ROLE OF ORGANIZATIONAL DESIGN ON THE PERFORMANCE OF COMMERCIAL BANKS: A CASE OF NATIONAL BANK OF KENYA

Frank Abner Michieka

Jomo Kenyatta University of Agriculture and Technology, Kenya

Ogollah Kennedy (PhD)

Jomo Kenyatta University of Agriculture and Technology, Kenya

CITATION: Michieka, F. A. & Ogollah, K. (2013). Role of organizational design on the performance of commercial banks: A case of National Bank of Kenya. *International Journal of Social Sciences and Entrepreneurship, 1* (7), 477-489.

ABSTRACT

Organization Design is concerned with the relationships and interconnectivity between people, work, formal structures, informal practices, and cultural behaviors, both internally and externally, it is about the way in which an organization manages and coordinates its human, administrative and operational resources to benefit from unique capabilities over the long-term. The business of banking and financial institutions in Kenya has been, and is still, going through a period of rapid and profound change, of which the development of new organization design is extremely important. Statistics from Central Banks of Kenya (CBK) show that the Banking sector has recorded a decline in performance in some banks as from 2011 with National Bank of Kenya announcing a profit decline of 17 percent in first-half posting a profit of 911.8 million shillings from the 1.1 billion shillings posted in year 2011. Studies by Kenya Bankers Association show that there is stiff competition faced by NBK from other banks like Equity and Standard Chartered Banks and it is anticipated that the Organization Design efforts will herald the performance of NBK. The study will be guided by the following objectives; to determine the effect of organization structure in the performance of commercial banks in Kenya, to determine effect of organizational resources in the performance of commercial banks in Kenya, to establish the effect of technology on the performance of commercial banks in Kenya and to determine the effect of strategic human resource management practices on the performance of commercial banks in Kenya. A sample of 20% was selected from within each stratum of the low level, middle level and top level management in proportions that each stratum bears to the study population. This study collected both primary and secondary data. The study used a survey questionnaire. The study selected a pilot group of 10 individuals from the target population at National Bank of Kenya to test the reliability of the research instrument. Quantitative data collected was analyzed by the use of descriptive statistics using SPSS (Version 21) and presented through percentages, means, standard deviations and frequencies. The findings strongly agreed that the organization structure must be aligned to put the strategy in effect. The study concludes that organization structure involves how programs and tasks are coordinated and the tools or mechanisms used to coordinate. The study recommends that an organization structure (OS) must be aligned to put the strategy into effect.

Key Words: *Organizational Design, Technology, SHRM, Organizational Structure and Organizational resources*

Introduction

Organization Design is a formal, guided process for integrating the people, information and technology of an organization. It is used to match the form of the organization as closely as possible to the purpose(s) the organization seeks to achieve. The Banking industry in Kenya has been characterized by stiff competition in the past ten years, The Industry consist of 43 banks offering various types of financial services which are largely homogeneous, only differentiated either by the product name or just a few features leading to very stiff competition for market share CBK (2012). In the last century, national monolithic organizations have chosen a strategy of "going global." Organizations have grappled with how to morph hierarchical and American headquarters centric structures into organizations that work effectively across borders and with empowered workforces (Jenks, 2007). And, while de-centralization, diversity, and teams became local and global issues, the old success factors of size, role clarity, specialization, and control have been replaced in the new paradigm with speed, flexibility, integration, and innovation (Jenks, 2007).

A new organizational model for today's big corporations will not emerge spontaneously from the obsolete legacy structures of the industrial age. Rather, companies must design new models from a holistic point of view; using new principles that take into account the way employees behave and the way professionals view and embrace value and culture (Jenks, 2007). Big companies that follow these principles will get more organizational mileage at less cost from the managers and the professionals they employ and lean on for vision and execution. In the process, they will become fundamentally better at overcoming the challenges and capturing the opportunities of today's rapidly changing environment both at home and abroad (Gilmore, 2007).

