Volume 3 • Issue 5 • October 2012

Editor-in-Chief
Dr. Miquel Àngel Piera i Eroles

INTERNATIONAL JOURNAL OF
BUSINESS RESEARCH AND MANAGEMENT (IJBRM)

ISSN : 2180-2165

Publication Frequency: 6 Issues / Year

CSC PUBLISHERS
http://www.cscjournals.org

INTERNATIONAL JOURNAL OF BUSINESS RESEARCH AND MANAGEMENT (IJBRM)

VOLUME 3, ISSUE 5, 2012

EDITED BY
DR. NABEEL TAHIR

ISSN (Online): 2180-2165

International Journal of Business Research and Management (IJBRM) is published both in traditional paper form and in Internet. This journal is published at the website http://www.cscjournals.org, maintained by Computer Science Journals (CSC Journals), Malaysia.

IJBRM Journal is a part of CSC Publishers
Computer Science Journals
http://www.cscjournals.org

INTERNATIONAL JOURNAL OF BUSINESS RESEARCH AND MANAGEMENT (IJBRM)

Book: Volume 3, Issue 5, October 2012
Publishing Date: 25-10-2012
ISSN (Online): 2180-2165

IJBRM Journal is a part of CSC Publishers
http://www.cscjournals.org

Published in Malaysia

Typesetting: Camera-ready by author, data conversation by CSC Publishing Services – CSC Journals, Malaysia

CSC Publishers, 2012

EDITORIAL PREFACE

This is fifth issue of volume three of the International Journal of Business Research and Management (IJBRM).The International Journal of Business Research and Management (IJBRM) invite papers with theoretical research/conceptual work or applied research/applications on topics related to research, practice, and teaching in all subject areas of Business, Management, Business research, Marketing, MIS-CIS, HRM, Business studies, Operations Management, Business Accounting, Economics, E-Business/E-Commerce, and related subjects. IJRBM is intended to be an outlet for theoretical and empirical research contributions for scholars and practitioners in the business field. Some important topics are business accounting, business model and strategy, e-commerce, collaborative commerce and net-enhancement, management systems and sustainable business and supply chain and demand chain management etc.

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To build its international reputation, we are disseminating the publication information through Google Books, Google Scholar, Directory of Open Access Journals (DOAJ), Open J Gate, ScientificCommons, Docstoc, Scribd, CiteSeerX and many more. Our International Editors are working on establishing ISI listing and a good impact factor for IJBRM. We would like to remind you that the success of our journal depends directly on the number of quality articles submitted for review. Accordingly, we would like to request your participation by submitting quality manuscripts for review and encouraging your colleagues to submit quality manuscripts for review. One of the great benefits we can provide to our prospective authors is the mentoring nature of our review process. IJBRM provides authors with high quality, helpful reviews that are shaped to assist authors in improving their manuscripts.

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The Implications of Corporate Governance on Financial Institution's Performance in Nigeria

Sunday .O. Effiok *sundayefiok@yahoo.com*
Department of Accounting
University of Calabar, Nigeria

Joseph Effiong *effiongj@gmail.com*
School of Management Sciences
Apeejay Stya University,
Sohna, Gurgaon, 122103, India

Abstract

The Central Bank of Nigeria (CBN) (2006) had asserted that disagreement between the board and management of financial institutions usually gives rise to board squabbles and ineffective board oversight functions. This is why the objective of this article is to determine the extent to which corporate governance practices impacts on financial institutions performance. To validate this assertion, a sample of thirty three financial institution listed on the Nigerian stock Exchange from 2004 to 2008 was used for this study. Multiple regressions Analysis and ordinary least square (OLS) method of estimation were applied. The results showed that there is a positive correlation between corporate governance practices and firms performance. The other two performance proxies that is, return on Equity and two corporate governance practices namely; the firms' board size and audit committee also showed positive relationship. However, there was a negative relationship between the net profit margin, the firms' board size and audit committee. The study could not establish a relationship between the two performance variables, namely; Return on Equity and Net profit Margin, and the executive officers' status. It is recommended that corporate governance mechanisms be objectively structured to enhance optimal performance of corporate institutions in Nigeria.

Key words: Corporate Governance, Stakeholders, Financial Institution Performance, Financial Reporting.

1. INTRODUCTION

The protracted economic crisis in Europe, the tailspining of the US economy and rising financial scandals around the world are indicative of the need for the practice of good corporate governance. Corporate governance may be used broadly to refer to the guidelines, rules, processes by which businesses are operated, regulated and controlled. It is a system of managing the affairs of corporations with a view to increasing shareholders' value and meeting the expectations of the other stakeholders.

In the last few years, the discourse on the subject of corporate governance in Nigeria has gradually crystallized into the development of norms for listed companies. Following the collapse of many banks in the early 1990s in Nigeria and several other corporate frauds such as overstatement of accounts which bedeviled the economy, not a few stakeholders have called for a review of guideline for corporate governance in line with international best practice. However, the problem of private companies, that form a vast majority of Nigeria corporate entities, remains largely unaddressed. Thus, when on June 15, 2000 the Securities and Exchange Commission (SEC), in collaboration with the Corporate Affairs Commission (CAC) instituted the 17-member committee on corporate governance, headed by the chief executive of Investment Banking and Trust company (IBTC) Limited (Stanbic IBTC) Atedo Peterside, many observers thought this would open a new vista in corporate citizenship in the country. The banking industry being the fulcrum for economic growth, banking crises is of great concern to every stakeholder in the economy. This is because it exacerbate downturns in economic activities, prevent savings from flowing to the most productive users, reduce the availability of credits, increase the cost of lending to small and medium-size firms and seriously constrain the flexibility of monetary policy (Goldstein, 1997).

In Nigeria, the governance of financial institution ordinarily rest with the board of directors. The boards, as can be deduced from recent cases, do not live up to their expectations in discharging their duties. Some financial institutions do not comply with all legal requirements and regulatory standards. Banking businesses are not conducted with high ethical standards; there are gross insider abuses such as granting of insider-related credits resulting in large quantum of non performing credits. The internal control and operational procedures are often not followed thus rendering the system very weak and allowing fraudulent and self –serving practices among members of the board, management and staff. Ali (1995) posited that:

> *"The management environment of Nigerian banking industry is characterized by instability in tenure of office, ineptitude, sheer incompetence or even interpersonal disagreement and hostilities within the board which often leads to polarization of rank and file of staff. Board members and top management staff often take advantage of the polarization by building empires, engaging in arbitrage opportunities and rent seeking activities rather than planning for corporate profit and survival strategies all of which have systematic bandwagon negative effect on the industry".*

Ebhodaghe (1996) also stated that the new generation banks are characterized by boardroom quarrels, insider abuse, fraud and forgeries, weak internal control systems as well as occasional contravention of statutory regulations.

1.1 The Problem

The financial institutions in Nigeria are of interest to the corporate investor who has a prominent stake in the economy. This is in consideration of the crises and revolution that attended the banking consolidation of 2009 that resulted in the sack of chief executives of five banks on account of allegations of bad corporate governance practices. This allegation was proved right, when one of the bank chief executive officers was convicted of bank fraud and was forced to forfeit assets worth N191 billion (Balogun, 2010). Other six ex-bank chiefs had opted for plea bargaining negotiation with the anti-graft agency-the Economic and Financial Crime Commission (EFCC) (Ali, 2010).

1.2 Objective of the Study

The main objective of the study therefore, is to determine the relationship between corporate governance and financial institution's performance. To examine the extent to which ethical practices are allowed to govern the conduct of executives in the performance of their duties.

1.3 Research Questions

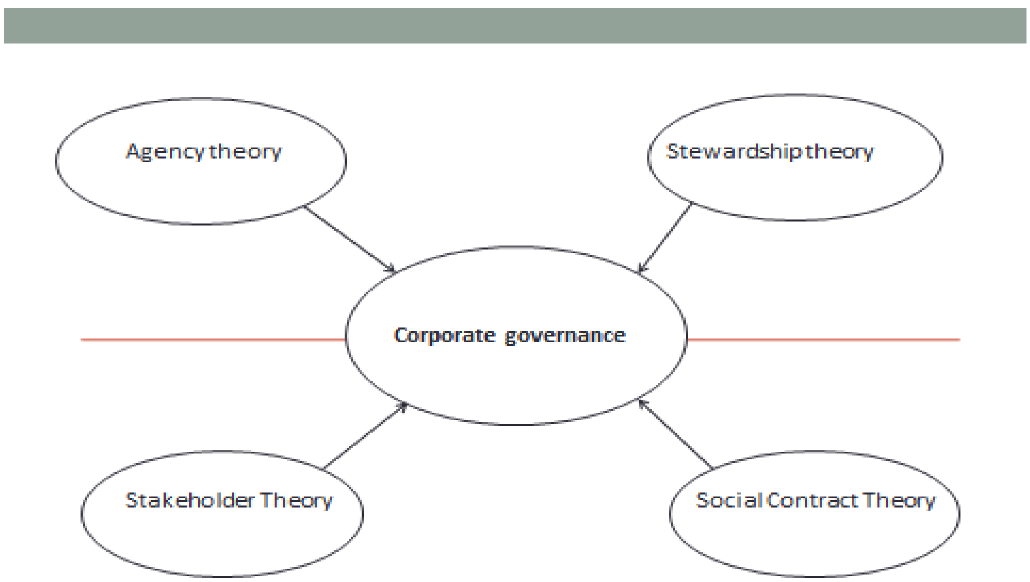
The following research questions are used to provide direction to the achievement of the objectives of the study. (a) To what extent do corporate governance mechanisms relate to firms' performance? (b) Has there been a proper instituted ethical practice in the performance of official duties of chief executives.

1.4 The Hypotheses

The following hypotheses will be tested to validate or otherwise the concept under study: (a) there is no relationship between corporate governance mechanism and firms' performance. (b) There is no relationship between ethics and corporate governance. (c) There is no relationship between Return on equity and the firms' board composition. (d) There is no relationship between return on equity and the firms' chief executive officer status.

2. CONCEPTUAL FRAMEWORK

Several theories have been used to under pin the concept of corporate governance. Among them include the following:



2.1 Agency Theory

The agency theory holds that the demand for audit quality has been motivated by the need to manage agency conflict. Accordingly, in an agency setting, information asymmetry between a principal (stakeholder) and an agent (management) creates a moral hazard problem, which is the concern that an agent will pursue his/her own self-interest at the expense of the principal (Jensen and Meckling, 1976; Watts and Zimmerman, 1990). Agency theory predicts that agents and principals will recognize that it can be mutually beneficial to reduce the moral hazard and will devise arrangements to align their self-interest. One such arrangement is the independent audit, which provides a monitoring device designed to improve information about client performance and reduce the asymmetry. The greater the agency conflict between managers and stakeholders, the greater the agency costs, and the greater the demand for audit identified as high quality or of high perceived quality (Palmrose, 1984; Francis and Wilson, 1988; Defond, 1992; Craswell et al, 1995).

DeAngelo (1981) argues that auditors will specialize in supplying a certain level of audit quality. Therefore, if a client wishes to change audit quality, they must change auditors. Relying on various theoretical and analytical arguments (DeAngelo, 1981; Dopuch and Simonic, 1982; Titman and Trueman, 1986; Beaty, 1989) most agency-related audit quality research assumes that larger (brand name) auditors provide greater monitoring strengths and that this result in higher information quality and credibility.

In Nigeria, issues relating to auditor monitoring strength, as it affect information quality and credibility have been significantly established by the agency conflict of interest relationship between managers and stakeholders as exhibited in the case of Savanna Bank Plc where the auditor’s internal report was hidden under the carpet at the detriment of the firms stakeholders.

2.2 Stakeholder Theory

One argument against the strict agency theory is its narrowness, by identifying shareholders as the only interest group of a corporate entity necessitating further exploration. By expanding the spectrum of interested parties, the stakeholder theory stipulates that, a corporate entity invariably seeks to provide a balance between the interests of its diverse stakeholder in order to ensure that each interest’s constituency receives some degree of satisfaction (Abrams, 1951). The stakeholder theory therefore appears better in explaining the role of corporate governance than the agency theory by highlighting the various constituent, employees, banks, governance, relevant stakeholders. Related to the above discussion, John and Senbet (1998) provide a comprehensive review of the stakeholders’ theory of corporate governance which points out the presence of many parties with competing interests in the operations of the firm. They also emphasize the role of non-market mechanisms such as the size of the board, committee structure as important to firm performance. In Nigeria majority of large corporations do not abide by this principles.

2.3 Stewardship Theory

This theory posits that managerial opportunism is not relevant (Donaldson and Davis, 1991, Singh and Davidson III, 2003, Muth and Donaldson, 1998,). According to the stewardship theory, a manager’s need of achievement and success are satisfied when the firm is performing well. One key distinguishing features of the theory of stewardship is one that replaces the lack of trust to which agency theory refers with respect to authority and inclination to ethical behavior. The theory considers the following summary as essential for ensuring effective corporate governance in any entity:

- Board of Directors: the involvement of non-executive directors is viewed as critical to enhance the effectiveness of the board’s activities because executive directors have full knowledge of the firm’s operations. Thus, it is believed that the appointment of non-executive directors will enhance decision-making and ensure the sustainability of the business.

- Leadership: contrary to the agency theory, the stewardship theory stipulates that the position of chief executive officer and board chair should be concentrated in the same individual. The reason being that it affords the chief executive officer the opportunity to carry through decision quickly without the hindrance of undue bureaucracy. We must rather point out that this position has been found to create higher agency costs. The argument is that when governance structures are effectively working, there should not be undue bureaucratic delays in any decision making.

- Finally, it is argued that small board sizes should be encouraged to promote effective communication and decision-making. However, the theory does not stipulate a rule for determining the optimal board size and for that matter what constitutes small?

2.4 Resources Dependency Theory

According George (2006), this theory introduces accessibility to resources in addition to the separation of ownership and control as a critical dimension to the debate on corporate governance. Again, the theory points out that organization usually tend to reduce the uncertainty of external influence by ensuring that resources are available for their survival and development. By implication, this theory seems to suggest that the issue of dichotomy between executive and non-executive directors is actually irrelevant. How then does a firm operate efficiently? To resolve this problem, the theory indicates that what is relevant is the firm's presence on the boards of directors of other organizations to establish relationship in order to have accesses to resources in the form of information which could then be utilized to the firm's advantage. Hence, this theory shows that the strength of a corporate organization lies in the amount of relevant information it has at its disposal.

2.5 Social Contract Theory

According to Jeffery (2003) the social contract theory has a long tradition in the ethical and political theory. In general, this theory considers the society as a series of social contracts between members of society and society itself. The social contract theory in business ethics argues that corporate rights and responsibilities can be inferred from the terms and conditions of an imaginary contract between business and society.

In the context of business ethics, an alternative possibility is not that business might act in a responsible manner because it is in its commercial interest, but because it is part of how society implicitly expects business to operate. An integrated social contract theory, as a way for managers to take decisions in an ethical context, has been developed. Here, distinction is made between macro social contracts and micro social contracts. Thus, a macro social contract in the extent of communities, for example, would be an expectation that business provides some support to its local community and the specific form of involvement would be the micro social contract. Hence companies who adopt a view of social contracts would describe their involvement as part of "societal expectation."

3. RESEARCH DESIGN

This involves the strategy applied in the collection and analysis of data to ease the work and to allow for a reliable and valid conclusion. Accordingly, the following are relevant to the study.

The population of the study constitutes 33 financial institutions in Nigeria obtained from the Nigerian stock exchange fact book. The techniques of sampling were a combination of purposive sampling and stratified random sampling techniques. A total of 18 Banks and 15 insurance companies were finally used (see Appendix 1).

3.1 Model Specification/ Data Analysis Technique

The method of analysis is that of multiple regressions and the method of estimation is ordinary least square (OLS).

The economic model used in the study (which was in line with what is mostly found in the literature) is given as:

Y = ßo + **ß Fit + eit** …….. Equation (1) where, Y is the dependent variable (Firms' performance measures, denoted by Net Profit Margin (NPM); and Return on Equity ROE), **ßo** is the constant; **ß** is the Coefficient of the explanatory variable (corporate Governance Mechanisms). Fit is the error term (assured to have zero and independent across time period).

This research employs two financial ratios (Return on Equity (ROE) and Net Profit Margin (NPM) to measure the firms performance (PERF). In previous studies, Tobin's **Q** (the market value of equity plus the market value of debt divided by the replacement cost of all assets) has been used extensively as a proxy for measuring firm's performance. It is however, difficult to get the required information relating to the market value of debt issued by Nigerian firms; since these are not usually disclosed in their financial reports. In order to mitigate this problem, many scholars (Adenikinju & Ayorinde, 2001, Miyajima & Sanda 2005) used modified form of Tobin's Q. This study will not follow their line of assumption, because the various modifications made on the original Tobin's Q are considered to be subjective, and in line with the dictates of the writers and may influence the outcome of the study.

The study examines four corporate governance mechanisms together. The four governance mechanism are Board size (hereinafter B size), Board composition (hereinafter B COMP), Chief Executive Status (hereinafter CEO), and Audit committee (hereinafter AUDCOM).

If we adopt the economic model as an equation (1) above, the study equation (2) below will evolve.

PERFORMANCE (PERF) = $\beta_0 + \beta_1$**B SIZE +** β_2 **B COMP +** β_3 **CEO +** β_4
AUDCOM + eit………Equation (2).

This equation is the tool that will be used in the analyses of the data.

3.2 Variable Description

The variable in the study are described as follows:
Dependent variables:
ROE= PROFIT AFTER Tax/shareholders Fund
NPM=profit after Tax/ turnover.
Independent variables:
B SIZE = Board SIZE: Number of directors on the board.
B COMP = Board composition: proportion of outside directors sitting on the board.
CEO = Chief Executive Officer Status: Value is zero (o) if the same person occupies the post of the chairman and the chief executive and (I) if otherwise.
AUDCOM = Audit committee: the composition of the audit committee, which is outside as a proportion of the total number for firm i in time t.

3.3 Data Analysis and Discussion

TABLE 1: Descriptive Statistics of the Research Variables

STATISTICAL PARAMETER	ROE	PM	BSIZE	BCOMP	CEO	ANDCOMP
Mean	.3974	.3543	12.0000	.4963	1.0000	.5022
Median	.1240a	.2660a	11.8000a	.4889a	.a	.5022a
Mode	.06b	.31	8.00b	.05	1.00a	.50
Std. Dev	2.10287	.45253	3.51825	.07635	.00000	.01228
Skewness	8.918	4.472	.196	-.030	.	5.530
Kurtosis	79.632	23.526	-.896	-.620	.	28.937
Range	20.42	3.17	14.00	.33	.00	.07
Minimum	.00	.00	6.00	.33	1.00	.50
Maximum	20.42	3.17	20.00	.67	1.00	.57
Sum	65.58	58.47	1980.00	81.90	165.00	82.86

The above table shows the descriptive statistics of all the variables used in the study. The mean ROE of sampled firms is about 40% and the mean PM is 35%. The results indicate that the average, for every N 100 turnover of the sampled firms, N 3.50 was the profit earned. The average board size of the 33 firms used in this study is 12, while the proportion of outside directors sitting on the board is about 49%. The result also indicates that 100% of the sampled firms have separated person occupying the post of the chief executive and the board chairman. All the firms have audit committees composed of at least (50.22%) of outside members. The Nigerian companies and allied matters Act, 1990 prescribe a 6-member audit committee (3 member representing the shareholders and 3 representing the management/directors). One can therefore infer that half of the boards of the sampled firms are independent.

