Technological Growth	Between Groups	1.101	0.360	No significant difference	Accepted
	Within Groups				
	Total				

According to Analysis of Variance at a 0.05 level of significance, the hypothesis of no significant difference in the level of technological growth in relation to position was accepted. This holds true for technological growth at Sig. =0.360 on the basis of which the hypothesis was accepted.

Significant Difference in the Level of Technological Growth according to Years of Service of the Respondents (Level of Significance = 0.05)

Construct	Years of service	F	Sig.	Interpretation	Decision on Ho
Technological Growth	Between Groups	1.113	0.348	No significant difference	Accepted
	Within Groups				
	Total				

Source: Primary Data 2012

ANOVA results led to accepting the hypothesis as there was no significant difference exhibited in the variable (Technological Growth and all its items) in relation to the respondents' years of service.

Significant Difference in the Level of Pre-bureaucratic Structures in Relation to Gender of the Respondents (Level of Significance = 0.05)

Construct	Gender	Mean	t	Interpretation	Decision on Ho
Pre- bureaucratic	Male	2.98	-0.748	No significant	Accepted

	Female	3.03	-0.750	difference	

Source: Field Data 2012

The t – test results are greater than $\alpha = 0.05$, thus at the 5% level of significance, the hypothesis was accepted. It is inferred from the results that pre- bureaucratic structures as viewed by the two gender constituents did not differ significantly. This is attributable to gender sensitivity and an even plane of exposure to the respondents.

Regression Analysis between the Dependent and Independent Variable: (Pre-bureaucratic structures and Technological Growth)

(Level of Significance = 0.05)

Variables Regressed	Computed F-Value	Adjusted R^2	Sig
Pre- bureaucratic Structures Vs Technological Growth	14.779	0.346	0.000
Coefficients Pre- bureaucratic Structures	Standardized Beta	T	Sig
(Constant)		9.443	0.000
Technological Growth	0.578	5.073	0.000

Source: Primary Data 2012

The regression table suggests that the Technological Growth was adequate in explaining private enterprise structures of international business in the selected banks ($\beta = 0.578$; sig. = 0.000).

Conclusions

Based on the findings of the study, the ensuing conclusions were drawn; the level of technological growth and pre-bureaucratic structures were significantly correlated.Technological growth was a strong, positive and direct correlate of pre-bureaucratic structures.

The study was able to bridge the gaps identified in the previous studies; Technological growth being a precursor to pre-bureaucratic structures was predicted. This means with advanced technology the pre-bureaucratic structures are flexible. This can help entrepreneurs and or managers to plan accordingly.

Bertalanffy's Contingency Theory (1972) was proven in relation to technological growth and pre-bureucratic structures. Also proven was the Systems Theory propounded by Lawrence and Lorsch (1967).

A contribution to general knowledge

1. Technological growth significantly correlates with pre-bureaucratic structures.

Recommendations

Based on the findings of the study, it is recommended that the banks should step up the adaptation of ICT to revolutionize the delivery channels of the banks e.g. tele-banking, on line banking or internet banking without undue delay. Banks too should adopt the most appropriate technology in their operations in order to be cost effective.

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