Statement of the Problem

Statistics from Nairobi Stock Exchange (NSE), show that in 2012 the National Bank of Kenya which is listed at the Nairobi Securities Exchange (NSE), reported a 52.7 percent drop in profits to Sh729 million from Sh1.54 billion a year earlier, The sector has recorded a decline in performance in some banks as from 2011 with National Bank of Kenya announcing a profit decline of 17 percent in first-half posting a profit of 911.8 million shillings from the 1.1 billion shillings posted in year 2011 (CBK, 2013). Total operating income increased by 2 percent compared to similar period in 2011. From the data available from Kenya Bankers Association

(KBA), the National Bank of Kenya profitability was weighed down by high interest expenses which rose five fold as the bank tried to retain its more affluent clients (KBA, 2013). The National Bank of Kenya has announced a profit decline of 8.7 percent in its third quarter of operations for 2011. The bank's profit stood at KES 1.2B compared to KES 1.3B realized over a similar period in 2010. A 20 percent increase in cost of operations was cited as the main reason behind the dismal performance and the management and coordination of human and administrative and operational resources, in addition to 100 percent increase in loan loss provisions and a drastic devaluation of government bonds. The decline in profit is largely attributed to high interest expenses during the six months and Net income inched down to 2.47 billion shillings from 2.67 billion shillings in the year-ago period (NBK, 2012). Further statistics show a 20 percent increase in cost of operations was cited as the main reason behind the dismal performance, in addition to 100 percent increase in loan loss provisions and a drastic devaluation of government bonds (NBK, 2012). Local Studies by Kenya Bankers Association show that there is stiff competition faced by NBK from other banks like Equity and Standard Chartered Banks and it is anticipated that the Organization Design efforts will herald the performance of NBK.

A number of studies have been done in organization design in Kenya in other industries other than the banking industry Anderson, Baland and Moene (2003) studied the Sustainability and organizational design in informal groups: some evidence from Kenyan Roscas (rotating savings and credit associations) in Kenyan slums. In the banking industry in Kenya, Nyamasege (2012) attempted to study organizational design adopted by Kenya Commercial Bank as a strategic response to competition within the banking industry in Kenya. Banks pursue various organization design approaches towards meeting their broad goals and objectives to remain competitive in the industry. The study is intended to bridge the knowledge gap and seeks to explore the role of organization design in the performance of commercial banks, with reference to National Bank of Kenya.

General Objective

To determine the role of organization design on the performance of commercial banks, with special focus to National Bank of Kenya.

Research Objectives

1. To determine the effect of organization structure in the performance of Commercial Banks in Kenya.
2. To determine effect of organizational resources in the performance of commercial banks in Kenya.
3. To establish the effect of technology on the performance of commercial Banks in Kenya.
4. To determine the effect of strategic human resource management practices on the performance of Commercial Banks in Kenya.

Literature Review

Contingency theory

The contingency theory of organizational structure presently provides a major framework for the study of organizational design (Donaldson, 2001). It holds that the most effective organizational structural design is where the structure fits the contingencies. Contingency theory is concerned with the role of structure in organizational performance. In a normative perspective, the principal research problem becomes one of identifying structural designs which are efficient, effective and viable under conditions of changing environments. Efficiency, effectiveness and viability thus become the criteria (Burton and Obel 2004) against which different designs are validated.

The term contingency theory was coined by Lawrence & Lorsch (1967), in an empirical study, showing that effects from organizational structure on relative economic performance were contingent upon environmental attributes. Contingency theory thus offered a synthesis of two conflicting research paradigms in organization theory, both claiming universal virtue: the differentiated, efficient factory system of Adam Smith and the integrated, effective 3 human system of Emile Durkheim. Structural contingency theory, like sociological functionalism more generally, is often considered as being an equilibrium theory, in that organizations are depicted as attaining fit and then being in equilibrium and so remaining static (Donaldson, 2001).

A survey of many organizations in one country concludes that they are overwhelmingly continuing to use traditional macro-structures such as the divisional type, with innovations such as information technology or teams being incremental, not radical, changes within this broader traditional framework (Palmer and Dunford, 2002). Similarly, a study of organizations from many European countries found that organizations are not radically flattening their structures.

Within an overall process of convergence, Contingency theory currently seems to diverge towards two sub-streams. Neo-Contingency Theory (NCT) (Donaldson 2001), is more concerned with axiomatic issues, while the Neo-Information Processing View (NIPV) (Burton & Obel, 2004), seems more concerned with issues of application. In recent developments, however, both streams show a clear concern for dynamic disequilibrium.