Table 2 : Inferential Statistics of the Research Variable using
Correlations (Pearson)-Roe as a Firm Performance Proxy.

VARIABLES	B SIZE	B COMP	CEO	AUDCOM
ROE	.008	.236	.a	.012
BSIZE	1	.454**	.a	.151
B COMP	.454**	1	.a	.241
CEO	.a	.a	.a	.a
AUCOM	.151	.241	.a	1
SIG(2 TAILED				
ROE	.962	.180	.	.944
N				
ROE	165	165	165	165
B SIZE	165	165	165	165
B COMP	165	165	165	165
CEO	165	165	165	165
AUCOM	165	165	165	165

The Pearson correlation, here ROE is positively correlated with the firm's board composition (0.105) and is not significant (sig. 0.180). Similar results appear for board size (0.004); (sig. 0.962) and audit committee (0.006), (sig. 0.944). It is also interesting to note that ROE did not correlate with chief executive officer status. This may be due to the fact that there was no variance in the data of the chief executive officer status.

TABLE 3, Correlations (Pearson)-NPM as a Firm Performance Proxy.

VARIABLES	**B SIZE**	B COMP	CEO	AUDCOM
NPM	-0.102	.036	.a	-019
BSIZE	1	.454	.a	.151
B COMP	.454**	1	.a	.241**
CEO	.a	.a	.a	.a
AUCOM **SIG TAILED**	.151	.241	.a	-.019
NPM	0.192		.	.811
N				
NPM	165	165	165	165
B SIZE	165	165	165	165
B COMP	165	165	165	165
CEO	165	165	165	165
AUDCOM	165	165	165	165

Using the Pearson correlations, the NPM result shows variables such as Audit committee (-0.019); (sig. 0.081). Others are board size (-0.102); (sig. 0.192). NMP is positively correlated with board composition (0.036) and is not significant (sig. 0.647). There was no correlation between NPM and chief executive status because there was no variance in the range of data of the chief executive officer status.

The data was further analyzed using analysis of variance (ANOVA) in order to show the joint influence of the independent variables on the ROE in tables 4 and 5 respectively.

TABLE 4. Influence of Board Size, Board Composition, CEO and Audit Committee on Return on Equity

MODEL	**SUM OF SQUARES**	**DF**	**MEAN SQUARE**	**F**	**SIG.**
Regression	9.985	3	3.328	.749	.524
Residual	715.233	161	4.442		
Total	752.218	164			

Multiple R-value = 0.117
R-square = 0.014

A. Predictors: (constant), AUOCOM, B-SIZE, B-COMP
B. Dependents Variable: ROE

TABLE 5. Influence for Board Size, Board Composition, CEO and Audit Committee on Net Profit Margin

MODEL	**SUM OF SQUARES**	**DF**	**MEAN SQUARE**	**F**	**SIG.**
Regression	.653	3	.218	1.064	.366a
Residual	32.931	161	.205		
Total	33.984	164			

Multiple R value = 0.139
R-square value = 0.019
C. Predictors: (constant), AUOCOM, B-SIZE, B-COMP
d. Dependent variable: NPM

The above tables, 4 and 5 show the analyses of the variance (ANOVA) of multiple Regression Analysis for the variables. From the analysis the following results were observed: multiple R value of 90.117 and R-square value of 0.117 and R-square value of 0.014 (1.4% predictions) with F-value of 0.947 (sig 0.524) and multiple R value of 0.139 and R-square value of 0.019 (1.9% predictions with F-value of 1.064 (sig 0.366) for ROE and NPM as performance proxies' respectively. It clearly shows that there is weak relationship between the dependent variables (ROE and NPM) and the independent variables (the four corporate governance mechanism-board size, board composition, and chief executive status and audit committee) at 1%, 5% and 10% levels.

TABLE 6: Coefficients Estimate of the Influence of the Independent Variables on the Return on Equity

MODEL	**UNSTANDARDIZED COEFFICIENTS**		**STANDARDIZED COEFFICIENTS**	**T**	**SIG**
	B	**STD.ERROR**	**BETA**		
1 (constant)	.547	1.450		.469	.640
B-SIZE	-0.33	.011	-.148	-.688	.O93
B-COMP	3.694	.529	.109	1.216	.226
AUDCOM	-3.173	2.966	-.023	-.280	.780

TABLE 7: Coefficients Estimate of the Influence of the Independent Variables on the NPM

	UNSTANDARDIZED COEFFICIENTS	STANDARDIZED COEFFICIENTS		

MODEL	B	STD.ERROR	BETA	T	SIG
1 (constant)	.681	1.450		.469	.640
B- Size	-.019	.011	-.148	-1.688	.093
B-COMP	.644	529	.109	1.216	.226
AUDCOM	-.831	2.966	-.023	-280	.780

In order to have a good analysis of the relationship of the variables, it was pertinent to check for the levels of influence of each independent variable on ROE and NPM as indicated in tables 6 and 7 respectively.

From the results of the above tables, the independent variable with the greatest contribution on ROE was board corporation (t: 1.497; B: 3.694). This was seconded by Board size (t:- 0.619;B:-0.033).
The least factor was audit committee (t:-0.230; B:-3.-173).

From the result of table 7, the most influencing independent variable was Board component (t: 1.216; B: 0.644).This was seconded by Board size (t:- 1.688; B;-0.019). The third in order was audit committee (t:-0.280; B:-0.831).

The analysis above shows that ROE is positive correlated with firms' board composition (hypothesis C) through the level of correlation is not significant.

Similarly, the ROE is positively correlated with the firms' board size and audit committee (hypothesis b and e respectively). While there is no correlation between the ROE and the firm's chief executive status (hypothesis d is thus rejected). The reason could be because there was no variance in the range of data of the chief executive officer status. The analysis further reveals that the other performance proxy NPM, is positively correlated with the firms' board composition (hypothesis g) though not significant too. There was no correlation between NPM and the chief executive officer status (hypothesis h which is thus rejected. This too, may be due to the fact that there was no variance in the data of the chief executive officer status. The relationship between NPM and the firms' audit committee (hypothesis I which is thus rejected) as well as that of NPM and the firms' board size (hypothesis j which is thus rejected) is negative.

The data was further analyzed using analysis of variance (ANOVA) in order to show or determine the joint influence of the independent variables on the ROE and NPM (see tables 3a and 3b respectively). From the analysis of variance (ANOVA) of multiple Regression analysis for the variables, the following result was observed: multiple R value of 1.117 and r-square value of 0.014 (1.4% predictions) with f-values of 0.947 (sig. 0.524) and multiple R-value of 0.139 and R-square value of 0.019 (1.9% predictions with F-value of 1.064 (sig. 0.3666) for ROE and NPM as performance proxies respectively. It clearly shows that there is a weak relationship between the dependent variables (ROE and the independent variables (hypothesis a): the four corporate governance mechanisms-board size, board composition, chief executive status and audit committee) at 1%, 5% and 10% levels.

Again, the data was further analyzed to check for the level of influence of each independent variable on ROE and NPM (see tables 4a and 4b respectively) shows that the independent variable with the greatest contribution on ROE was Board composition (t:1.497; B:3.694). This Audit committee (t:-0.230; B: - 3.173). The factor was Board size (t:-0.619; B:- 0.033). While the most influencing independent variable on the NPM was board composition (B: 0.644). This was Audit committee (t: - 0.280; B:-0.831).

The relationship between board composition and the two performance measures is not statistically significant. The implication of this is that for the sample firms, there is no relationship between the firms' financial performances and the outside directors sitting on the board. This outcome also has the support of Forsberg (1989), Weisbach (1991), and Sanda (2005).

While the negative relationship between NPM and two corporate governance proxies-Board size and Audit committee, is in line with the findings of Yermack (1996) and Mansfield (1999). The average board size of about 12as indicated in the descriptive statistics is considered small in the Nigerian context. Also, the positive relationship between ROE and the firms' board size reported in this research does not contradict the research findings of Eisenberg, Sundgren as well (1998) and Lawson (2005).

Moreover, that there is no relationship between the two performance indices and the chief executive status as shown in this research contradicts previous research findings as reported in Yermack (1996) and Mansfield (1999). However none of those studies relates to the financial institutions, which is one of the most regulated of all the industries in terms of capital adequacy, prudence and supervisory pressure. However, the descriptive statistics shows that 100% 0f the sample firms have separate person occupying the post of the chief executive and the board chairman. This has influence on the financial performance of the sampled firms' and is in line with the tenet of the code of corporate governance best practice of Nigeria.

4. SUMMARY AND IMPLICATION

There is no doubt that many studies have been conducted so far (and is still ongoing) on the relationship between firms' performance and corporate governance variables, but the results of these studies are mixed. The study examined the relationship between firms' performance, using two proxies, (ROE and NPM) and four corporate governance variables (board size, board composition chief executive status and audit committee).

A sample size of 33 financial firms listed on the Nigerian Stock Exchange from 2004 to 2008 was used. Panel data methodology was employed; the method of analysis was multiple regressions and the method of estimation was ordinary least squares (OLS).

The study revealed the following. (I) there is a positive relationship between ROE and firm's board composition, though the level of correlation is not significant. (ii) The ROE is positively correlate with the firm's board size audit committee, and too, the level of correlation is not significant. (iii) There is no relationship between the two performance proxies (ROE and NPM) and the firm's chief executive status. (iv) There is a relationship between the NPM and the firm's board composition, the level of correlation or relationship is not significance. (v) There is a relationship between the ROE and the firm's audit committee. The level of correlation is not significant. (vi)The relationship between NPM and two corporate governance proxies, board size and audit committee is negative.

In future research, the sample size and the corporate governance variables may be increased, particularly, the inclusion of ownership concentration and characteristic. The need to examine the relationship between firm performance measures when leverage is introduced will make the outcome of the research to be richer. More importantly, the existing literature indicates a sample selection bias in favor of very big firms. It is suggested that attention should be directed to the study small and medium scale firms in Nigeria and other developing economies. This is expected because of the developmental role these firms are to play and these firms account for at least 90% of the total number of firms in most developing and developed economies.

REFERENCES

[1] Abrams, F. W. (1951). Management's responsibilities in a complex world", Harvard Business Review, 29, 54-64.

[2] Adenikinju, O & Ayorinde, F. (2001).Ownership structure, corporate governance and corporate performance: The case of Nigerian companies, unpublished final report presented at the AERC biannual research workshop, Nairobi, Kenya.

[3] Anonymous. (2009).CBN: Cecilia Akingbola, Ebong, two others may face trial. The nation, August 15, pp.1-2.

[4] Ali, Y. (2000). N747b fraud: six more ex-bank chiefs opt for plea bargain. The Nation, October 17, p.8.

[5] Banks and other financial institutions Act (1991).Federal government of Nigeria.

[6] Balogun, O. (2010). Cecilia Ibru Very Ill: how she collapsed three times during trail. Sunday Sun, October 10, p.11.

[7] Beaty, R. P. (1989). Auditor's reputation and the pricing of initial public offering. Accounting Review, 64, 693-709.

[8] Central Bank of Nigeria (2006). Code of corporate governance for banks in Nigeria post consolidation, March 1.

[9] Companies and Allied matters Act (1990) Enacted by the federal government of Nigeria.

[10] Craswell, A. & Francis, J. (1995). Pricing initial audits engagements: A test of competing theories. The Accounting Review, 74(2), 201-216.

[11] DeAngelo, L. (1981b). Auditor size and auditor quality. Journal of Accounting and Economics, 9, 18 p 199.

[12] DeFond, M. L. (1992). The association between changes in client firm agency cost and auditor switching. Auditing. Journal of Practice and Theory, 11, 16-31.

[13] Doupuch, N. & Simunic, D. (1982). Composition in auditing: An assessment. Champaign: university of Illinois Press.

[14] Donaldson, L and Davis, J H (1991): "Stewardship Theory or Agency Theory: CEO Governance and Stakeholder Returns", Australian Journal of Management, 16(1), 50-65.

[15] Ebhodeaghe, J. U. (1996). Resolving distress in the banking system: the role of economic and finance correspondents. Paper presented at a seminar on understanding Nigeria's economic policy, Lagos.

[16] Ebulu, s. (2009). Sack of five CEOs: An earthquake foretold. The Nation,

[17] Francis, J. R. (1988). The effect of firm size on audit: A study of the Australian market. Journal of Accounting and Economics, 6, 133-151.

[18] Goldstein, M. (1997). The case for an International Banking Standard, policy Analyzed international economics, 47, Washington, Institute for International Economics.

[19] George, S. (2006). Business Ethics Guidelines and Resources. May International Company.

[20] Jensen, M. C, and W, H, Meckling (1976). Theory of the firm: managerial behavior, agency costs and ownership structure, Journal of financial Economics, 2, 305 – 360.

[21] Jeffery, L. Seglin, (2003). The Right Thing: Conscience, Profit and personal responsibility in Today's Business. Spiro Press.

[22] Jensen, M. C. & Mecking, W. H. (1976). Theory of firms: managerial behaviour, agency cost and ownership structure. Journal of Finance and Economics, 3,305-360.

[23] Johns, N. and LEE-Ross, D. (1998). Research methods in service industry Management. London: Redwood Books.

[24] Lawson, P (1995) performance management: an overview, in The Performance management Handbook, ed M Walter, Institute of personnel and Development, London.

[25] Unpublished Ph.d Thesis, Makerere university, kampala, Uganda.

[26] Muth, M and Donaldson, L (1998). Stewardship theory and board structure: A Contingency Approach, Corporate Governance, 6(1), 5.

[27] Mansfiels, B (1999) What is 'competence' all about? Competency, 6(3), 24-28.

[28] Nigerian accounting standards board act (2003). Federal Government of Nigeria.

[29] Palmrose, Z. (1984). The demand for quality-differentiated audit services in an agency cost setting: An empirical analysis. In A. R. Abdel-khalik and I. Solomon (Eds.), proceedings of the sixth symposium on auditing research (pp 229-252). Champaign: University of Illinois press.

[30] Sanda, A,U. & Mikailu, A, S (2005) corporate governance mechanisms and firm financial performance in Nigeria, AERC research paper 149, Nairobi.

[31] Securities and Exchange Commission (2003). Code of corporate governance in Nigeria.

[32] Simunic, D. A. (1982). The pricing of audit services: Theory and evidence. Journal of Accounting research, 18, 161-190.

[33] Titman, S. & Trueman, B. (1986). Information quality and the valuation of new issues. Journal of Accounting and Economics, 8, 159-621.

[34] Singh, M and Davidson III, W N (2003). Agency Costs, Ownership Structure and Corporate Governance Mechanisms, journal of Banking and Finance, 27, 793-816.

[35] Weisbach, M. (1991). Outside directors and CEO turnover. Journey of Financial Economics, 20, 431 436.

[36] Wilson, E. R. (1988). Auditor charges: A joint test of theories relating to agency cost and auditor's differentiation. The Accounting Review, 63, 663-683.

[37] Watts, R L and Zimmerman, J L (1990): "positive Accounting Theory: A Ten Year perspective", 20, 431-460.

[38] Yermack, D. (1996). Higher market valuation of companies with a small board of Director. Journal of financial Economics, 40, 185-211.

[39] Zimmerman, J. L. (1983). Agency problems, auditing and the theory of the firm: some empirical evidence. The Journal of Law and Economics, 8, 613-633.

APPENDIX I

LIST OF FINANCIAL INSTITUTIONS USED IN THE STUDY

1. Access Bank Plc
2. Afribank Plc
3. Bank PHB
4. Diamond Bank Plc
5. Eco Bank Plc
6. Fidelity Bank Plc
7. First Bank Plc
8. FCMB

9. First Inland Bank Plc
10. Guaranty Trust Bank Plc
11. Oceanic Bank Plc
12. Skye Bank Plc
13. Stanbic IBTC Bank plc
14. Sterling Bank Plc
15. Union Bank Plc
16. UBA Plc
17. WEMA Bank Plc
18. Zenith Bank Plc
19. Consolidated Hallmark Insurance Plc
20. Continental Re-Insurance Plc
21. Custodian and Allied Insurance Plc
22. Equity Assurance Plc
23. Gold Insurance Plc
24. Greatest Nigeria Insurance Plc
25. International Energy Insurance Plc
26. LASACO Assurance Plc
27. Mutual Benefits Assurance Plc
28. Niger Insurance Plc
29. Oasis Insurance Plc
30. Prestige Assurance Plc
31. Regency Alliance Insurance Plc
32. Sovereign Trust Insurance Plc
33. Staco Insurance Plc

The Institutional Formalism: The Role Of “Make-Believe” In The Organizational Institutionalization Process

Leandro Rodrigo Canto Bonfim *leanbonfim@yahoo.com.br*
Graduate Program of Business Management
Federal University of Paraná
Curitiba, Paraná, 80210-170, Brazil.

Abstract

Institutional Theory in organizational studies is an approach of strong influence in research in this field. However, studies considering formalism as an integrant part of the institutional process are rare. Aiming to fulfill this gap, this essay demonstrates that institutionalization and formalism are widely linked, especially in Brazil, with its cultural endemicity. Following as guidelines works of Guerreiro-Ramos[1], Riggs[2][3], Meyer and Rowan[4] and DiMaggio and Powell[5], we intend along this essay to adapt the aforementioned studies to organizational reality, insofar formalism is commonly seen as a characteristic of heterogeneous and developing societies, and the institutionalization is seen like a generator process of homogenization of organizations. As a result of this study, we can point out the role of the institutional formalism in form of “make-believe” in the core of the institutionalization process, acting like a shortcut for social legitimation of organizations.

Keywords: Institutionalization, Formalism, Isomorphism, Legitimation, Institutional Formalism.

1. INTRODUCTION

Modern organizations are deeply embedded in a web of relationships with no way back, thus they “cannot be developed in a social vacuum: they are rooted in cultures and institutions”[6:233]. This assumption is related to the fact of the firms not being locally isolated. With the technological advent and institutionalization of innovation[7], they are interconnected in global level networks[7][8].

The interaction of the firms with the environment, in search for legitimation, is the generator fact of institutionalization. Organizations end up taking-for-granted paradigms established by the market or society, making those rules, beliefs and values their own reality. As a consequence of this assumption, organizations become increasingly similar among themselves (i. e. isomorphics)[9][4][10]. The results of such isomorphism might be the struggle amidst what the organization is in its essence and in what they need to become during their evolution due to institutional pressures[11], occurring, then, institutional formalism.

Brazilian republic was founded under the mold of the *Stand* (i. e. social status) and patrimonialism[12][13][14], hence formalism is genuine and characteristic of its society. Thus, the study of Guerreiro-Ramos[1] on formalism as a strategy of change might be recognized as deserver of “highlight in the analysis of the modernization of Brazilian institutions"[15:226], being also a tool for reduction of risk and uncertainty and for enhancement of predictability and control in organizations[16].

Previous studies have already pointed out relations between formalism and Institutional Theory[15][17][18], being deeply addressed by Machado-da-Silva, Guarido-Filho, Nascimento e Oliveira[19] in a research analyzing the administrative reform in Brazil. Though, despite the existence of such prominent study of Machado-da-Silva and his colleagues, we argue that, proceeding in the study of this relation (with focus essentially in the role of institutional formalism into legitimation process), we could give a contribution to the organizational field, especially if grafted to Brazilian reality.

Given the literature review about this matter we assume that there are many correlations between these theories. However, there is a lack of research allowing construction of this theoretical bridge (e. g. Machado-da-Silva et al[19]). Meyer and Rowan[4], assuming the existence of a gap between formal structure of organizations and their real work activities, and Oliver[20] in her theory about strategic response to institutional process (avoidance strategy and tactics of concealing) are a clue of such relation. From this point of view, we intend throughout this essay verify how formalism acts in the legitimation process in the organizational field, being or a shortcut, or a logical path in the transition from established institutions to new emerging institutions. We aim through this essay to analyze the formalism as an integrant part of the institutionalization process, contributing with later research agenda in the field.

During the research, we describe the prismatic model elaborated by Fred Riggs[3]. Thereafter, we analyze formalism through a Brazilian sociohistorical context and then we introduce the origins and structures of the institutional approach. The final part of this work consists in our attempt to build a bridge linking the institutionalization process and formalism. This will be addressed by working with both theories in the same context, leading to the rise of the institutional formalism.

2. THE DEVELOPMENT MANAGEMENT AND THE PRISMATIC MODEL

It is of common sense that administration models in hemispheric nations are mostly imported from developed countries and, in general, applied to their organizational realities without any criteria or adaptation sense[21][1][22]. Indeed, it is known that the success of a model in its homeland, does not ensure the same results in organizations of distinct countries, regions, cultures and social contexts[23][24][25].

Aiming this assumption, Fred W. Riggs immerged in the studies of public administration of development countries, as Thailand, Philippines, India and China. As a result of this immersion, he created an appropriate model of analysis of social and administrative situation of these countries, taking into account their economic, political and cultural context[26]. Riggs' model is applicable to researches of three societal types, namely: "highly developed Western industrial societies and traditional agrarian societies, as well as developing societies"[27:214].

The aforementioned model is the conventionally called Prismatic Model[27], result of Riggs' pursuit to explain the dynamics of post-colonial development in transitional societies[26]. This proposed model is distinct from the existing ones at that time, which were used to analyze societies and their characteristics throughout a dicotomic-social lens, as it included a third and intermediary level representing transitional and development societies. Despite the search for differentiation, Riggs, in what may be named an embryo of the Prismatic Model, started studying a social dichotomy: "*Industria*" and "*Agraria*"[3][28][27]. However, with the evolution of the model, the author adds the "*Transitia"* society to it, which later will be defined as prismatic society[28].

The prismatic model was idealized with the adoption of an ecological approach[27], through a refraction scale (which would be later renamed diffraction, nomenclature adopted in this study from now on), in which Riggs uses physics laws to express the way societies are divided structural-functionally. According to Riggs[3:7], "we will not find administrative models intrinsically valid or invalid; a model which lights the administrative realities in certain scenario may overshadow the facts in other".

But, after all, why "Prismatic Model"? The answer is given by the changes of path taken by light when it crosses translucent substances, e. g. water. A white and fused ray of light is beamed through a prism, and, when it crosses this substance, "is decomposed, according to the waves behavior, in several colors of the solar spectrum"[3:26] – which is the phenomenon that occurs in the formation of a rainbow[29]. The same occurs with transition societies according to the structural-functional approach.

Before exploring and explaining the Riggisian model, we shall introduce the given definition by author of function and structure. Structure is "any pattern of behavior that turned into normal aspect of a social system"[3:22], i. e., institutionalized. The structure is composed "neither of people, nor of things, but of action performed by them"[22:174]. As a function, we may define as any consequences of a structure, affecting other structures in a global system it belongs to[3].

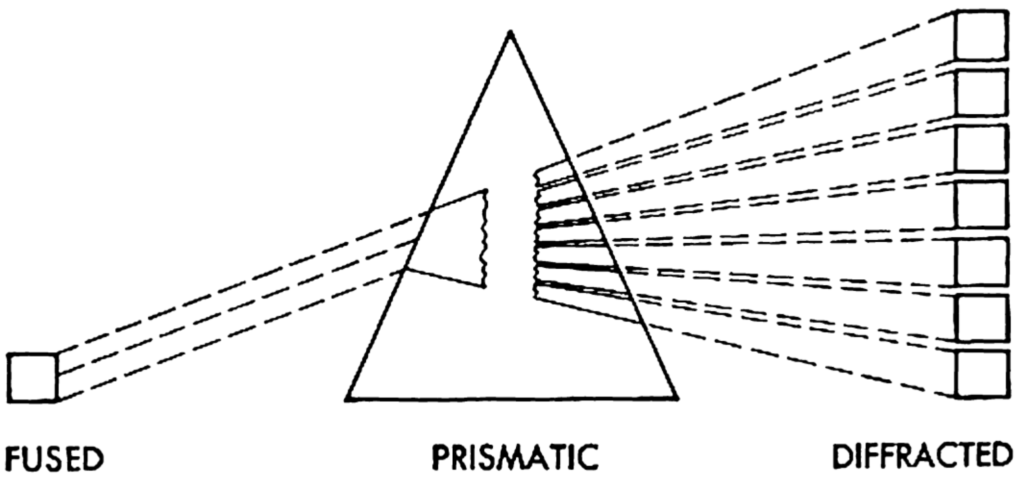


FIGURE 1: Graphic representation of the Prismatic Model. (Riggs, 1968:31).

Therefore, primitive societies, or traditional, are named fused, being functionally diffused, i.e, a single structure performs multiple functions. Modern societies, or developed, are named diffracted, being functionally specific, where each structure performs particular and restricted functions[1][22]. As an example, Riggs[3] quotes family as a structure in a traditional society. It accomplishes, beyond its biological natural function, religious, educational, economical, political and social functions, being then, functionally fused and concentrated. On the other hand, in a diffracted society, the family would accomplish only its biological function. The other functions would be accomplished through specific structures (e. g. churches, schools, political parties, etc.).

The pressures exerted in societies to assume a transition role in the positive direction of the diffraction scale may be endoprismatic or exoprismatic. The endoprismatic pressures emerges in the core of the own society[3], i. e., endogenous. The motivation for this kind of transformation comes from internal aspiration for innovation, embedding new structures or patterns of behavior of the normal habit (e. g. pre-modern European societies). Changes through exoprismatic pressures are those motivated by external pressures, demanding a sense of adaptation from the society to new patters of behavior determined by exogenous factors (e. g. former colonies after their independence with inherited imperial structures)[28].

The typologies of societies proposed by Riggs, specially the extremes fused and diffracted, are ideal types, having only a heuristic finality[3]. Some societies may exhibit several characteristics similar to one ideal type or another. Although it will never exhibit every pattern necessary to be framed as typically fused or typically diffracted. Thus, Riggs believed that typifications can be potentially quantifiable through the prismatic model[28]. This scale model may be comparable to mathematics adoption of the infinity negative, the origin, and the infinity positive in the x-axis of the Cartesian coordinate system.

From this precept, the author depicts the debilities of studies of the transitional societies by the social sciences. For him, "models idealized to study of both extremes of the continuum are improper to intermediate situations"[3:30], i. e., the former models adopted until then for studies of such societies used to be dichotomists models adapted from analysis extremely fused (primitive) or extremely specific (diffracted). The result of such kind of analysis is, "evidently an image curiously dissociated and schizoid of the transitional society" [3:32].

The argument to defend the creation of a proper model for the analysis of transitional societies is more relevant and more justifiable than it seems. The description of the signs of transition, that follows next, will be the foundation criteria for the development of the study until it ends. In the transitional societies there may be observed some common features, independent of historic-cultural aspects. This commonplace is characterized by a triad, called by Riggs[3], transition signs. The first vertex of this theoretical triangle is heterogeneity; the second is the overlapping, and the last one, the formalism.

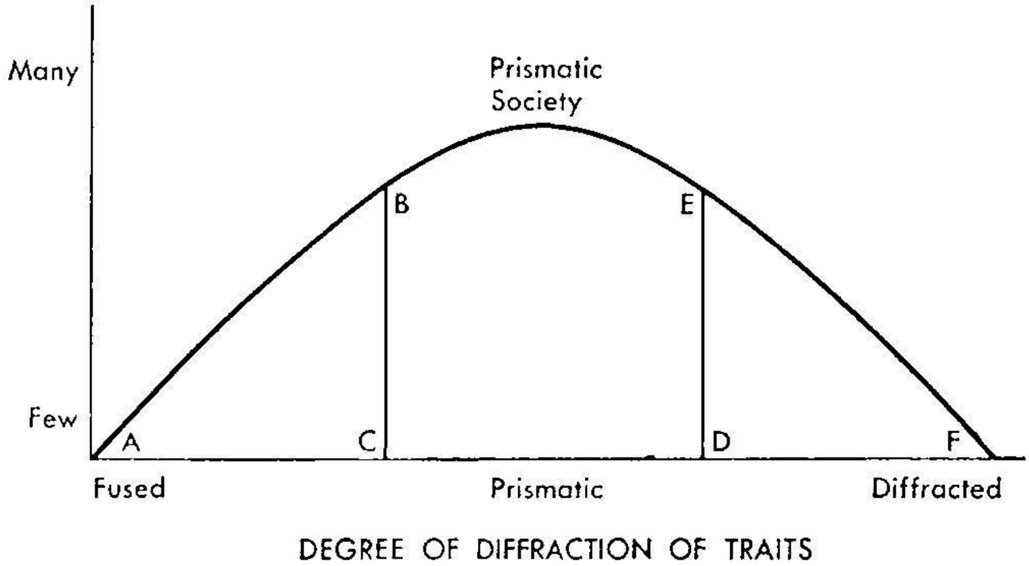


FIGURE 2: Cartesian chart representing the "Degree of Diffraction of Traits" into societies. Adapted from Riggs (1968:33).

Heterogeneity is characterized by a "wide fusion of attitudes, practices and situations" [3:15], exemplified by the analysis of Philippine and Thai societies. A foreign visitor passing through Manila or Bangkok may only be able to know truly Philippines or Thailand when visiting these countries' inland[2]. As an example of this phenomenon in Brazilian ground we may use Rio de Janeiro. Tourists are commonly attracted by natural beauties of this city, like Suggar Loaf, Copacabana beach, or by cultural attractives, like Bossa Nova or Carioca's Carnival, but they may only be able to perceive such heterogeneity when knowing the reality of Brazilian people who lives in Rocinha's slum.

Notwithstanding, we must ponder that despite being an outstanding trait of transitional societies, heterogeneity cannot be considered chaotic, even though baffling. People living in Carioca's hills are not more, nor less Brazilian than those living in Barra da Tijuca. It is necessary to study both realities together to allow us to deeply understand the features of that society. Like Riggs implies: "The heterogeneity is distinct of chaos, because in the former, the extent of variation obeys determined patterns, and there are laws and historical elements determining the relation amidst these contrasting phenomena" [2:161-162], i. e., "whosoever who seek having a global vision of the society based on just a part of its components, no matter how important is this part, will be surely doomed to failure".

Another factor to be considered in analyzing through Prismatic Model is the overlapping. It is known as the lack of autonomy of a given social structure[3][22], i. e., when it tends to specialize (diffract), it is still influenced by former fused features. We shall betake again to Riggs' example to explain this phenomenon: "(…) the new formal mechanism, like, in assumption, an administrative department, gives an illusory impression of autonomy when, in fact, is deeply involved in a process of crossed-influences with the residual of older and more traditional systems, like social, economic, religious and political systems" [3:17].

Haque indicates another definition of overlapping, in which "similar functions are prosecuted by different structures"[26:770]. Guereiro-Ramos[1] exemplifies the phenomena using nepotism. When occurs the nepotism, the boundaries of the family function are transgressed, i. e., the structure "family" overlaps the administrative structure. The aforementioned example may also be applied to the third vertex of transitional criteria of prismatic societies, the formalism, which will be studied from now on.

3. THE FORMALISM AND ITS PRESENCE IN BRAZIL

Formalism is the antagonism of realism. It is, thus, the existing discrepancy between what is standardized and what occurs in reality, between formal power and effective power, between the impressions passed by organizations and their real practices. The higher the discrepancies, the higher the grade of formalism in a society[2].

Formalism may be encountered (even residually) in any kind of society, but is prevailing in prismatic societies, such as Brazil and most countries in Latin America. Prismatic societies are those, with high grade of heterogeneity, living amidst dichotomies like between modern and archaic, or, nostalgic and avant-garde; being these societies extremely dependent of economical and industrial power societies. It is in the middle of hypothetical fused (i.e. homogeneous, with restricted number of structures and functionally diffuse) and diffracted societies (i. e. homogeneous, but each structure is corresponds to a specific and distinct function)[2][1].

Organizations in prismatic societies habitually adopts, formalistically, standard practices and theories from foreign countries that proven to work in its origin. Such patterns are applied according to local reality, with the conviction that these are the best methods to achieve success and, consequently, integration and acceptation of local organizations by organizations in developed countries[1]. Looking at Brazilian organizations, we may see an intrinsic formalism, from small firms to complex organizations. Such models and references "permeate organizations, blending and merging with the values, practices and tools, that are originally Brazilian"[16:975].

The necessity of adaptation of foreign models according to national reality in Brazil is a historical contingency. Brazilian post-colonial period brought the necessity of creation of national institutions in replacement of colonial institutions, and the inspiration came from European liberalism[30]. Despite of the adoption of a European model, Brazilian liberalism was quite peculiar. In Europe the liberalism was a movement created from the necessity of the elite of European bourgeoisie, during the capitalism development, of disentangling from the exacerbated control of production means and commerce from royal authoritarian governments and from the given privileges to the clergy, to nobles and to monopolies. The bourgeois' weapon against it was the preaching for free trade and work, the legal egalitarianism, and the property rights as Universal rights[30].

In Brazil, liberalism occurred with distorted proposals of European liberalist movement. The Brazilian liberalist movement "imported the tenets and political formulas, but adjusted it to its own necessities" [30:132]. The main defenders of Brazilian liberalism were the landlords, owners of a considerable amount of slaves and with the interest in benefits from the end of commercial constraints imposed by colonial pact[31]. They were aiming for free trade, but with the maintenance of traditional colonial means of production. Hence, Brazilian liberalism was achieved in such a formalistic way that was clear the contradiction between the ideals of liberalism and the maintenance of an enslaving and patronage system[14]. This is essentially what European liberalism fought against.

We shall elucidate that we didn`t intend at any time to demean Brazilian liberalist movement. Despite endemic, it was a legitimate movement in the fight for the rights of a class (land owners), against an absolute power (the colonial system), having, then, its due historical value in the national construction. One of the factors mentioned by Costa[30] to explain the peculiarity of liberal process in Brazil, beyond the kind of bourgeoisie, is the nonexistence of two social classes that were fundamental actors in the process of liberalism in European continent: aristocracy and proletariat.

Some critics of the mimetic-formalistic model of construction of the national institutions may be noted. The Viscount of Uruguay, Alberto Torres, Silvio Romero and Oliveira-Vianna were the mentioned by Guerreiro-Ramos[1]. However, these criticism cannot be seen like a promotion of "theoretical xenophobia", but it simply intended to avoid an exacerbated "theoretical xenophilia"[32:228].

Silvio Romero[33] detects that Brazil, due to its heterogeneity (prismatic society feature), does not have its own form endowed of its inherent individual, institutional, political or intellectual features. Thus, it resorts to adoption, disorderly and mimetically, of foreign practices as thought instigators, taking-for-granted ideas that came from overseas, being unable to produce by itself. By adopting such position, the Brazilian people are conditioned to be everlasting "exiled in its own land"[34:31].

The main cause of the amorphousness of Brazilian institutions was the Portuguese colonization method. Portugal colonized Brazilian lands with extremely exploratory means, without preoccupation with the formation of any kind of national identity in colonized land, or even intellectual capital[13]. Generally, the colonizer countries do not intend to form nations, they intend to invade and conquer; they are only explorers and not partners of the colony[21]. The choice of adoption of agrarian exploration colonization was not a real choice, but a circumstance: Brazil didn't have any mercantile vocation like the Eastern colonies explored by Portugal[35].

Alberto Torres, in his classic work, "The Brazilian National Problem", asserts that "the nations that arose by discovery and colonization are social impromptu of fortuity or of exceptional facts"[21:93]. This impromptu entails the necessity of construction of an artificial and misshapen nationalism, imposed "from up-to-down", through authoritatively and coercive means, being considered as a "political work-of-art", much more imitator than creative[1:355][12][36], i. e., elaborated without mobilization of Brazilian society, but only elaborated by an intellectual elite – intelligentsia – formed by a dominant triad of jurists, physicians and engineers[37].

Alberto Torres[36] assumes still that the lack of adaptation sense of imported ideals, institutions, methods and processes, makes the Brazilian men and society, increasingly incongruent and strange to its environment. This lack of adaptation sense is *ipso facto* of transplantation of strange methods to Brazilian reality, without taking account that a technique that works with a given people will not, necessarily, produce the same results in another society constructed in totally different manners[23][24].

It is evident that the amorphousness is one of the most potential causes of formalism, because, to take form, a society adopts, in coercive and mimetic means, any models available in the environment, independently of previous measurement of its effectiveness. Thus, it is possible to blame such lack of form to influences of Portuguese colonization, inasmuch Portugal lives still with formalism, because its institutions are progressive, but its social practices continues retrograde, being increasingly surrendered to the imitation of models of more developed countries in Europe in many areas[38].

4. THE INSTITUTIONAL APPROACH

"Institutions are the rules of the game in a society"[39:3], i. e., "define the desirable types of social system"[40:20], exerting moral authority through a value system common to all actors, who accept those rules, legitimating it and turning it deeply lasting and sedimented, but no irreversible, in time-space, due to its coherence with other elements of the system[40][41][42][43][44]. The institutions consist in cognitive, normative and regulatory structures, providing stability and meaning for social behavior and structuring human interactions[45:xiii][39]. They are socially constructed by men, being experienced like objective realities, and, once institutionalized, may be considered submitted to social control[44].

Institutionalization occurs when there is a "reciprocal typification of habitual actions by types of actors"[44:79], i. e., when an activity is considered habitual, it refers to "behaviors that are developed empirically, adopted by an actor or a group of actors in order to solve recurrent problems"[46:204]. Habitualization is the first stage of institutionalization, followed by objectivation stage, and, at last, the sedimentation stage[46].

Given the previous considerations, the following question emerges: What that got to do with organizations? Everything. After all, organizations are embedded on institutional environment[47][4], surrounded by beliefs, values, rules, norms and patterns, aiming to be legitimated before society through institutions[4][43], ensuring their stability and, thus, increasing their survival perspective independently of the effectiveness of practices and procedures assumed[4]. Organizations that are opposed to institutions are vulnerable to be identified as negligent, irrational and unnecessary to society, going, consequently, to bankruptcy[4].