Resource-Based View Theory

The resource-based view (RBV) of Wernerfelt (1984) suggests that competitiveness can be achieved by innovatively delivering superior value to customers. The extant literature focuses on the strategic identification and use of resources by a firm for developing a sustained competitive advantage (Barney, 1991). International business theorists also explain the success and failures of firms across boundaries by considering the competitiveness of their subsidiaries or local alliances in emerging markets (Luo, 2003). Local knowledge provided by a subsidiary or local alliance becomes an important resource for conceptualizing value as per the local requirements (Garcia-Canal, Duarte, Criado and Llaneza, 2002).

According to Resource Based Theory resources are inputs into a firm's production process; can be classified into three categories as; physical capital, human capital and organizational capital (Crook, Ketchen, Combs and Todd 2008). A capability is a capacity for a set of resources to perform a stretch task of an activity. Each organization is a collection of unique resources and capabilities that provides the basis for its strategy and the primary source of its returns. In the 21st-century hyper-competitive landscape, a firm is a collection of evolving capabilities that is managed dynamically in pursuit of above-average returns. Thus, differences in firm's performances across time are driven primarily by their unique resources and capabilities rather than by an industry's structural characteristics (Crook, Ketchen, Combs and Todd 2008). Organization design in commercial banks is targeted towards increasing their value given to customers, both internal and external, who are crucial in performance of the banks. Banks needs to coordinate the inputs into the production process which would lead to extemporary performance. Banks specific resources will help it their strategy formulation which will play a role in their performance.

Rogers' Diffusion of Innovation Theory

Rogers' Diffusion of Innovation Theory tries to explain how adoption was made to new ideas as well as to innovations by suggesting in the theory, five innovation attributes through which adoption is effected, which are: “observability, compatibility, trial ability, relative advantage and complexity” (Rogers, 1995). An attribute is said to have a relative advantage when the new innovations is seen to be better than the previous idea that it is replacing. Rogers' theory emphasizes that it is easier to implement innovations that show an improved advantage over that which was there before, making it easier to adopt.

Greenhalgh, Glenn, MacFarlane, Bate and Kyriakidou, (2004) adds that users would not adopt innovations that they did not see any relative advantage in them. The ability of an innovation to be easily adopted is that it has to be compatible with a previous idea, meet their experience in the past and fulfill existing values, meaning that there is a higher chance for an innovation to be adopted if it is more compatible. An innovation that is seen to be difficulty to use as well as to understand is said to be complex. New innovations are categorized from the simple to complex ones which define the relevance users find in them, where the ones seen as simple to operate are easily adopted (Greenhalgh et al, 2004).The ability to experiment with an innovation in least time is called trial ability, and if the user is able to test the item before full implementation saves them resources, energy and precious time and hence becomes easily adopted. The visibility of the innovation’s results as seen by adopters is called observability, where the innovation becomes more adoptable if the outcomes are positive.

Dynamic Capabilities Theory

Business has entered a new era of hyper-competition in which competition is violent and intense (D'Aveni, 1994). In order to sustain competitive advantage, business firms must continually reconfigure internal resources and capabilities to assume corporate responsibility for adapting turbulent environment. Dynamic capabilities are raised and defined as a firm's strategy to constantly integrate, reconfigure, renew, and recreate internal and external resources in response to dynamic and rapidly shifting market environments in order to attain and sustain competitive advantage (Winter, 2003).

Dynamic capabilities can explain how business firms create, define, discover, and exploit entrepreneurial opportunities in complex and volatile external environments in search for a strategic matching of resources and market needs (Teece, 2007). Banks particular dynamic capabilities of stakeholder relationship management can determine the effectiveness of strategic alliance, in return influencing sustainability which has some of implications for corporate responsibility and emerging markets. Through dynamic capabilities commercial banks are able to align them strategically, which plays a significant role in their performance. Dynamic capabilities will influence the organizational resources which plays an important role in the bank's performance.

Research Methodology

This research problem was studied through the use of a descriptive research design. According to Cooper and Schindler (2006), a descriptive study is concerned with finding out the what, where and how of a phenomenon. This study therefore was able to generalize the findings to all the enterprises. This method concerned the intense investigation of problem solving situations in which problems are relevant to the research problem.