In the organizational field, Institutional Theory has its origin in studies of Philip Selznick[48], theoretical disciple of Robert K. Merton, with the book "TVA and the Grassroot", and with the studies of Talcott Parsons[49][50]. The neoinstitutional approach had its cornerstone in the launch of the article wrote by Meyer and Rowan[4], "Institutionalized Organizations: Formal Structure as Myth and Ceremony", grounded by social constructivism of reality of Berger and Luckmann[44]; followed by the classic article of Paul DiMaggio and Walter Powell[5], "The Iron Cage revisited: Institutional isomorphism and rationality in organizational fields"[10][45], adopting a "predominant subjectivist epistemological position, where it is emphasized the social construction of reality"[51:90]. In Brazil, the Institutional Theory has as its main interlocutor Clovis Luiz Machado da Silva[52].

The organizations are creatures of their own histories, of the relations they formed and of the manner they adapted themselves to the environment[43]; they must face the resistances and constraints imposed by their history[53] to ensure, thus, their continuous survival through the institutions. By taking-for-granted such institutions as their inherent values, organizations tend to be structurally very similar to each others, becoming, then, isomorphic[4][5]. DiMaggio and Powell[5] identified three mechanisms of pressure towards the institutional isomorphism: coercive, normative and mimetic. The weighting of each mechanism "may vary both of a society to another and of a segment of activity to another"[19:180].

Coercive isomorphism is characterized by formally or informally imposed pressures in organizations by other organizations with which they have dependency relations, by social expectations about their functions, or by governmental orders, such as laws, regulations, etc; causing ceremonial changes in the organizations that suffer institutional pressures, in a way that involved actors are obligated to obey such rules of interest of the regulatory system, in order to avoid sanctions[5][39][45][54].

Normative isomorphism is found in the professionalization or in the grade of professionalization, when actors aim to construct cognitive basis and the legitimation of their occupation[5][54][55]. Apropos, we shall emphasize that, despite of several kinds of professions coexisting within an organization, "they exhibit much similarity to their professional counterparts in other organizations"[5:152].

The last kind of isomorphism, the mimetic, is encouraged when organizations are in situations of environmental uncertainty, are unclear in their objectives, or face problems that are apparently with no causes or solutions. With this established scenario, they look for solutions in preexistent models in other legitimated and successful organizations[5][54]. Another kind of mimetic isomorphism scenario is of new organizations. When such new organizations arise, they tend to copy their structure of already established firms[5]. The fact is, like was previously emphasized by Broom and Selznick[43], do not take account of the effectiveness of the applied model.

Another approach of the Institutional Theory, founded by Scott[45], though based in DiMaggio and Powell[5], classifies the institutionalization and isomorphism processes in dependent systems of regulative, normative and cognitive elements that carry cultural, structural and routine aspects.

A regulative system is described by Scott[45] as a social-realist system, being the reality for this ontology considered existing independently of human creation[56]. The involved actors in this system gives full credit of institutional legitimation to the forces of law, norms, sanctions, governance and power systems, and routines of obedience and submission[45][19].

The pillar founded in normative elements has its orientation guided to emphasis on beliefs and moral values as obligations to be internalized by organizations in their social context, aiming legitimation through conduct adequacies, restraining the choices of social actors. This pillar also tends to be social-realist, however, emphasizing the power of social patterns as formers of thought and beliefs of individuals, being their individual actions determined, more by non-rational forces, than by rational ones[45][19].

At last, the cognitive perspective of institutions, in its most developed version is based in the social constructivism of Berger and Luckmann[44], in which, "people don't discover reality; they create it"[45:xvii], and in the ethnomethodology of Garfinkel[57] . The cognitive systems shape social reality, being the characteristics' of actors, individuals or collectivity, defined by cultural norms[45][19][58]. Under cognitive perspective, institutions are not only agglomerate of rules and norms to be followed, but knowledge systems, through which occur the typifications that controls which actor must follow given kinds of scripts or set of rules[45].

The commonest works focused on institutional approach in organizational studies have been adopting broadly normative system and cognitive system in its analysis, leaving aside regulatory system, based on the assumption of this kind of system is just a reinforcement of the others[19].

It is relevant to emphasize that institutionalization process of organizations, despite being a socially constructed phenomenon[44], also has influences over social behavior, defining our vision of world and producing forms of behavior and forms of reasoning[59][60].

5. THE FORMALISM IN THE INSTITUTIONALIZATION PROCESS

The pressures of institutions and institutionalization are present in its heuristic types in more primitive societies[44][23], or, according to Riggisian typology, fused societies[2][3], whereas in this kind of society the social control is a lot easier. It may be noted traces of such process even in the indigenes tribes that inhabited the pre-colonial Brazil and still preserves nowadays the habits, values and institutions of that period.

According to Machado-da-Silva and his colleagues[19], the formalism is an institution, because, beyond presenting formal aspects (laws) and informal aspects (actors behaviors), it holds "legitimacy and stability over time, being perceived as a natural element of Brazilian society"[19:191]. We agree with the concept that formalism is really an institution, however, we assume that formalism is an institution due to another institution, i. e., it cannot exist per se, being necessary a social institution to create conditions to arise the formalism.

Guerreiro-Ramos[1] emphasizes the strategic value of formalism in transitional process of prismatic societies to diffracted societies. Hence, we may infer that formalism have the same importance in the process of institutionalization of organizations, acting like a shortcut to legitimation of them in social environment. In other words, organizations resort of formalism to show off to society a pseudo-adoption of institutions, what Meyer and Rowan[4] called of ceremonial, once they need to be legitimated for ensuring survival, i. e., such institutions are not necessarily structurally adopted as myths by these organizations.

Oliveira-Vianna[23] depicts masterfully citing Malinowski, but with other terms that we may apply in this study, the interrelation between formalism and institutionalization, drawing the distinction between "*charta*", that is the "*system of norms* that regulate social institutions", being "formulated to define the *ideal* behavior of the members of the group" [23:71], and what he called *activities*, that is the effectively execution of those r*ules* by actors. The institution, i. e. the *ideal* conduct of actors, will not necessarily represent the reality, because this conduct may be formalistic when the actor shall "to act in diversified sectors that are *institutionalized* in society (…)"[23:72].

The author presents a scale of *deviation* between the norms prescribed by the *charta* and the *activities*, that we transposed (see Figure 3) in an institutionalization grade of organizations before environment: (a) organizations that fully accept the institution; (b) organizations in transitional phase of adoption or that partially deviates of institutions; (c) organizations that glaringly transgress the institutions, that is, organizations that do not accept institutions and are in risk of being stigmatized by society[23][4]. Such scale depicts that there is a significant relevance in the existence of a half-way between organizations that fully accept institutions and those that do not accept at all and tend to failure. In this gap we may found the institutional formalism.

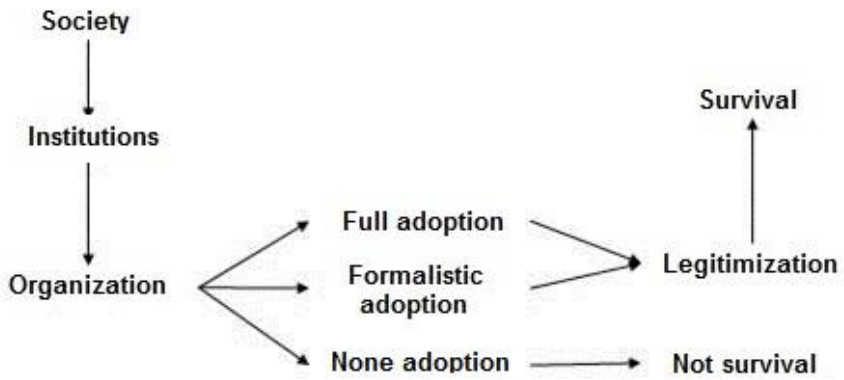


FIGURE 3: There is the insertion of the formalism in the institutionalization process, represented in this figure as the "formalistic adoption" of the institutionalized practices in pursuit of legitimation.

The attaining of legitimation and, consequently the survival, demands of organizations the embodiment of institutions in their formal structure, however, many of them are not able to adopt the institutions fully or simply are not intended to do it, because such institutions may be incompatible with their internal designs[18].

Formalism is, even in an unconscious way, the strategy of organizations surrounded by environmental uncertainties about institutions. Those that feel themselves unable, adopt mimetically successful models of other organizations to get appearance of legitimation, without criteria of accordance of such model to their organizational reality. The more distant the results of the reality of the organization, more formalistic it will be[11]. The organizations that recognize the institutions, but voluntarily decide for not adopting them fully, resorts to formalistic mechanisms to gain legitimacy, such as, the Brazilian *jeitinho*, remaining, then, alive in the organizational environment and seen as useful for society.

Institutionalization, in its ideal type, is very close to realism, moving away from formalism. This pure type is found essentially when institutionalization mechanisms are cognitive, i. e., are immanent and endogenous processes of social actors, arising from learning process and cultural knowledge. Normative and coercive institutional processes, just as regulatory and mimetic, tends to be transcendent and exogenous processes to the organization, being its integral adoption, target of great resistance from involved actors. Hence, it is precisely in the means that generate resistance that formalism tenets are found in a more constant way.

Beyond the transcendence of institution, another factor that may influence organizations to act formalistically is the rootedness of the institution, that is, "institutions that have a relatively short history or that have not yet gained widespread acceptance are more vulnerable to challenge and less apt to influence action"[61:96]. Such kind of institutions potentially tends to be adopted formalistically, because, by not possessing total acceptance by the members of the society, they possess less power of subjugation of organizations.

As discussed previously, formalism may be found in transitional intermediary stage of institutionalization process. To become homogenous and realistic (feature of fused and diffracted ideal types of societies) in their institutions, organizations necessarily pass through a phase of transition. Riggs[3] assumes that heterogeneity is characteristic of every transitional society, being reflected by an amalgam of attitudes, practices and situations. Then, transitional process of institutionalization may be characterized as heterogeneous, because actors live together, at same time, with the old practices, habits and customs and with new regulations arising from institutional process, occurring an imbrication (that the author called overlapping) between "this new system and traditional structures still subsistent"[3:17]. It seems to be contradictory, but to reach institutional isomorphism, organizations may pass through by this period of misshapen heterogeneity and overlapping. Hence, their destiny might be the same (isomorphism), but the way they use to get there will not be necessarily the same, because it can be formalistic.

Analyzing the historical issues of this study, we may understand in which way formalism is intrinsic in every process of institutionalization in tropical organizations. Due to the fact that in Brazil the State precedes society[1], the institutions were formed basically coercively and through adoption of mimetic mechanisms, displacing cognitive mechanism inherent to genuine Brazilian people tradition, according to Oliveira-Vianna's discourse about the constitution of national law comparing with common law[23]. By being overlooked such mechanisms, the society aims through the formalism to overcome these impositions, trying to adapt themselves to institutions, avoiding to suffer sanctions. It occurs the same in organizational field.

Formalism must be taken into account as component of institutional process in modern organizational studies. The example of Brazilian social endemicity shows that both are perfectly associable. Making this theoretical correlation between formalism and institutionalism, we found more than just a simple correlation: but an existential linkage, not only in organizations of prismatic societies (more prone to formalism), but also in most developed societies.

It is clear during the study that formalism is strategically present in the institutionalization process in several ways: i) in the reduction of risks and uncertainties and in the enhancing of predictability and control through mimetism; ii) in the cushioning of structural impact of new institutions (specially coercive ones); iii) as a shortcut to legitimation of organizations through pseudo-adoption (ceremonialism) of institutions; iv) as component of transitional process amidst pre-institutionalized period (heterogeneity period) and institutionalized period (isomorphic and homogeneous).

After analyzing various theoretical contributions, it is required to build up a definition that may clarify our proposed sense of the term *institutional formalism* applied in this study. We define, hence, institutional formalism as a strategic path adopted by organizations or actors with the intention of being legitimated by the society in which they are embedded without adopting structurally the established institutions. Such institutions are pseudo-adopted by actors to "make-believe", just as a mean to show up ceremonially to society the observance of a rule, norm, believe, law or institutionalized value, ensuring, then, their survival.

The institutional approach, specially associated to formalism, is fundamental for organizations to be prepared to adapt themselves to social control, enabling them through all available tools, to ensure their perennity in social environment, because, according to McIver cited by Oliveira-Vianna, "the prescriptions of social code are not fully accepted, neither evenly obeyed" [23:74]. It is up to organizations to find the best ways to be followed to keep themselves alive in this institutional environment, as it is increasingly global and isomorphic.

6. CONCLUSION AND FURTHER EFFORTS

Our aim throughout this study was to call attention on issues that have been relegated in the study of institutional theory in the organizational field. The central question is the non observance of the gap between the acceptance and adoption of the institutions and the denial of them. In this sense, we argue that the assumption of Oliveira-Vianna[23] about the *charta* and activities gives a clue of what Meyer and Rowan[4] called of ceremonialism. We agree with Machado-da-Silva and his colleagues[19] when stating that the formalism is an institution, remembering the existential linkage of formalism and institutionalism - an institution may exist without formalism, but the formalism cannot exist without another institution –. We tried to show that the institutional formalism may be an unity of analysis that allows to understand the behavior of organizations that act ceremonially.

Beyond this issue, by analyzing institutional formalism we believe that it may be a major contribution for the study of the Institutional Theory applied to organizations embedded in emergent or developing societies. Following the concerns of authors like Riggs[3], Guerreiro-Ramos[1] and Oliveira-Vianna[23], we are aware that the pure and simple application of theories arising in developed societies cannot be done in emergent societies without the proper caution. Hence, the Riggisian Prismatic Model may be an outstanding support in the study of institutions and institutionalization in such kind of society, not only through the formalism but also through the heterogeneity and overlapping, avoiding analytical myopia.

As aforementioned, during this essay we shed light back to ceremonial issues in the institutionalization process that were brought to discussion by Meyer and Rowan[4]. These questions could be more discussed by institutional theorists for the richness of such debate, and we consider the institutional formalism a key unity of analysis of such phenomenon. Some empirical testing could be applied to determine the trueness of our assumptions and we believe that this could be an interesting factor to be considered in further researches. This kind of research could analyze if the role of institutional formalism could be perceived as a shortcut to legitimation in practice or how effective this practice could be; or measure the intentionality of the formalistic adoption of institutions - if this adoption may be considered strategic or contingent – in different levels of analysis.

Following this rationale, we argue that the institutional formalism is an important and logical path for organizations in search of legitimation and survival in the social environment through the make-believe. In this work we thought in a defensive role of the institutional formalism for organizations that faces the period of institutionalization of an emerging field, or the emergence of new institutions which demands from organizations structural acceptance. Taking as reference the tenets of agency from Giddens[42], it could be an interesting issue for further efforts to investigate if the institutional formalism could play some kind of role in the creation of new institutions, based in the institutional entrepreneurship introduced by DiMaggio[62] or, not only in creation of new ones, but in the maintenance or disruption of existing institutions, according to the institutional work of Lawrence and Suddaby[63].

We are conscious that our proposal of institutional formalism is just a starting point for further studies in this field, but the focus in the issues brought to discussion by this debate may be an aid to the improvement of Institutional Theory as a whole and its application in realities other than it is usually done. Hence, we would like to encourage empirical testings, just as the theoretical discussion of the institutional formalism, believing that it may become a fertile ground to be explored by institutional theorists from now on.

ACKNOWLEDGEMENTS
I would like to thank Sebastião Cavalcanti Neto for the guidance during this essay at State University of Paraná; Sandro Deretti and Adilson Anacleto for the valuable comments in previous versions of the draft; and Diego M. Coraiola, as well as the editor and the reviewers of the Journal, for their major contribution to the final version of the work.

REFERENCES
[1] A. Guerreiro-Ramos. “Administração e estratégia do desenvolvimento”, Rio de Janeiro, FGV, 1966.

[2] F. W. Riggs. “A Ecologia da Administração Pública”, Rio de Janeiro, FGV, 1964.

[3] F. W. Riggs. “Administração nos países em desenvolvimento: a teoria da sociedade prismática”, Rio de Janeiro, FGV, 1968.

[4] J. W. Meyer; B. Rowan. “Institutionalized Organizations: Formal structures as Myth and Cerimony”. American Journal of Sociology, 83(2):340-363, 1977.

[5] P. J. DiMaggio; W. W. Powell. “The iron cage revisited: Institucional Isomorphism and collective rationality in organizational fields”. American Sociological Review, 48(2):147-169, 1983.

[6] M. Castells. “A sociedade em rede”. Vol. 1, 8th. edition, São Paulo, Paz e Terra, 2000.

[7] J. Habermas. “Técnica e ciência como ideologia”, Lisboa, Edições 70, 1994.

[8] S. C. Vergara; M. M. F. Vieira. “Sobre a dimensão tempo-espaço na análise organizacional. Revista de Administração Contemporânea, 9(2):103-119, 2005.

[9] C. L. Machado-da-Silva; V. S. Fonseca. “Competitividade organizacional: Uma tentativa de reconstrução analítica”. Revista de Administração Contemporânea, Special Edition:33-49, 2010.

[10] V. Nee. “The New Institutionalism in Economics and Sociology”. In: N. Smelser; R. Swedberg. (Eds.). “Handbook for Economic Sociology”. 2nd edition, Princeton, Princeton University Press, pp. 49–74, 2005.

[11] C. P. Figueroa. “Bases para la administración de la educación superior en América Latina: El caso de México”, México, INAP, 1978.

[12] R. Faoro. “Os donos do poder: Formação do patronato político brasileiro”, 3th revised edition, Porto Alegre, Globo, 2001.

[13] C. Prado Jr.. “Formação do Brasil Contemporâneo: colônia”, 22th edition, São Paulo, Brasiliense, 1992.

[14] M. Chauí. “Brasil: Mito fundador e sociedade autoritária”. 1th edition, São Paulo, Fundação Pereseu Abramo, 2000.

[15] C. L. Machado-da-Silva; S.A. Gonçalves. “Nota Técnica: A teoria institucional”. In: R. S. Clegg; C. Hardy; W. R. Nord. “Handbook de Estudos Organizacionais”. Vol. 1:220-226, São Paulo, Atlas, 1999.

[16] R. A. Chu; T. Wood Jr. “Cultura organizacional brasileira pós-globalização: global ou local?” Revista de Administração Pública, 42(5):969-991, 2008.

[17] C. Carvalho; S. Goulart. “Formalismo no processo de institucionalização das bibliotecas universitárias”. Revista de Administração Pública, 37(4):921-938, 2003.

[18] M. P. Caldas. “Santo de casa não faz milagre”. In: F. C. Prestes-Motta; M. P. Caldas (orgs). “Cultura organizacional e cultura brasileira”, São Paulo, Atlas, p. 73-93, 2007.

[19] C. L. Machado-da-Silva; E. R. Guarido-Filho; M. R. Nascimento; P. T. Oliveira. “Institucionalização da mudança na sociedade brasileira: o papel do formalismo”. In: M. M. F. Vieira; C. A. Carvalho. “Organizações, instituições e poder no Brasil”, Rio de Janeiro, Editora FGV, pp. 179-202, 2003.

[20] C. Oliver. “Strategic responses to institutional process”. Academy of Management Review, 16(1):145-179, 1991.

[21] A. Torres. “O problema nacional brasileiro: introdução a um programa de organização nacional”, São Paulo, Ed. Nacional, 1938.

[22] E. Döring. “Fred W. Riggs: La administración pública en las sociedades prismáticas”. In: L. M. M. Anzures (org.). “Antología sobre teoria de la administración pública”, Cuajimalpa, INAP, pp. 169-192, 2002.

[23] F. J. Oliveira-Vianna. “Instituições Políticas Brasileiras”, Brasília, Conselho Editorial do Senado Federal, 1999.

[24] C. O. Bertero. “Teorias da organização e sociedades subdesenvolvidas”. Revista de Administração de Empresas, 32(3):14-28, 1992.

[25] T. Wood Jr.; M. P. Caldas. “Antropofagia organizacional”. Revista de Administração de Empresas, 38(4):6-17, 1998.

[26] M. S. Haque. “Rethinking development administration and remembering Fred W. Riggs”. International Review of Administrative Sciences, 76(4):767-773, 2010.

[27] W. S. Peng. “A critique of Fred W. Riggs’ ecology of public administration”. International Public Management Review, 9(1):213-225, 2008.

[28] P. W. Rodman. "Development administration: obstacles, theories and implications for learning". International Institute for Educarional Planning Occasional Pappers, n. 2. Paris, UNESCO, 1968.

[29] C. A. Vieira; F. L. Costa; L. O. Barbosa. "O jeitinho brasileiro como um recurso de poder". Revista de Administração Pública, 16(2):5-32, 1982.

[30] E. V. Costa. "Da monarquia à república: momentos decisivos". 6th. edition, São Paulo, UNESP, 1999.

[31] C. Prado Jr.. "História econômica do Brasil", 26th edition, São Paulo, Brasiliense, 1981.

[32] T. Aguiar, T. "A história como recurso da mimese política brasileira". Sociedade e Cultura, 10 (2):227-239, 2007.

[33] S. Romero. "História da Literatura Brasileira". 5th edition, Rio de Janeiro, José Olympio, 1969.

[34] S. B. Holanda. "Raízes do Brasil". 26th edition, São Paulo, Cia das Letras, 1995.

[35] G. Freyre. "Casa-grande & Senzala: formação da família brasileira sob o regime da economia patriarcal". 48th edition, São Paulo, Global, 2003.

[36] A. Torres. "A organização nacional". 3th edition, São Paulo, Ed. Nacional, 1978.

[37] A. Candido. "A sociologia no Brasil". Revista Tempo Social, 18(1):271-301, 2006

[38] J. Mattoso. "A identidade nacional". 2nd. edition. Lisboa: Gradiva, 1998

[39] D. C. North. "Institutions, institutional change and economic performance". New York, Cambridge University Press, 1990.

[40] T. Parsons. "O sistema das sociedades modernas", São Paulo, Pioneira, 1974.

[41] T. Parsons. "The structure of social action". 2nd edition, New York, The Free Press, 1966.

[42] A. Giddens. "A dualidade da estrutura", Oeiras, Celta, 2000.

[43] L. Broom; P. Selznick. "Sociology: a text with adapted readings". 4th. Edition, New York, Harper & Row, 1968.

[44] P. L. Berger; T. Luckmann. "A construção social da realidade". 15th. Edition, Petrópolis, Vozes, 1985.

[45] W. R. Scott. "Introduction: Institutional theory and organizations". In: W.R. Scott; C. Soren (org.). "The institutional construction of organizations", London, SAGE, pp. xi-xxiii, 1995.

[46] P. S. Tolbert; L. G. Zucker. "A Institucionalização da Teoria institucional". In: R. S. Clegg; C. Hardy; W. R. Nord. "Handbook de Estudos Organizacionais", Vol. 1, São Paulo, Atlas, pp. 196-219, 1999.

[47] M. Granovetter. "The strength of weak ties: a network theory revisited". Sociologycal Theory, v. 1:201-233, 1983.

[48] P. Selznick. "TVA and the grass-roots: A study in the sociology of formal organization", Los Angeles, University of California Press, 1949.

[49] R. C. Fachin; J. R. C. Mendonça. "Selznick: uma visão da vida e da obra do precursor da perspectiva institucional na teoria organizacional". In: M. M. F. Vieira; C. A. Carvalho. "Organizações, instituições e poder no Brasil", Rio de Janeiro, Editora FGV, pp. 29-46, 2003.

[50] P. Thornton, W. Ocasio. "Institutional logics". In: R. Greenwood; C. Oliver; R. Suddaby; K. Sahlin (Eds.). "The Sage Handbook of Organizational Institutionalism", London, Sage, pp. 99-129, 2008.

[51] A. P. P. Prates. "Organização e instituição no velho e novo institucionalismo". In: S. B. Rodrigues; M. P. Cunha (org.). "Novas perspectivas na administração de empresas: uma coletânea luso-brasileira", São Paulo, Iglu, pp. 90-106, 2000.

[52] M. P. Caldas; R. C. Fachin. "Paradígma funcionalista: desenvolvimento de teorias e institucionalismo nos anos 1980 e 1990". Revista de Administração de Empresas, 45(2):46-51, 2005.

[53] M. T. Hannan; H. Freeman. "The population ecology of organizations". American Journal of Sociology, 82(5):929-964, 1977.

[54] C. A. S. Freitas; T. A. Guimarães. "Isomorphism, institucionalization and legitimacy: operational auditing at the Court of Auditors". Brazilian Administration Review, 4(1): 35-50, 2007.

[55] D. M. Coraiola; C. L. Machado-da-Silva. "Discurso organizacional e isomorfismo institucional: as mudanças gráficas em jornais brasileiros". Revista Eletrônica de Ciência Administrativa, 7(2):1-13, 2008.

[56] G. Burrell; G. Morgan. "Sociologycal paradigms and organizational analysis: elements of the Sociology of Corporate Life", London, Heinemann, 1982.

[57] H. Garfinkel. "Estudios en etnometodologia", Barcelona, Anthropos Editorial, 2006.

[58] S. A. Gonçalves. "Mudança estratégica, esquemas interpretativos e contexto institucional: um estudo de caso longitudinal". Revista Eletrônica de Ciência Administrativa, 6(2):1-14, 2007.

[59] F. C. Prestes-Motta. "Controle social nas organizações". Revista de Administração de Empresas, 19(3):11-25, 1979.

[60] J. M. Crubellate; P. S. Grave; A. A. Mendes. "A questão institucional e suas implicações para o planejamento estratégico". Revista de Administração Contemporânea, Special edition:37-60, 2004.

[61] S. R. Barley; P. S. Tolbert. "Institutionalization and structuration: studying the links between action and institution". Organization Studies, 18(3):93-117, 1997.

[62] P. J. DiMaggio. "Interest and agency in institutional theory". In: L. Zucker (ed.), "Institutional patterns and organizations: Culture and environment. Cambridge, Ballinger, pp. 3-22, 1988.

[63] T. B. Lawrence; R. Suddaby. "Institutions and institutional work". In: S. R. Clegg; C. Hardy; T. B. Lawrence; W. R. Nord (Eds.). "Handbook of Organizational Studies", 2nd. Edition, London, Sage, pp. 215-254, 2006.

Impact of Merger on Stress Level of Employees (A Case Study of Erstwhile Bank of Rajasthan Ltd.)

Dr. Krishn A. Goyal *kagoyala@gmail.com*
(Former Head of Management, WCAS-BIT, Muscat, Oman)
Economic Administration & Financial Management,
Shri Govind Guru, Government College,Banswara,
Mohan Lal Sukhadia University,Udaipur India

Vijay Joshi *vij.joshi18@gmail.com*
Doctoral Research Scholar,
Department of Business Administration, UCCMS,
Mohanlal Sukhadia University,
Udaipur, 313001, India.

Abstract

Mergers and Acquisitions are inevitable phenomena in banks so as Stress Management. Whenever changes in organization take place employees are supposed to adopt them. In this process, if changes are not managed properly than they may cause stress among bank employees. Therefore, the aim of this article is to measure the level of stress of the erstwhile Bank of Rajasthan employees after merger in ICICI Bank Ltd. We used weighted average method and employed paired sample t-test to find the difference. Merger Stressors are identified like the major psychological factors which include uncertainty, insecurity, job changes and threat of job loss which create stress among bank employees. On the other hand the cultural factors include technology used by the bank, reporting system, working hours, relationship with boss and supervision. This study is a small contribution for the betterment of the bank employees and provides guidelines for bank policy makers, strategists, scholars and researchers.

Key Words: Merger and Acquisition, Stress Management, Bank, Employees

1. INTRODUCTION

In a rapidly changing business environment, banks are facing unprecedented turmoil in market. Ruthless competition, technological up gradation, recession in global economy, stock market volatility, and increasing interest rates has increased the trouble for bankers to deliver superior performance.

In reaction to these pressures, banks around the world are dramatically restructuring their assets, operations, and contractual relationships with their shareholders, creditors and other financial stakeholders. Corporate restructuring has facilitated many organizations to re-establish their competitive advantage, respond more swiftly and effectively to new opportunities and unforeseen challenges of the market.

Growth opportunities come in a variety of other forms and a great deal of energy and resources may be wasted if an entrepreneur does not respond on time. The remarkable examples for growth is mergers and acquisition (M&As). M&As offer great opportunities for companies to grow and add value to shareholders' wealth. M&As are expected to increase value and efficiency of the company and thereby increase shareholders' value.

In recent times, we have seen many examples of M&As in banking industry. Apart from financial issues, there are certain issues, which are under considered. When a merger takes place one firm has to dilute itself into another firm, but it is not just the transfer of assets and liabilities but the lives of respective employees are also associated with it. Kahr (2011) opined on bank management and banking industry that bank mergers will not result in increased profitability for banks, and that there are limited opportunities for banks to increase their revenues. Due to the organizational changes, which take place during the course of a merger, largely affect the performance of the employees. Cultures of one of the firm determine the level of stress among employees. It is obvious that when a merger is announced respective employees of the firm may feel stressed, disoriented, frustrated, confused and even frightened. At a personal level, these feelings can lead to a sense of loss, psychosomatic difficulties, and marital discord as well [1]. At this juncture, it is quite possible that it may augment the level of stress among employees and that is not good on any part.

Therefore, this is an attempt to assess the stress level of employees of erstwhile the Bank of Rajasthan Ltd. (BoR).

2. CONCEPTUAL FRAMEWORK

Mergers and acquisitions are well known phenomena in any industry. After the inception of ICICI Bank, the mergers and acquisition of smaller banks has become a strategic issue. It is evident by all the mergers of ICICI Bank Ltd., which made them number one private sector bank. As per the press release from Reserve Bank of India (RBI) on August 12, 2010, all branches of Bank of Rajasthan Ltd. will function as branches of ICICI Bank Ltd. with effect from August 13, 2010. That was a consequent upon the RBI sanctioning the Scheme of Amalgamation of Bank of Rajasthan Ltd. with ICICI Bank Ltd. the Scheme has been sanctioned in exercise of the powers contained in sub-section (4) of section 44A of the Banking Regulation Act, 1949.

2.1 Stress

It is unavoidable for anyone to exclude from the organizational decisions. Therefore, we are part of the decision taken by the top management. In this article, we are studying the factors, which determine the stress among employees. Precisely, we need to understand the term ‘stress’ which was coined by Hans Selye in 1936. He defined it as "the non-specific response of the body to any demand for change". Stress management can be defined as interventions designed to reduce the impact of stressors in the workplace. These can have an individual focus, aimed at increasing an individual’s ability to cope with stressors. The goal of Stress Management is to manage the stress of everyday life among employees. Many different methods may be employed, such as biofeedback, meditation, and massage. Counsellors work with individuals in order to determine what stress management program will work best for that person.

2.2 Mergers and Acquisitions

It is evident from recent past that Mergers and Acquisitions are well-known strategic tools for banks in India. It is an end of the continuum of alternatives companies have in combining with each other. The least intense and complex from of combination is licensing. Next come alliances, partnerships, and subsequently joint ventures. The amount of penetration in market risk, profits, and control depends on the type of combination strategy. It is the mergers and acquisitions that requires huge amount of investment, consequently, greater amount of market penetration, good amount of profits, risks and control over assets ban be obtained.
Bose, J. (2007, p. 21) opined that the banking sector here in India has been active in Mergers and Acquisitions ever since Section 45 was incorporated in the Banking Act in 1960. This section empowered the RBI to initiate the process of amalgamation of weak banks with strong ones at times when the net realizable assets of a bank fell below 90 percent of its deposits, but with the approval of the government. This was aimed at averting bank failures, which were as rampant here as they were in other countries in those days [2].

3. REVIEW OF LITERATURE

Schweiger and Ivancevich (1985) studied the human factor in merger and acquisition and identified some common merger stressors, which include uncertainty, insecurity, and fears concerning job loss, job changes, compensation changes, and changes in power, status, and prestige. These stressors should be given utmost care in pre-merger strategic issues [3].

Ivancevich, Schweiger, and Power (1987) studied the merger stress process, stages of the merger process and the sources of stress created and choosing guidelines and interventions to encourage more effective management of merger stress. They suggested some measures to effectively manage merger stress, like prevention, to reduce the actual stress-inducing merger events; secondly, reappraisal of employee which refers to changing initial cognitive appraisal of a situation and at last effective stress management and professional help, which supports those employees, that are already stressed [4].

Schweiger and Weber (1989) suggested that Mergers and acquisitions (M&As) are corporate events that have the potential to create severe personal trauma and stress which can result in psychological, behavioural, health, performance, and survival problems for both the individuals and companies involved. With the increasing size and number of M&As transacted and the number of employees affected, it is essential that executives and human resource professionals pay greater attention to understanding the sequence of actions and reactions associated with the process [5].

Schweiger and DeNisi (1991) conducted a longitudinal field experiment to evaluate the various effects of a communication program on employees of an organization; they called it a realistic merger preview. This study was intended to measure the effects of mergers and acquisitions on employees. Their results suggested that realistic communication during a merger process in the form of a realistic merger preview could help the employees to get through the process of merger. As illustrated by the significantly lower measures on global stress and perceived uncertainty and significantly higher on job satisfaction, commitment and self-reported performance for the experimental group, exposed to the communication program [6].

Rajeshwari (1992) identified the potent stress situations (stimulus) of bank employees and then classified them into factors relating to organizational policy, structure, process, physical working conditions, group behaviour, and others. Researcher concluded that structural rigidity, poor physical working conditions and extra organizational factors to be potent stressors [7].

Cartwright and Cooper (1993) studied the human aspects of merger and acquisition and the impact of such a major change event has on employee health and well being which has received relatively little research attention. They took the sample size of 157 middle managers involved in the merger of two U.K. Building Societies. They found that Post-merger measures of mental health to be a stressful life event, even when there is a high degree of cultural compatibility between the partnering organizations [8].

Weber (1996) assessed the role of corporate cultural fit, autonomy removal, and commitment of managers to the merger in predicting effective integration between merger partners in different industry sectors. He found that relationship was very complex; they varied across industries and had different relationships with different measures of performance. Further, he found that cultural differences at the top management level were most likely to influence the merging organizations' ability to realize synergies [9].

Panchal and Cartwright (2001) investigated post-merger stress in a sample of field sales employees. A survey methodology was used to examine group differences, comparing those from the two pre-merger companies and those newly merged organization. Results revealed that group differences in both sources and effects of stress existed. Those from the dominant pre-merger company reported the highest stress levels and most negative work attitudes [10].

Buono and Bowditch (2003) used longitudinal and cross-sectional field study, interviews, organizational surveys, archival research, and bibliographical search of mergers and acquisition literature for eight years. Their study is based on human side of such organizational combinations in terms of the personal issues involved in mergers at both the psychological and cultural levels. They found a relationship between employee attitude and a number of work related behaviour such as turnover, absenteeism, tardiness, strikes and grievances, and quality of job performance. It was concluded that a merger or acquisition is ultimately a human process. Focused efforts on and sensitivity to what people are experiencing are necessary if managers hope to decrease the costs involved for both individual employees and the organization (p. 133) [11].

Lodorfos and Boateng (2006) examined the role played by culture and provided a framework for enhancing the success of mergers and acquisitions. Their study was based on 32 interviews with senior managers of 16 merger and acquisition deals in the chemical industry. They found that cultural differences between the merging firms were key elements determining the effectiveness of the integration process and consequently the success of M&As. Furthermore, the study also found that, although managers agree that cultural differences create organisational challenges, yet the attention given to cultural integration issues during M&As are unconvincing and in some cases reactive. Their study suggested a four staged approach in dealing with cultural differences. The managerial implication of this finding is that cultural fit constitutes a key factor in M&As' success and should be given the necessary attention at all stages of M&As, good pre-merger planning with culture placed at the heart of integration strategies and implementation and the creation of a positive atmosphere for the change [12].

Sakas and Triantafyllopoulos (2009) examined the factors staff's beliefs, attitudes, and social representations vis-à-vis the part it plays during the negotiation process in the effort of the two leaders of the Greek banking branch to merge. They used codification by means of software, to clarify the trends for negotiations in win-win conditions. They concluded that the private or public character of each banking organization involved in the negotiation process of aiming at a merger would affect its strategic choices in relation to the role played by human beliefs and professional attitudes during the negotiations. Additionally, the research pointed out some elements that were explained and justified by the existing circumstances in the particular banking area. The fear of change, the stress, the insecurity, and the loss of morale are also pointed out as being significant factors [13].

Marmenout, K (2010) conducted experimental study to examine how employees make sense of a merger announcement and investigates the relationship between deal characteristics (culture clash potential, degree of integration, position in deal structure) and employee attitudes. As employees make sense of the merger, higher perceived uncertainty is associated with greater dysfunctional outcomes [14].

Khattak et al (2011) examined the occupational stress in the banking sector of Pakistan. A total of 237 bank employees from different commercial banks participated in the survey. They used self-reported questionnaire. Descriptive, correlation, and regression statistical tools were used to analyze data. The results revealed the potential stressors like workload, working hours, technological problem at work, inadequate salary, time for family and job worries at home were the significant sources of stress in the banking sector. The study suggested that the elements, which are creating, stress leading to burnout. Moreover, the significant symptoms of burnout as revealed by the results were back pain, extreme tiredness, headache and sleep disturbance. All stressors (Organization, Job, and Relationship at work, work environment, and family work interface) were significantly correlated to all burnouts (Physical, Psychological, and Organizational). All the stress elements significantly predicted burnout in the banking sector of Pakistan. The changing work pattern is creating stress for the bank employees and these stressors are leading to burnout [15].

Clarke and Salleh (2011) conducted a qualitative study examining the emotional impact of a merger between two banking institutions on managers in Brunei. The distinctive national culture representing a fusion of Malay and Islamic values was found to influence the emotional impact of this merger. These values place less emphasis on personal control as a means for dealing with uncertainty. The findings suggest that Western transactional models of perceived control to explain how people manage change may have far more limited application within a Bruneian context [16].

Shook and Roth (2011) conducted a qualitative study using a constant comparative method to assess the perspectives of HR practitioners based on their experiences with mergers, acquisitions, and downsizings. They interviewed 13 HR practitioners to collect the data. They found that HR practitioners were not involved in planning decisions related to downsizings, mergers, and/or acquisition. Neither the practitioners in this study nor other members of the HR team in their organizations had an upfront due diligence role in these change initiatives [17].

Joshi and Goyal (2012) reviewed stressors, which contribute in increasing the level of stress among employees. These included uncertainty, insecurity, fears concerning job loss, job changes, compensation, changes in power, status, prestige, workload, working hours, technological problem at work, inadequate salary, time for family job worries at home group differences and communication [18].