The research proposal focused on investigating on the role of organization design in the performance of commercial banks, with special focus to National Bank of Kenya. The underlining concept was to select several targeted cases where an intensive analysis identifies the possible alternatives for solving the research questions on the basis of the existing solution applied in the selected case study. The study attempted to describe and define a subject, often by creating a profile of group of problems (Cooper & Schindler, 2006).

According to Kombo and Tromp (2006) a population is a well-defined or set of people, services, elements, events, group of things or households that are being investigated generalize the results. This definition assumed that the population is not homogeneous. The population of this study comprised of National Bank of Kenya Headquarters. NBK is licensed and regulated pursuant to the provisions of the Banking Act and the Regulations and Prudential Guidelines issued there under. Currently there are there are 44 licensed commercial banks (CBK, 2012).

According to Cooper and Schindler (2006) a sampling frame is a list of all population units from which the sample of a study is drawn. Sampling techniques provide a range of methods that facilitate to reduce the amount of data need to collect by considering only data from a sub-group rather than all possible cases or elements. At the time of conducting research, it is often impossible, impractical, or too expensive to collect data from all the potential units of analysis included in the research problem. From the population frame the required number of subjects, respondents, elements, firms are selected in order to make a sample.

Stratified random sampling technique was used to select the sample. According to Kothari, (2006) the technique produce estimates of overall population parameters with greater precision and ensures a more representative sample is derived from a relatively homogeneous population. The study group the population into three strata i.e. low level, middle level and top level management. This in turn increases the precision of any estimation methods used.

Cooper & Schindler (2006) argue that if well chosen, samples of about 10% of a population can often give good reliability. Stratified random sampling technique will be used since population of interest is not homogeneous and could be subdivided into groups or strata to obtain a representative sample. The study selected a section and particularly the staffs who include departmental heads, assistant departmental heads and lower cadre staffs like the supervisors, accounts and other officers from the National Bank of Kenya since they are the ones conversant with the role of organization design in the performance of National Bank of Kenya. From the above population, a sample of 20% was selected from within each group in proportions that each group bears to the study population.

This sample is appropriate because the population is not homogeneous and the units are not uniformly distributed. Furthermore, owing to the big number of target population and given the time and resource constraints, the sampling at least 30 elements is recommended by Mugenda & Mugenda (1999). This generates a sample of 50 respondents which the study seeks information from. This made it easier to get adequate and accurate information necessary for the research. The selection is as follows.

This study collected both primary and secondary data. Primary data is gathered and generated for the project at hand directly from respondents mainly using questionnaires. Secondary data is the data is gathered for other purposes and used in the recent project usually the secondary data are found inside the company, libraries, research centers, internet and etc. Secondary data involves the collection and analysis of published material and information from other sources such as annual reports, published data.

Findings and Discussion

The objective of the study was to determine the role of organizational design on performance of National Bank of Kenya. The objective was assessed by use of statements which were on the questionnaire where the respondents indicated their degree of agreement with the statements. The study sought to find out the level of agreement with the statements relating to organization structure affecting the performance of your bank. Respondents strongly agreed that the organization structure involves how programs and tasks are coordinated and what are the tools or mechanisms used to coordinate as indicated by a mean of 4; respondents strongly agreed that an organization structure must be aligned to put the strategy into effect indicated by a mean of 3.7 and they also agreed on the statements that the organization structure encompasses the extent of coordination which is the level of interdependence in work situations indicated by a mean of 3.8; in strategic planning, the organization structure covers the level of communication which is the existence of a strictly upward, downward and multidimensional communication this is indicated by a mean of 4; Organization structure will 0cover responsibility and authority; job definition and description; and line of command as indicated by a mean of 4 respectively.

Respondents agreed to the statement that at National Bank training and development generally produce better alignment and performances than trial and error learning and that performance appraisals are very important to gauge the performance and productivity in the workplace as indicated by a mean of 3.9 and 3.7 respectively. Respondents agreed to the statements that at continuous trainings and development lead to better performance in the workplace indicated by a mean of 4. Respondents agreed to the statement does encouragement/motivation from the senior management lead to better performance indicated by a mean of 4; Respondents also agreed that at National bank the mode of recruitment and selection is transparent as indicated by a mean of 3.9; and Respondents also agreed that at national bank they have clear job designs and descriptions as indicated by a mean of 4.