4. RESEARCH METHODOLOGY

It is evident from recent past that M&As is a well-known strategic tools for banks in India. This study is based on the merger of the Bank of Rajasthan Ltd. in ICICI Bank Ltd. This is a strategic move by ICICI Bank in Rajasthan, which has significantly improved the geographic network and market share in Rajasthan. However, when the announcement about this merger was made, the employees' of erstwhile Bank of Rajasthan Ltd. got agitated. Here the problem arises that what is the perception of bank employees about this merger. Are they satisfied or not? Therefore, this attempt is made to study the stress level of employees and their post merger satisfaction level.

4.1 Objectives of the Study

- To study the stress level of employees' (post merger).
- To identify the stressors in context with merger.
- To assess the impact of bank merger on employees.
- To assess the satisfaction level of employees after merger.
- To suggest a framework in order to cope-up with stress among employees.

Total 463 branches of BOR were operating across India before merger and out of this total 293 Branches were operating in Rajasthan.

4.2 Sampling Distribution

There are total 72 branches in Udaipur division. Out of these total 31 branches are operating in Udaipur district. For our sampling purpose, we would consider only 12 branches to determine our sample size. We shall use proportional stratified random sampling method for sampling purpose.

4.3 Sampling Size

60 bank employees out of 110 (appx.) employees from managerial and executive levels of erstwhile BoR.

4.4 Data Type

Both primary and secondary data will be used.

4.5 Research Instrument

Schedules (structured) and personal interviews are used for primary data collection. Five Point Likert-type scales are used for measuring attitude and level of stress of employees.

4.6 Research Tools

Paired sample t-test and weighted arithmetic mean is used with the help of SPSS (student version 13) to test the hypothesis and analyze the data.

$$t = \frac{\overline{d}}{s/\sqrt{n-1}}$$

Where;

d = x – y

$$\overline{d} = \frac{\sum d}{n}$$

$$s = \sqrt{\frac{\sum (d - \bar{d})^2}{n}}$$

4.7 Hypotheses:
H01: The level of stress among bank employees does not increase after merger.
H02: Satisfaction level among employees is same in both the cases (pre and post merger)

5. DATA ANALYSIS

Age * Gender Crosstabulation

Count

		Gender		Total
		Male	Female	
Age	31-40	12	2	14
	41-50	18	9	27
	51-60	12	7	19
Total		42	18	60

TABLE 1: Age & gender wise cross tabulation.

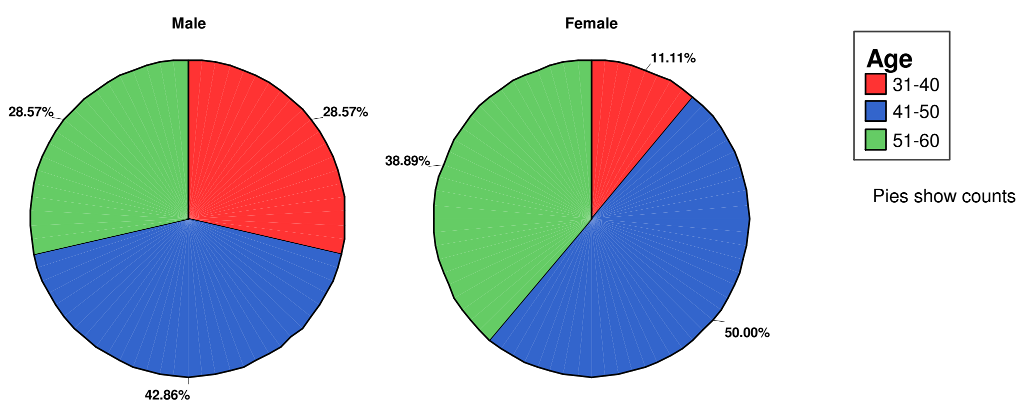


FIGURE 1: Diagrammatic representation of age & gender

Designation * Gender Crosstabulation

Count

		Gender		Total
		Male	Female	
Designation	Chief Manager	2	0	2
	Senior Manager	7	3	10
	Deputy Manager	9	4	13
	Assistant Manager	15	5	20
	Clerck	9	6	15
Total		42	18	60

TABLE 2: Designation & gender wise cross tabulation

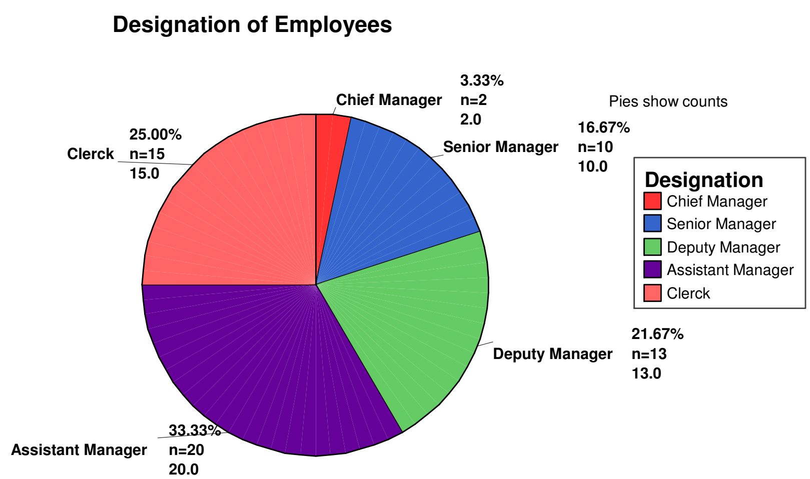


FIGURE 2: Designation of employees.

A question was asked to all the respondents whether they received any formal information about the merger, the below mentioned table reveals the information.

Count

		Age			Total
		31-40	41-50	51-60	31-40
Formal Information about the Merger	Yes	0	2	2	4
	No	14	15	11	40
	Cannot say	0	10	6	16
Total		14	27	19	60

TABLE 3: Formal Information about the Merger * Age Cross tabulation

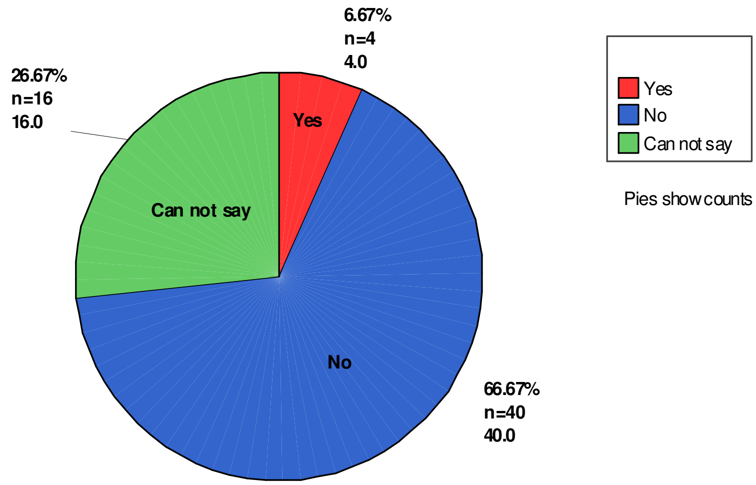


FIGURE 3: Formal Information about the Merger

In table 3 majorities of employees (67%) did not receive any formal information about merger, which is not a good sign from organizational point of view. It was the statement of most of the employee that informally we came to know about merger from media and peers or colleagues. All the employees who received information about bank merger got a very short span of time before merger i.e. less than couple of months, which is not enough to cop up with merger practically as well as psychologically.
Responses were collected about the various sources through which they received the information about this merger and as per the below table we have following interpretation.

Designation * Sources of Information about the Merger Crosstabulation

Count

		Sources of Information about the Merger			Total
		Bank Sources	Pears & Colleagues	Media	
Designation	Chief Manager	2	0	0	2
	Senior Manager	2	5	3	10
	Deputy Manager	0	9	4	13
	Assistant Manager	0	8	12	20
	Clerck	0	0	15	15
Total		4	22	34	60

TABLE 4:

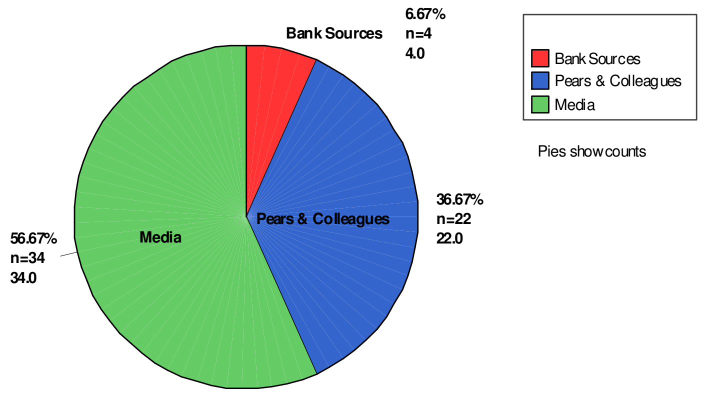


FIGURE 4: Sources of Information about the Merger

In table 4, we can see that most of the employees (57%) of the employees came to know about merger from media. Employees who received information from media passed on the same to other employees and made them aware about merger. As per the personal interaction with respondents, the researcher came to know that employees were surprised by the announcement of the merger because the erstwhile BoR was performing well right from its inception and it was quite popular bank in Rajasthan particularly.
When employees were asked to rate their general awareness level about the merger and further proceedings their responses were as follows:

Response	No. of Respondents	%age
Very Less	0	0.00
Less	0	0.00
Average	39	65.00
Good	21	35.00
Very Good	0	0.00
Total	**60**	**100.00**

TABLE 5: Awareness Level of Employees about Merger

In table 5, it is evident that about 65 % of the employees are having basic knowledge about mergers while rests of the employees are having above average knowledge about mergers and acquisitions. It is for sure that this incident has surely affected them. Only 35 % of the employees were having good knowledge about the merger.

Further, respondents were asked to rate their comfortable level with this merger and it is surprising as per the below table.

Response	No. of Respondents	%age
Very Less	19	31.67
Less	32	53.33
Somewhat	9	15.00
Much	0	0.00
Very Much	0	0.00
Total	60	100.00

TABLE 6: Comfortable Level with This Merger

In table 6, we can see that 31% of the employees are least comfortable with merger, 53% employees said that they were less comfortable with merger and merely 15% of the employees responded that they were somewhat comfortable with the merger. From the above table we can say that there is not a single employee who is comfortable with merger till a greater extent, which again reveals the fact that impact of merger on employees is not good.
Respondents were asked to rate their opinion whether they are in favour of these kinds of mergers or not. The below table reveals the information that

Response	No. of Respondents	%age
Very Less	19	31.67
Less	23	38.33
Somewhat	18	30.00
Much	0	0.00
Very Much	0	0.00
Total	60	100.00

Table 7

Table 7 reveals that majority of employees (32%) are not in the favour of mergers, only (18) of the employees are somewhat in favour of merger, which directly show their discomfort with the merger. It can be implied with this data that impact of mergers is not so good on the employees.

Moreover, the respondents were supposed to rate their opinion whether to continue or discontinue with BoR i.e. pre-merger and the ICICI bank i.e. post merger.

Response	Level	No. of Respondents	%age
Yes	Pre Merger	6	10.00
	Post Merger	38	63.33
No	Pre Merger	46	76.67
	Post Merger	8	13.33
Cannot say	Pre Merger	8	13.33
	Post Merger	4	6.67

Table 8

Before merger, there were only 10% employees who were thinking of switching over the job when the news about the merger came out, while this figure increased drastically to 64% after merger, which shows the dissatisfaction level of employees after merger, which leads them to think on job switching. Researcher came to know that there were some employees who were recruited few years back in erstwhile BoR and after merger started searching jobs in other banks and some of them soon left.

As we know that this merger took place in the month of august in 2010, so after a year, erstwhile BoR respondents are well versed with the working culture of the ICICI bank and they were asked to rate their opinion about the difference in working culture between erstwhile BoR and ICICI bank ltd. on certain variables. It was found that all the employees are accepting this fact that there is much difference between the working cultures of erstwhile BOR & ICICI. The theories of Human Resource say that sudden change in work culture leads to dissatisfaction; it is happened with BoR employees. Therefore, this study is an effort to identify the merger stressors, which can be taken care of on time to minimize the impact of restructuring process on employees.

Merger Stressors

Employees were asked to rank the various psychological & job culture factors as stressors on the five point scale i.e. 1 to 5. Where 1 denotes strongly disagree & 5 denotes strongly agree. Scores of all 60 respondents were compiled then weighted mean was calculated for every factor. Ranking of weighted mean scores is done to find out the major stressors in psychological & work culture category.

Weights		1	2	3	4	5				
S. No.	Psychological Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Total	Weighted Total	Weighted Mean	Rank
1	Uncertainty	0	1	11	15	33	60	260	17.33	1
2	Insecurity	2	1	8	18	31	60	255	17.00	2
3	Job loss	6	5	8	11	30	60	234	15.60	4
4	Job changes	1	14	1	11	33	60	241	16.07	3
5	Compensation changes	36	12	10	2	0	60	98	6.53	11
6	Changes in power	10	8	4	36	2	60	192	12.80	5
7	Status	17	21	10	12	0	60	137	9.13	7
8	Prestige	23	22	12	2	1	60	116	7.73	10
9	Growth	15	26	18	1	0	60	125	8.33	9
10	Responsibility	3	8	26	23	0	60	189	12.60	6
11	Work itself	19	14	24	1	2	60	133	8.87	8

Source: Schedules

Table 9

Analysis shows that uncertainty is the major psychological factor, which creates stress among employees after merger. 55% of the employees were strongly agreed with this fact that they do not know what is going to happen next with them. The next merger stressor in psychological category is Insecurity followed by Job Changes, Job Loss & Changes in power. The last rank is given to compensation changes, which show that employees are not finding any difficulty in remuneration structure in post merger situation as it has been significantly increased; therefore, it is not creating any stress in the mind of employees.

Weights		1	2	3	4	5				
S. No.	Work Culture Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Total	Weighted Total	Weighted Mean	Rank
1	Working Hours	8	6	8	10	28	60	224	14.93	3
2	Technology used	1	5	10	12	32	60	249	16.60	1
3	Grievance Handling	0	17	18	17	8	60	196	13.07	8
4	Designation	26	10	12	8	4	60	134	8.93	11

5	change of branch	36	5	14	5	0	60	108	7.20	14
6	HR Practices	8	0	12	30	10	60	214	14.27	7
7	Compensation	40	10	6	2	2	60	96	6.40	15
8	Performance Appraisal	23	0	21	10	6	60	156	10.40	10
9	Reporting System	8	3	8	18	23	60	225	15.00	2
10	Centralization	8	34	15	3	0	60	133	8.87	12
11	Departmentatio n	1	24	16	12	7	60	180	12.00	9
12	Company Policy	10	43	0	2	5	60	129	8.60	13
13	Supervision	0	0	32	19	9	60	217	14.47	6
14	Relationship with boss	6	12	2	18	22	60	218	14.53	5
15	Relationship with peers	5	11	6	14	24	60	221	14.73	4

Source: Schedules

Table 10

Analysis shows that Technology Used is the major work culture factor, which creates stress among employees after merger. The employees of BOR were not used to work on advanced computers & technology, most of the jobs were performed manually but merger forced each & every employee to be automated which created stress among customers. The next merger stressor in work culture category is Reporting system followed by working hours & relationship with boss & peers.

Hypothesis Testing:

Let us take the hypothesis that stress level is not increased after merger.

Response	Level	No. of Respondents	%age
Low	Pre Merger	43	71.67
	Post Merger	5	8.33
Moderate	Pre Merger	14	23.33
	Post Merger	9	15.00
High	Pre Merger	3	5.00
	Post Merger	46	76.67

Table 11

Analysis shows that majority of employees (72% approx.) were having low level of stress before merger, while the situation is reversed after merger. In ICICI 77% of employees are feeling high level of stress.

H01: The level of stress among bank employees does not increase after merger.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Stress Level Pre-Merger	1.33	60	.572	.074
	Stress Level Post-Merger	2.68	60	.624	.081

TABLE 12: Paired Samples Statistics

To measure the stress level of employees, they were asked to rate their opinion on various variables. If we compare the mean scores of their stress level we find that pre merger stress level was low (1.33) and on the other hand post merger stress level was high (2.68).

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference: Lower	95% Confidence Interval of the Difference: Upper			
Pair 1	Stress Level Pre-Merger - Stress Level Post-Merger	-1.350	.709	.092	-1.533	-1.167	-14.751	59	.000

TABLE 13: Paired Samples Test

Since calculated value is greater than tabulated, value so our hypothesis rejected and it can be concluded that there is significant difference in stress level of employees after merger.
Satisfaction Level
H02: Satisfaction level among employees is same in both the cases (pre and post merger)
To find the satisfaction level employees were asked to rank their satisfaction level on the scale of 1-5, where 1 means highly dissatisfied & 5 means highly satisfied.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Satisfaction Level Pre-Merger	4.53	60	.503	.065
	Satisfaction Level Post-Merger	2.15	60	.755	.097

TABLE 14: Paired Samples Statistics

The comparison of mean scores of satisfaction level shows that employees of BOR were highly satisfied (4.53) while after becoming the employees of ICICI they are Dissatisfied (2.15).

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference: Lower	95% Confidence Interval of the Difference: Upper			
Pair 1	Satisfaction Level Pre-Merger - Satisfaction Level Post-Merger	2.383	.922	.119	2.145	2.622	20.02	59	.000

TABLE 15: Paired Samples Test

Since, the calculated value is greater than tabulated value so our hypothesis is rejected and hence, we can conclude that there is significant difference in satisfaction level of employees after merger.

6. SUMMARY AND CONCLUSION

As per the above discussion, we can draw the conclusion that mergers and acquisition is an ongoing activity in the world of business. It is quite clear that sick banks must be merged in large banks to protect the rights of consumers. Here, transferor and transferee banks create synergy, customers also get benefits of the merger, but in some instances, employees do not get satisfaction in the transferee company. In this study, we have found that mergers and acquisition is the activity, which creates stress among employees. When the BoR was about to be merged in the ICICI bank all the employees were against this merger. As we found that post merger, satisfaction level is very low and the stress is very high. The study reveals the mergers stressors, which are responsible for stress among employees. The major psychological factors are uncertainty, insecurity, job changes, and threat of job loss, which create stress among employees. On the other hand, the working cultural factors are also responsible for stress and these include the technology used by the company, reporting system, working hours, relationship with boss and supervision.

Thus, we can say that the changes, which occur during the course of mergers and acquisitions, if not managed at the right time than the level of stress, can increase. To cope up with this situation banks must employee certain policy and strategy to overcome these sorts of problems in advance.

8. REFERENCES

[1] A. Kahr. “Profitability comes down to staff cuts.” American Banker, Vol. 176(127): pp. 8. 2011. Downloaded on December 09, 2011, from Corporate Resource Net, Pacific Institute of Management.

[2] J. Bose. “Bank mergers in India the saga of status quo.” Bank mergers: The Indian scenario, 1st ed., J. Bose (Ed.), Hyderabad: The ICFAI University Press. 2007, pp. 3-23.

[3] D. L. Schweiger and J. Ivancevich. “Human resources: The forgotten factor in mergers and acquisitions.” Personnel Administrator, pp. 47-61, 1985.

[4] J. M. Ivancevich, D. M. Schweiger and F. R. Power. “Strategies for managing human resources during mergers and acquisitions.” Human Resource Planning, Vol. 10(1): pp. 19-35, 1987.

[5] D.M. Schweiger and Y. Weber. “Strategies for managing human resources during mergers and acquisitions: An empirical investigation.” Human Resource Planning, Vol. 12(2): 69-86, 1989.

[6] D. Schweiger and A. DeNisi. “Communication with employees following a merger: a longitudinal field experiment.” Academy of Management Journal, Vol. 34(1): pp. 110-135, 1991.

[7] T. R. Rajeshwari. “Employee Stress: A Study with Reference to Bank Employees.” Indian Journal of Industrial Relations. Vol. 27(4): 419-429, 1992.

[8] S. Cartwright and C. L. Cooper. “The Psychological Impact of Merger and Acquisition on the Individual: A Study of Building Society Managers.” Human Relations, Vol. 46(3): pp. 327-347, 1993. doi: 10.1177/001872679304600302.

[9] Y. Weber. “Corporate culture fit and performance in mergers and acquisitions.” Human Relations, Vol. 49(9): pp. 1181-1202, 1996.

[10] S. Panchal and S. Cartwright. “Group Differences in Post-Merger Stress.” Journal of Managerial Psychology, 16(6): pp. 424-433. 2001.

[11] A. F. Buono and J. L. Bowditch. “Human side of mergers and acquisitions: Managing collisions between people, cultures, and organizations.” Washington, D. C., USA: Beard Books, 2003, p. 133.

[12] G. Lodorfos and A. Boateng. “The role of culture in the merger and acquisition process: Evidence from the European chemical industry.” Management Decision, Vol. 44(10): pp. 1405–1421, 2006.

[13] D. Sakas and Y. Triantafyllopoulos. “Lessons from a case study for Greek banking M&A negotiations.” Management Decision, Vol. 47(8): pp. 1300-1312, 2009.

[14] K. Marmenout. “Employee Sense making in Mergers: How Deal Characteristics Shape Employee Attitudes.” Journal of Applied Behavioural Science, 46(3): pp. 329-359, 2010. doi: 10.1177/0021886310371373, 30/11/2011.

[15] J. K. Khattak, M. A. Khan, A. U. Haq, M. Arif and A. A. Minhas. “Occupational stress and burnout in Pakistan’s banking sector.” African Journal of Business Management, Vol. 5(3): pp. 810-817, 2011.

[16] N. Clarke and N. M. Salleh. “Emotions and their management during a merger in Brunei.” Human Resource Development International, Vol. 14(3): pp. 291-304, 2011.

[17] L. Shook and G. Roth. “Downsizings, mergers, and acquisitions: Perspectives of human resource development practitioners.” Journal of European Industrial Training, Vol. 35(2): pp. 135–153, 2011.

[18] V. Joshi and K. A. Goyal. “Stress Management among Bank Employees: With Reference to Mergers and Acquisitions.” International Journal of Business and Commerce, vol. 1(5): pp. 22-31, 2012.

Web sites:
http://www.rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=22977
http://www.stress.org/topic-definition-stress.htm

Which type of Expert system – Rule Base, Fuzzy or Neural is most suited for evaluating motivational strategies on human resources :- An analytical case study.

Viral Nagori viral011@yahoo.com
Asst. Professor
GLS Institute of Computer Technology (MCA)
Ahmedabad

Dr. Bhushan Trivedi
Director bhtrivedi@yahoo.com
GLS Institute of Computer Technology (MCA)
Ahmedabad

Executive Summary

The scope of expert systems in different areas and different domains are increasing. We are working on development of the expert system for evaluating motivational strategy on human resources. From the literature review, we found that mainly there are three approaches used for development of the expert system: Rule base, Fuzzy and Neural network. In the first half of the case study, we explored the pros and cons of each approach and provided the comparison of applicability of which approach is most suited and when. In the second half of the case study, we explored the feasibility of the approach for our domain area of motivational strategy on human resources. At the end, we found that Neural Network approach is the most suited for our domain because of the flexibility, adaptability to the changing environment and generalisation.

Keywords: - Expert system, Neural network, generalisation and motivational strategies

1.0 PROBLEM DEFINITION

We are developing an expert system for evaluation motivational strategies on human resources from employee's perspective. We want to find out that given employee's personal, educational and family background, will a strategy motivate employee or not. The problem can be described in other words: Will employee prefer given motivational strategy? The most important criteria is that evaluation is from employee's perspective and not from employer's perspective.

1.1 Problem Justification

The industry segments like retail, FMCG, IT, Telecom, Infrastructure, Banking and Finance, and pharmaceutical are suffering from high employee turnover ratio across the country. The turnover ratio goes as high as up to 60% in Indian IT industry. (Vasanthi Srinivasan, 2012). The rates are even higher to 90% in USA in ITES services. (NAASCOM, 2012) The main reason behind the high employee turnover ratio is the job dissatisfaction, pay dissatisfaction, work culture, and relationship with colleagues and superiors. (Gupta, 2003) The best of the motivation strategies failed to retain employees. The reason behind is that the strategies are designed by HR managers without considering all employees in a company. However, it is not the fault of HR managers. Even a medium size company where on an average 100 employees are working, neither it is feasible to consider the preferences of individual employee nor the time permits.

The solution lies in designing specialise motivational strategies for each individual employee to retain him.

2.0 OBJECTIVE

The main objective for developing an expert system is that irrespective of number of employees in a company and company type and size, an expert system should be able to evaluate motivational strategy for each individual employee.

3.0 DOMAIN SPECIFICATION

Here our domain is human resources management, and the sub domain is motivation. Our expert system should work in the area of motivation strategy and its preference by the employee.

3.1 Domain Knowledge: - The word motivation has been defined as to stimulate the person’s inner drive to make him work more effectively and productively. There are number of motivational theories given by behavioural scientist. To name a few, Maslow’s need hierarchy theory, Hertzberg Two factor theory, and Vroom’s expectancy theory. But the problem with all theories are that they talk motivation in general. Neither of the theory considers employee’s personal, educational and family background. The combination of employee’s personal, educational and family background makes each employee a unique identity to deal with and customise motivation strategy for him. Hence, in addition to theoretical knowledge, we need to find out an information system solution, which can process the above information and provide decision making. As above processing requires human intelligence and expertise to decide individually for each employee, it becomes a strong case for expert system development.

From the interaction with HR managers, we categorised motivational strategies into four main categories:

- Perks/incentives
- Training and development activities
- Stress reliever/performance booster activities
- HR policies

Under each categories there are number of different strategies, which HR managers use to motivate and retain employees. The strategies may vary from company to company and management to management.

4.0 CATEGORIES OF EXPERT SYSTEM

We have considered three approaches for development of Expert system. Rule base approach, Fuzzy Expert and Neural Expert system.

First, let us see the brief of all the three categories.

4.1 Rule Base Expert System

For any expert system, the knowledge is the most important ingredient in development. In simple terms, knowledge is defined as the ‘know- how’. Mainly knowledge has two components. Facts and rules governing the business. The business rules can be represented as ‘if – then – else’ structure. The rules for the business can be obtained from the experts in the field. The rules of one business cannot be applied to another business. So expert system developed in one area cannot be used for another area.

Rule base expert system offers following **advantages:**

- In a given condition if so and so, expert will describe its action. So it will be easy to code them in logic using ‘if – then – else’ structure.
- Knowledge base is separated from the rule processing, makes it easier to modify and add new rules as knowledge.

Rule base expert system offers following **disadvantages:**

- The relationship between rule and knowledge is opaque, which makes it very hard to describe sequence of logical interaction.
- For every new instance, an expert system will pass through entire set of rules. So in case if rules are more than 1000, then the execution time will be more.
- For out of the box scenario, an expert system cannot provide decision as the rules for the exception are not coded.

4.1.1 Applicability: - The rule based expert system is most suited when you have domain expert in the field and most importantly knowledge engineer can derive all the rules based on domain knowledge of the experts. If the rules of the business do not change frequently, then rule base expert system is highly applicable.

4.2 Fuzzy Expert System

Fuzzy expert systems are based on the fuzzy logic or fuzzy set theory. Fuzzy logic describe fuzziness, which indicates calibrate vagueness. (Negnevitsky, 2008) Fuzziness describes the degree to certain objects can be classified or cannot be classified. Fuzzy logic is determined as a set of mathematical principles for knowledge representation based on degrees of membership rather than on crisp membership of classical binary logic (Zadeh, 1965). Fuzzy logic is multi-valued. Boolean logic has two values: true and false, while fuzzy logic deals with degrees of memberships. For example, the word fast: If an average person run the 100m in 12 seconds, he is fast, but if an athlete run 100m even in 11 second, then he is not fast.

The most important step of developing fuzzy expert system is identifying the variables that will take fuzzy values and then develop fuzzy rules.

The following is the biggest **disadvantage** of fuzzy expert system.
- Not all the objects can be classified as fuzzy sets. Lot of time comparative degrees like more and less arise, which forces to define new fuzzy set values and rules.

4.2.2 Applicability
The fuzzy expert systems are most suited when it is very hard to determine the exact value of the variable, which is part of decision-making. For example, Valuation of house for mortgage, when house can assume values ranging in the degree of old to new.

4.3 Neural Expert System
Neural Expert system is based on model of human brain. The way human brain adapts to the change and learns new things, similarly neural expert system modify, add, and extract new knowledge from the existing knowledge base. The neural expert system offers the following **advantages:**
- It is capable of generalisation.
- It can deal with noisy and incomplete data set. (Negnevitsky, 2008)
- Neural expert system is flexile in changing environment.
- Neural expert system can be more useful when all conventional approach for system development fails. (Akerkar, 2005)

The neural expert system has following **disadvantages.**
- It cannot provide explanation facility for the answer provided by it.
- The ‘GIGO’ – Garbage In, Garbage out concept is very much applicable for neural expert system. The data, which trains the neural network, are not proper, and then it can lead to inappropriateness of the problem.

4.3.3 Applicability: - The neural expert systems are most suitable when it is very hard to derive rules and the rules are constantly changing. When generalisation is required and explanation facility is not required, neural expert system is the best solution.

4.4 Comparison between Rule based, Fuzzy and Neural Expert system
The following table will provide summarise comparison between three main types of expert systems.

Rule Based Expert System	Fuzzy Expert System	Neural Expert System
It works best when rules can be derived and coded.	Fuzzy logic works with degree of membership for data value.	It is modelled on human brain.
Rules can be coded using ‘if-else’ structure.	Rules can be coded with ‘if – else structure with probabilistic	Rules cannot be extracted.

	values.	
Its not dynamic and flexible	It is also not dynamic and flexible.	It is flexible and adapts to change in environment.
Rule based system works for specific situation for which it has been designed.	Fuzzy expert systems work for a specific data values for which probability factors are assigned.	Neural expert system can learn quickly and adapt to new data set.
Generalisation is not possible.	Generalisation is not possible.	Generalisation is possible.
Explanation facility is provided.	Explanation facility is quiet difficult to provide as some of the data couldn't be exactly classified in range of degree of membership.	Explanation facility is not possible.
Availability of experts is needed for deciding rule base.	Expert services are needed to decide the value in fuzzy set.	No need of expert, rather it works when it is hard to define rules.
Knowledge update is difficult and requires change is rule base.	Knowledge update is not an easy task.	Knowledge update is easy as each time you can make system learn again to adapt to new knowledge.
The processing time is more as every time, a program has to go through all possible alternatives until decision is reached.	The processing time is more compared to rule base expert system because certainty factors are associated with each rule, so numbers of possible alternatives are even more.	The processing time is less compared to rule based and fuzzy expert, because once system has learned, it can quickly produce the results. Learning might take few hours with every time new data is added.

5.0 EXPERT SYSTEM FOR EVALUATING MOTIVATIONAL STRATEGIES ON HUMAN RESOURCES

We wanted to find out that given a motivational strategy, would employee prefer it or not. As an input, we decided to consider employees personal, family and educational factors. The input factors are decided after having a discussion with HR managers from various industries. The input factors are listed below.

Age, current city, sex, Education qualification, level of hierarchy, work experience, current salary, marital status, and no of years of marriage(if married), parent's dependability, parents' salary (if independent), spouse's nature of job, spouse's salary, No. Of Children, Child's status (Dependent/Independent), Number of other Dependent family members, total family income (per month).

5.1 Can we use rule-based approach for development of expert system?

For our domain area, we considered HR managers, Owners, directors of the company as an expert. We consulted experts of IT industry to derive the rules. The expert said that it is very hard to define generalise rule which is applicable to all the employees of the company which will state whether an employee will be motivated by the above strategy or not. If experts cannot define rules for their company, then we cannot define rules for entire industry and for all the employees.

Another reason because of which we cannot define rules is that we are almost considering 18 factors as an input for decision-making. So total possible if else conditions would be 2^{18}. Now suppose if one more input factor is added later on, then we have to restructure the coding part.

The employees' personal, family and educational details may change over a period. For example, person may be unmarried; he/she may get married in future. An employee's spouse might have a job today, and in future, he/she might leave or retired. So we found that it's very hard to define rules which will indicate that employee will prefer the motivation strategy or not.

As, we reached to conclusion after consulting with experts that it is not feasible to derive all the rules, we did not explore the option further.

5.2 Can we use fuzzy approach for development of expert system?

Fuzzy Expert systems are also based on deriving rules along with associating certainty factors. From the input data, we try to find out whether a variable can take fuzzy value. Let us say age, now we cannot categorise age as young or old, because age will take numeric value. Similarly, marital status of the person can be married or unmarried. We cannot associate certainty factor here that person married with 0.9 certainty factors. In the same manner, education qualification cannot have only two values in the range of literate and illiterate. People would be having varying degree in their graduation and post graduation studies.

The limitations of rule base expert system are very much applicable to fuzzy expert system as it is very hard to define rules. Therefore, we didn't explore further consideration for this approach.

5.3 Can we use neural network approach to develop Expert system?

The use neural network does not need to derive rules for development of expert system. Therefore, our constraint of not able to derive rules on the human resource domain actually helped us to explore this approach further. The neural network approach helped us to generalise the expert system model. Hence, the expert system developed using neural network approach will not only work for an individual group of employees of few companies, but work for all the industries and all the employees in general.

Another advantage neural network offers is the flexibility and ability to adapt quickly to the change in environment. In our domain, the flexibility and adaptability are the critical criteria because we are not aware that out of the input factors listed above, which will influence the decision of the employees. Secondly, new input factors, which influence motivational decision, could also emerge when you dig further in the research domain. Third, the value of input factors may change every year and because of that, the preference in favour of motivational strategy may change in future. When there is a change in input factors or no of records in the learning set, you just need to make neural network learn, then later on it can keep producing results without any time delays. Only in some cases, it takes few more hours to learn.

The neural network offers one disadvantage that it cannot provide explanation facility for the result it has provided. The experts said that the input parameters for the domain make very complicated permutations and combinations when they are studied in-group. The explanation of why a particular employee opted in favour or against of motivational strategy is very hard task even for the expert with experience of more than 20 years. The above statement has been said to us by one of the HR manager of a leading IT firm in Ahmedabad, who has more than 30 years of experience in designing motivation strategy. If expert of the domain cannot provide explanation then we cannot expect of explanation from the system. Therefore, the limitation of neural network is actually turning out in favour of choosing a neural network approach for our domain.

6.0 CONCLUSION

After carefully evaluating all the three approaches, we decided to adopt the neural network approach for development of expert system for evaluating motivational strategies on human resources. The main reason is the flexibility and ability to adapt provided by the neural network. The limitation of not able to derive rules for rule base and fuzzy expert system actually worked in favour of neural network approach. The ability to provide generalisation is also important criteria while evaluating all the three approaches.

The following table will summarise our conclusion and will explain that why we choose to have neural network approach to develop an expert system in our domain.

Parameter	**Approach of Expert system**	**Decision**
In ability to derive rules	Rule based	No
Degree of fuzziness cannot be defined	Fuzzy	No
Generalisation is required	Neural Network	Yes
Flexibility and ability to adapt is required	Neural Network	Yes
Explanation facility is not required	Neural network	Yes

Hence, above table concludes that out of the all the three approaches evaluated, Neural network based approach is very much suitable for our domain to develop expert system for evaluating motivational strategies on human resource domain.

7.0 REFERENCES

[1] Akerkar, R. (2005). *Introduction to Artificial Intelligence.* PHI.

[2] Gupta, M. (2003). *To Be Or Not To Be? A Study of Employee Turnover.* historical.org.

[3] NAASCOM. (2012, Jun 16). *India Trumps US, UK On ITES Employee Turnover*. Retrieved from financialexpress.com: http://www.financialexpress.com/news/india-trumps-us-uk-on-ites-employee-turnover/79971/

[4] Negnevitsky, M. (2008). *Artificial Intelligence - a guide to intelligent system.* Pearson Education.

[5] Vasanthi Srinivasan, R. V. (2012, Jun 21). *Ideas and insight : Organisation behaviour and HR*. Retrieved from iimb.ernet.in: http://www.iimb.ernet.in/newsletter/issues/91

[6] Zadeh, L. (1965). Fuzzy sets, information and control.

Business Structure of Indigenous Firms in the Nigerian Construction Industry

Sunday Julius ODEDIRAN sunnyodediran@yahoo.com
Department of Quantity Surveying,
Obafemi Awolowo University, Ile-Ife, Nigeria.

Busayo Funmilola ADEYINKA funmilola20074life@yahoo.com
Department of Quantity Surveying,
Obafemi Awolowo University, Ile-Ife, Nigeria.

Oladele Ayinde OPATUNJI opatunjioladele@yahoo.com
Department of Quantity Surveying,
Federal Polytechnic, Ede Osun State, Nigeria.

Kolawole Opeyemi MORAKINYO opekolamorak5817@yahoo.com
Department of Architecture,
Caleb University, Lagos, Nigeria.

Abstract

The roles of contracting firms in construction industry cannot be overemphasized and their structure is a function of performance and output in the industry. Sets of questionnaire were administered on construction professionals working within the contracting firms. Data obtained was analysed using both descriptive and inferential statistics. The study found out that the firms were medium-size firms, engaged in building construction and cannot finance projects independently prior to client financial contribution (mobilization fee). Their activities were limited to their locality and rarely get bank loans. They do not have share capital and therefore could not fund project from company capital base.

Keywords: Indigenous Contractor, Construction Industry, Business Structure, Construction Clients, Firm Size and Construction Project Funding

1. INTRODUCTION

The Construction Industry, which is vital to growth and development, is one of the oldest in the world, indeed as old as civilization itself. Construction activity forecasts the general direction of an economy and for this reason; the industry is often described as a leading economic sector. This indicates the significance of construction industry across generations and developmental stages. Nigeria's construction sector accounts for 1.4% of its GDP. Despite the fact that growth has been observed in the construction sector output, its contribution to total GDP has remained at abysmally low levels (1). In 1981, the construction sector accounted for 5.8% of Nigeria's GDP and in the last three decades, Nigeria's total GDP has raised to approximately 495 times its size. On the contrary, construction sector GDP has only grown to 125 times its size in 1981. It is quite evident that Nigeria is away below realising its potentials in construction industry despite huge deficit in infrastructure due to the inability of the government to train the indigenous firms (1). It is the responsibility of every nation to nurture, develop and equip her contractors with the available projects so as to have the required experience with which to execute all complexities of national construction challenges. But instead of this, government has developed foreign companies neglecting their own contractors starved of work (2). This has made foreign contractors to gain better expertise while the Nigerian contractors remain inexperienced and therefore unable to compete with their foreign counterparts. The domineering attitude of these foreign companies has not given the indigenous construction companies the opportunity of solely executing major engineering projects (3).