The study sought to find out the level of agreement with the statements relating to organization resources and organizational performance. Respondents agreed on the statement that resources and capabilities can be thought of as a platform from which the firm derives various products for various markets; resources form the basis of firm strategies and are critical in the implementation of those strategies as well and that firms should position themselves strategically based on their unique, valuable, and inimitable resources and capabilities as indicated by a mean of 3.8 and 3.8 respectively. Respondents also agreed on the statement that firm resources and strategy seem to interact to produce positive returns and that while products and markets may come and go, resources and capabilities are more enduring as indicated by a mean of 3.7 and 3.9 respectively.

The study shows that respondents agreed that the impact of technology can be described as breaking down traditional trade-offs between richness of interaction possible with a customer and the number of customers a business can access or products it can offer, that technology has received so much attention from entrepreneurs, executives, investors, and business observer as indicated by a mean of 3.8 and 3.9 respectively. Respondents also agreed on the statement that Information technology strategies are critical to business as they can deliver not only effective business operations, but also competitively differentiated products and services for firms and that the time has come to make a clearer view of technology as indicated by a mean of 3.9 and 3.6 respectively.

Regression Analysis

The results in Table 1 of the model summary provide the correlation coefficient (R) and coefficient of determination (R^2) value. The four independent variables that were studied, explain 86 percent of variance in role of organization design on the performance of commercial banks, as represented by the R^2. This therefore means that other factors not studied in this research contribute 14 percent of variance in the dependent variable for instance the moderating variables and other factors. Therefore, further research should be conducted to role of organization design on the performance of commercial banks, with special focus to National Bank of Kenya.

Table 1: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936[a]	.877	.860	.46199

a. Predictors: (Constant), Organizational Structure, SHRM Practices, Organizational Resources, Technology

The Table 2 shows the ANOVA test which indicated that the regression model predicted the outcome variable significantly well. The F critical at 5 percent level of significance was 4.35 since F calculated (value = 53.275), is greater than the F critical this shows that the overall model was significant.

Table 2: ANOVA (Analysis of Variance)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.483	4	11.371	53.275	.000[b]
	Residual	6.403	30	.213		
	Total	51.886	34			

a. Dependent Variable: Bank Performance

b. Predictors: (Constant), Organizational Structure, SHRM Practices, Organizational Resources, Technology

Table 3 presents coefficients information on each predictor variable. This provided the information necessary to predict influence of organization design on performance of commercial banks from the provided variables. Taking all factors (Organizational Resources, Organizational Structure, Technology and SHRM) constant at zero, bank performance will be -0.668. The data findings also show that a unit increase in Organizational Resources, variable will lead to a 0.316 increase in bank performance; a unit increase in Organizational Structure will lead to a 0.535 increase in bank performance; a unit increase in Technology will lead to a 0.463 increase in bank performance and a unit increase in SHRM will lead to a -0.123 increase in bank performance. This means that the most significant factor is Organization Structure followed by Technology.

The slopes are found at the intersection of the line labeled with the independent variables. The intercept is found at the intersection of the line labeled (Constant) and the column labeled B.

Table 3: Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.688	.378		-1.819	.079
	SHRM Practices	-.123	.060	-.143	-2.063	.048
	Technology	.463	.103	.431	4.483	.000
	Organizational Resources	.316	.111	.246	2.854	.008
	Organizational Structure	.535	.114	.426	4.702	.000

a. Dependent Variable: Bank Performance

Table 3 also presents the level of significance called the p value, This is the coefficient that is used to test the significance of the independent variables the level of significance for this study is 0.05 and therefore if the p value is less than 0.05 then it means that the variable is statistically significant and vice versa is the p value is greater than 0.05. From the table, the results showed mixed findings. The t and p value for organizational structure and technology were (t=4.702, p<0.05; t=4.483, p<0.05;) and Organizational resources and SHRM were (t=2.854;p<0.05;t=-2.063,p<0.05),Therefore organizational structure, organizational resources, SHRM practices and technology were all statistically significant and they showed a positive influence on the performance of NBK.

Conclusions

The study concludes that organization structure involves how programs and tasks are coordinated and what are the tools or mechanisms used to coordinate and that an organization structure must be aligned to put the strategy into effect while Organization structure covers responsibility and authority; job definition and description; and line of command.

The study also concludes that continuous training and development leads to a better performance in the workplace; performance appraisals are very important to gauge the performance and productivity in the workplace and that training and development produces better alignments and performances.

Further the study concludes that resources and capabilities can be thought of as a platform from which the firm derives various products for various markets; resources form the basis of firm strategies and are critical in the implementation of those strategies as well and that firms should position themselves strategically based on their unique, valuable, and inimitable resources and capabilities.

Finally the study concludes that technology affects the performance of the organization that the impact of technology can be described as breaking down traditional trade-offs between richness of interaction possible with a customer and the number of customers a business can access or products it can offer that technology has received so much attention from entrepreneurs, executives, investors, and business observer

Recommendations

My study recommends that an organization structure (OS) must be aligned to put the strategy into effect. OS will cover responsibility and authority; job definition and description; and line of command.

My study also recommends that organization structure should be strengthened since it covers the level of communication which is the existence of a strictly upward, downward and multidimensional communication as opposed to a little two-way communication.

Further my study recommends mobilization of resources since resources form the basis of firm strategies and are critical in the implementation of those strategies as well. Therefore, firm resources and strategy seem to interact to produce positive returns.

Finally my study recommends integration of technology since the success of any strategy depends on extend at which information communication technologies are integrated and used.

References

Barney, J.B., (1991). *The debate between traditional management theory and organizational economics: substantive differences or intergroup conflict?* Academy of Management Review, 15, 382–393.

Burton, R. & Obel, B.(2004) “Strategic organization design”, 3. ed. Boston: Kluwer.

Cooper, D. R. & Schindler, P.S. (2006). *Business Research Methods* (9th Edn). New York: McGraw Hill.

Crook, TR, Ketchen Jr DJ, Combs JG and Todd SY (2008). Strategic resources and performance: a meta-analysis. Strategic Management Journal 29: 1141-1154.

D'Aveni, R.A. (1994). Hypercompetition: Managing the Dynamics of Strategic Maneuvering, The Free Press, New York, NY.

Donaldson, R. (2001). “The contingency theory of organizations”. Thousand Oaks, CA: Sage

Garcia-Canal, E., Duarte, C., Criado, J., & Llaneza, A. (2002). Accelerating international expansion through global alliances. Journal of World Business, 37(2), 91–107

Greenhalgh, T., Glenn, R., MacFarlane, F., Bate, P., & Kyriakidou, O. (2004). *"Diffusion of innovations in service organisations: systematic review of recommendations"*, Millbank Quarterly, vol. 82, no. 4, pp. 581-629.

Kombo.K.D & Tromp.L.A, (2006) *Proposal and Theisis Writing*, Don Bosco Printing Press, Kenya.

Kothari, C.R., (2006). *Research Methodology: Methods and techniques*, (1st Ed), New Age international publishers.

Lawrence, P & Lorsch, J. (1967). "Organization and environment". Boston: Harward business press

Luo Y. (2003), "Market-seeking MNEs in an emerging market: How parent-subsidiary links shape overseas success" Journal of International Business Studies, 34(3): 290 309.

Mugenda, O.M.,&Mugenda, A.G.,(1999). *'Research Methods :Quantitative and Qualitative Approaches,* African Centre for Technology Studies(ACTS).

Punjab Paki stan)", Interdisciplinary Journal Of Contemporary Research In Business, Vol. 3, NO. 3,pp.661-672.

Palmer, I., and R. Dunford. (2002). Out with the old and in with the new? The relationship between traditional and new organizational practices. International Journal of Organizational Analysis 10(3): 209–25

Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: Free Press.

Wernerfelt, B. (1984). "A resource-based view of the firm". Strategic Management Journal, 5(2), 171-180.

Winter, S.G. (2003). "Understanding dynamic capabilities", Strategic Management Journal, Vol. 24 No.10, pp.991-5.

Teece, D.J. (2007). "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", Strategic Management Journal, Vol. 28 No.13, pp.1319-50.