The Nigerian construction market is among the largest construction markets in Africa, which has recorded impressive growth over the years. Though, government spending was a major contributor to the industry, especially the infrastructure sub-segment, other factors also contributed positively on the industry's growth. Despite the strategic role of the industry in a growing economy like Nigeria, its contribution to the Nation's GDP of less than 2% is quite negligible when compared with some African countries as established by (1).

Inconsistent project management practices influence company's competitive position in the market place (4). Project management in some developed countries cannot be compared with Nigerian system, firms or organisations that delay in adopting formalized practices definitely suffers specific consequences which include failure to learn from shared experiences, late and over budgeting projects, and low labour productivity (5). Therefore, construction projects become more complex, complicated and fragmented which necessitated specialist contractors in which most of them are expatriates contractors and this has gradually faced out the indigenous contractors that are fully owned by Nigerians as identified by (6).

Nigerian construction industry is dominated by foreign companies in which most of the construction works are been undertaken by expatriates, (7).This is due to the deficiencies and incapability of the indigenous firms in areas of financial effectiveness, innovations, dynamism among others (8). A large proportion of these major constructing firms in Nigeria are subsidiaries/affiliates of European, North American and Asian construction firms. However, private clients especially individuals award building contracts to local construction companies. The choice and preference for engaging foreign contractors as compared with other indigenous firms is majorly on lack of technical competence, deficiency in managerial skills and planning. Others include poor financial management, adaptations to modern innovations among others as established by (9) and (6).

Based on the above, competition increased over the years, as new companies, both foreign and local companies emerged in Nigerian construction market, only few indigenous constructing firms have enlarged their capacities to serve both the private and public sectors. Based on the past researches, some of the Nigerian indigenous contractors are incompetent and inexperienced as established by (10) and (11) and this has made the industry unable to develop and compete with the level of other developing nations particularly those in Asia, for example, Malaysia is 15 years ahead of Nigeria, in terms of physical infrastructure development as affirmed by (12). Nevertheless Julius Berger Nigeria Plc remains the leader in the Nigerian construction market in terms of activities (infrastructure sub-sector), assets and revenue. However, the industry's growth continues to be hampered by the harsh business environment, which remains a major challenge for all industries in Nigeria.

Hence, this paper examines the structure of the indigenous contracting firms in Nigeria with Osun state as the study area. The scope of this paper covers firm size in terms of their annual turnover, staff strength and equipment capacity; area of specialization including building, building/civil engineering, industrial/heavy engineering; business types including build only, design & build, design, build & finance and design, build & operate. Types of clients often work for comprising public (federal, state & local governments) and private (individuals, institutions, international agencies & Non-Governmental Organization-NGO). Project funding arrangement covers bank loan, retained earnings, share capital and mobilization fees and year of existence/operation of the firm. These form the basis of questions contained in questionnaire administered on the respondents (construction professionals) who are in charge of the construction sites in the study area.

2. MAJOR CONTRACTING FIRMS IN THE NIGERIAN CONSTRUCTION INDUSTRY

Nigerian construction industry is dominated by international construction firms, though a number of smaller local companies are emerging presently (1). Julius Berger Nigeria Plc remains the market leader, as it controls a large chunk of public sector construction. With the entrant of Chinese Construction giants however, the dominance of Julius Berger faces significant threat in the long term. For example, China Civil Engineering Construction Company was appointed by the Lagos State Government as the contractor for the Lagos Light Rail Project. The firm was also awarded the rehabilitation of Lagos-Jebba rail track by the federal government. The growing popularity of Public Private Partnership (PPPs) also means more international construction firms are likely to come into the Nigerian market.

Other medium-size (based on scale of operation) constructions firms in Nigeria are as follows Costain W.A Plc, PW Nigeria, Cappa & D"Alberto, Stabilini Visinoni, Bi-Courtney Limited, Lekki Concession Company, Reynolds Construction Company Ltd and Setraco Nigeria Limited, Gerrawa Global Engineering Limited, Piccolo-Brunelli Eng. Ltd, Philco Nigeria Ltd, Kopek Construction, Niger

Construction Ltd, , Enerco Limited, Borini Prono and Company Limited, Arab Contractors Limited, Triacta Limited, CGC Nigeria Limited, Standard Construction Limited, Dantata and Sawoe Construction Company Nig, Ltd, and Mother Cat Limited. There are many low-size construction firms whose profile could not be unveiled though execute large proportion of construction activities in Nigeria. These among others are those examined by this paper because of their contribution and level of involvement in large volume of construction activities across the country.

3. PREVIOUS STUDIES ON CONSTRUCTION COMPANIES

Nigeria as a nation is still at the infancy stage of infrastructural development where lots of construction activities are being carried out across the nation by the federal, state and local governments as the major clients of construction activities in Nigeria. The main purpose of this developmental plan is to provide shelter, basic amenities and services such as road, water, electricity et al. as essential needs of man to Nigeria populace. All these construction activities are carried out by contracting firms either local or international whose structure atimes affect the level of construction output. But, the execution of most of these construction works are being carried out by the foreign construction firms but changes in government, transformation agenda and local content policy in infrastructural sector has created rooms for Nigerian indigenous contracting firms to grow and participate in the developmental processes. Basically industries could be classified on the scope of operation, ownership and management control (13). Like other nations of the world, construction firms could be classified as small, medium and large in Nigeria, large firms are majorly dominated by the expatriates with very few indigenous that could be categorized as medium while most are categorized as small size firms. Against this background, there is a need to examine the structure of contracting firms in Nigeria who are dominated by small scale operation but execute large volume of construction activities.

According to (14), their study examined problems facing small contractors in South Africa and found out that poor record keeping, lack of effective management, and lack of entrepreneurial skills are major cause of business failures for small contractors. Also, (15) examined the factors affecting the performance of small indigenous contractors in Papua New Guinea; level of cash flow, financial skills, poor communication between the contractors and the clients' site representative are the major factors affecting the performance of indigenous contractors. Hence, (16) conducted a study on measuring the competitiveness of UK construction industry and provided information on the structure of construction firms in Britain, Germany, French and United States. According to (17) which x-trayed and evaluated the structure of construction industry provided information on the activities and type of clients in the industry. In Nigeria, (18) examined the application of strategic management among construction firms and the study was conducted among the small, medium and large construction firms in Lagos Nigeria. The study found out that small and medium size firms are mostly conversant with this management strategic. Also, (19) appraised the causes of collapse of some construction firms in Nigeria. The study was conducted on medium to large size construction firms and found that the competence of management has the most significant influence on the continual survival of construction firms in Lagos state.

The research conducted on the assets structure of medium-sized building construction contracting firms in Nigeria and its implications on their operation (20) found out that the assets structure of these firms comprise of fixed assets being less than half of the total assets, this means that a greater portion of the total assets is current assets (held mainly as account receivables that sometimes may not be available within one year). There is generally a low investment in fixed assets from earnings over the years. The assets structure of these firms could impact on their ability to compete successfully on some project types especially where hiring options for plant and equipment are unavailable. Review of literature on construction firms shows a paucity of researches on business structure of construction firms in Nigeria. But among the few studies found, there was limited number that examined the business structure of indigenous construction firms in terms of their size; area of specialization; business types; types of clients, project funding arrangement and year of existence/operation. The paper examined the business structure of indigenous firms in the Nigerian construction industry with a view to examining the size, area of specialization, nature of business, types of client and project funding arrangement of indigenous contracting firms in Nigeria.

4. METHODOLOGY

The study appraised the business structure of indigenous contracting firms in Nigeria. The scope of this study was limited to contractors on construction sites within Osun state. The respondents include architects, engineers, builders; quantity surveyors and others related professionals working within the firms. Their lists were obtained from the directories of their professional bodies (Nigerian Institute of Architect, Nigerian Institute of Building, Nigerian Institute of Quantity Surveyors and Nigerian Society of Engineers). The primary data were collected through the administration of a well structured questionnaire which was divided into two sections. Section A comprised the demographical characteristics of the respondents. Section B contained the specific questions addressing the focus of this study including firm size, area of specialization, business type, type of client, project funding arrangement and years of work experiences. Questionnaire were administered on professionals in twenty (20) contracting firms through random sampling techniques, fourteen (14) copies were retrieved back and used for the analysis which represented a response rate of 70%. Data collected was analysed using percentages to describe the demographical characteristics of the respondents. Mean Item Score (MIS) and Relative Significance Index (RSI) were used to show the mean scores of the professionals' responses to the questions raised by the study, while Chi-Square Test was used to determine the level of significance of the variables identified by this study. This method of analysis has been employed by other construction management studies (21, 22 and 23).

5. RESEARCH HYPOTHESIS

Hypothesis 1

H_0 = There is no statistical significant impact of firms' size on business structure
H_1 = There is a statistical significant impact of firms' size on business structure

Hypothesis 2

H_0 = There is no statistical significant impact of firms' area of specialization on business structure
H_2 = There is a statistical significant impact of firms' area of specialization on business structure

Hypothesis 3

H_0 = There is no statistical significant impact of firms' business type on business structure
H_3 = There is a statistical significant impact of firms' business type on business structure

Hypothesis 4

H_0 = There is no statistical significant impact of firms' types of client on business structure
H_4 = There is a statistical significant impact of firms' types of client on business structure

Hypothesis 5

H_0 = There is no statistical significant impact of firms' funding arrangement on business structure
H_5 = There is a statistical significant impact of firms' funding arrangement on business structure

6. RESULTS AND FINDINGS

Table 4.1 illustrates the demographic information about the professionals' in-charge of the construction sites. The results obtained shows that 64.3% of the respondents are holders of Bachelor of Science, 35.7% are holders of Higher National Diploma while none of them hold Master of Science or Technology and National Diploma. For their years of work experience, the mean was estimated at 7 years, which represents the working experience of about 79% of the respondents. Hence, with this average working experience, respondents are deemed experienced enough to supply reliable data for this study. Table 4.1 further indicates the designation and professional qualification of the respondents, result obtained shows that 50.0% were engineers, 28.6% were builders and 21.4% were architects while none was quantity surveyors. Their professional qualifications were 35.7% MNSE, 14.3% MNIOB and 7.1% MNIA while others indicated that they earned other professional qualifications not listed. This indicates that the professionals possess adequate academic and professional qualification and training to supply reliable data for this study.

Variable Name	Variable Value	Frequencies	Percentage
Highest Academic Qualification	M.Sc.	0.0	0.0
	B.Sc.	9	64.3
	HND	5	35.7
	OND	0.0	0.0
	O'Level	0.0	0.0
Years of Work Experience	0-5	9	64.3
	6-10	2	14.4
	11-15	1	7.1
	16-20	1	7.1
	20-25	1	7.1
	Mean = 7 years		
Professional Designation	Engineers	7	50.0
	Builders	4	28.6
	Architects	3	21.4
	Quantity Surveyors	0.0	0.0
Professional Qualification	MNSE	5	35.7
	MNIOB	2	14.3
	MNIA	1	7.1
	MNIQS	0.0	0.0
	Others	6	42.9

TABLE 1: Demographic Information of the Professionals/Respondents

Table 2 describes the size of contracting firms in the study area. In term of annual turnover, staff strength and equipment capacity, the result obtained shows that out of 14 respondents, 11, 11 and 10 firms are of medium size respectively. This implies that the majority of the firms surveyed are medium size contracting firms in terms of their annual turnover, staff strength and equipment capacity. It could be inferred that the firms surveyed are capable and should be able to offer construction services to a satisfactory level of the required specification. Assessment of the level of significance of firms' size shows that the annual turnover, staff strength and equipment capacity are significant to the business structure of the indigenous firms. This indicates that indigenous firms should improve on their annual turnover for them to compete with expatriates who have dominated the construction markets in Nigeria. Indigenous firms' capacity in term of size and capacity of their employees should be improved on for them to meet job requirements and demands. The firms' equipment capacity must also be improved on because the construction activities are becoming complicated, complex and advanced due to new innovations and technology. Therefore, H_1 was accepted because there was a significant impact of firms' size on business structure.

Size of Firms in Terms	Large	Medium	Small	X^2	Sig	Remark
Annual Turnover	2	11	1	4.571	.033	S
Staff Strength	1	11	2	13.000	.002	S
Equipment Capacity	3	10	1	13.000	.002	S

TABLE 2: Firm Size

*** Significance @ 5% i.e. p<0.05, S = Significant, NS = Not Significant**

Table 3 illustrates the area of specialization of the firms surveyed. The highest ranked was building construction with RSI=1.00. Others include civil engineering works (RSI=0.977) and industrial/heavy (RSI=0.643) which was ranked low. The results obtained from the respondents show that all the contracting firms surveyed were engaging mostly in building construction more than civil works, industrial and heavy engineering, though they were equally ranked high. The assessment of the level of significance shows that building construction and industrial/heavy works were significant while civil engineering works were insignificant to indigenous firms in the industry. This implies that indigenous firms could develop their business horizon in the area of building construction because of opportunities of accessibility to workloads; scope and capacity of equipment requires in executing the building works. Industrial/heavy engineering activities also comprises of building works and indigenous firms should employ strategies to access works in that sector. Therefore, H_2 was accepted because there was a considerable significant impact of firms' area of specialization on business structure.

Specialization	Mean	RSI	Rank	X^2	Sig	Remark
Building construction	3.00	1.000	1	10.286	.001	S
Civil Engineering Works	2.93	0.977	2	3.456	.346	NS
Industrial/Heavy	1.93	0.643	3	9.286	.010	S

TABLE 3: Area of Specialization
*** Significance @ 5% i.e. p<0.05, S = Significant, NS = Not Significant**

Table 4 describes the kind of business activities and contract arrangement often engage with employers by most of the contracting firms surveyed in the study area. The professionals' in-charge of the firms ranked build only with RSI 1.000 as the business type/contract arrangement often entered with the construction clients. Others include design & build (package deal) (RSI = 0.787) and design, build & operate (0.620). The least ranked was design, build & finance (turnkey) with RSI 0.570. This implies that most of these firms do not have the capacity to produce independent designs for a project, finance projects prior to client financial contribution (mostly rely on mobilization fee from the client) and have no capacity to go into long-term financing and partnership. Evaluation of significance of business types of indigenous firms shows that build only and design build and operate were significant. Build only procurement system was significant because not all clients have regular cash flow for project execution and indigenous contractors could be better placed in assisting such clients to meet their need of personal shelter which encompass the principle of "pay and work". Design, build and operate was also significant because there were users who might not be able to build houses of their own and need shelter. Hence, H_3 was accepted because there was a significant impact of firms' business type on business structure.

Business Type	Mean	RSI	Rank	X^2	Sig	Remark
Build Only	3.00	1.000	1	7.332	.032	S
Design & Build (Package Deal)	2.36	0.787	2	4.429	.109	NS
Design, Build & Finance	1.71	0.570	4	2.286	.319	NS
Design, Build & Operate	1.86	0.620	3	7.143	.008	S

TABLE 4: Business Type/Contract Arrangement
*** Significance @ 5% i.e. p<0.05, S = Significant, NS = Not Significant**

Table 5 describes the type of clients often work for by most of those firms. The clients' types were categorized into public and private. The result obtained shows that for public client, the highest ranked was state ministries and parastatals with RSI 0.953 followed by local governments (RSI = 0.833) while the least ranked was federal ministries and parastatals (RSI = 0.810). This result shows that most of the firms surveyed work closely with the state government than federal and local governments. This could help them to build their capacity in terms of complexity of construction activities, staff strength and strong financial base or viability. For private clients, firms surveyed ranked individual (RSI = 0.930) and NGO (RSI = 0.930) high as the private clients they often work for. The least ranked was institutions (RSI = 0.620) followed by international agencies (RSI = 0.737). This shows that the clients of the firms surveyed were limited to their locality. This could be true because it will take time to build trust and confidence in any growing up firms most especially when money is involved. The significance of type of clients often worked for by indigenous firms' surveyed shows that state ministries/parastatals was significant for public clients. But for private clients, the significant were individuals and institutions. The state ministries and parastatals were significant to the structure of indigenous firms because this level of government is close to the grassroots politics in a political nation like Nigeria and where local government power is at the control of the state government. Presently, in the study area most of the capital projects across the state are under the control of the state which is the central government in Nigeria. In the case of private clients, individuals could be close associates who know indigenous contractors as friends, business associates, and political affiliate's e.t.c. while institutions also have self power to give jobs to whosever seems competent and with less bureaucracy. Non-governmental institutions were insignificant because some of them have national and international affiliations whose requirements might seem challenging to indigenous contractors.

Table 6 illustrates the project funding arrangement for the projects carried out by the firms surveyed. The result obtained ranked mobilization fees high with RSI 0.930 as project funding arrangement between the clients and the firms surveyed. Others include bank loans (RSI=0.903) and retained earnings (RSI=0.787). The least ranked was share capital (RSI=0.620). It could therefore be inferred that most of the projects handled by the firms were funded by the clients' personal funds (mobilization fees), they rarely get bank loans to fund the projects and there was low level of savings among the firms from the previous projects to fund new projects.

Types of Clients	Mean	RSI	Rank	X^2	Sig	Remark
Public						
Federal Min. /Parastatals	2.43	0.810	3	.009	1.000	NS
State Min. /Parastatals	2.86	0.953	1	7.143	.008	S
Local Governments	2.50	0.833	2	4.429	.109	NS
Private						
Individual	2.79	0.930	1	17.286	.000	S
Institutions	1.86	0.620	4	4.571	.033	S
International Agencies	2.21	0.737	3	1.000	.607	NS
Non-Govt. Org. (NGO)	2.79	0.930	1	1.000	.607	NS

TABLE 5: Types of Clients
* Significance @ 5% i.e. $p<0.05$, S = Significant, NS = Not Significant

As the least ranked arrangement, most of the firms were not quoted on the Nigerian Stock Exchange hence, they do not have share capital and therefore could not fund project from company's' capital base. The assessment of the level of significance of project funding arrangement to business structure of indigenous firms shows that bank loan; share capital and mobilization fees were significant. This shows that accessibility to loan facilities is a key factor for enhancing the structure of indigenous firms in other to compete successfully with the expatriates who have taken over most of the business markets in Nigeria. It is therefore imperative to create an enabling environment and framework for SMEs, such as indigenous contractors' accessibility to funds in Nigeria financial system. In additiion, payment of mobilization fee to indigenous contractors is also essential as monetary security which shows that client has made a reasonable commitment towards his dream.

Funding Arrangement	Mean	RSI	Rank	X^2	Sig	Remark
Bank Loan	2.71	0.903	2	13.000	.002	S
Retained Earnings	2.36	0.787	3	1.1439	.285	NS
Share Capitals	1.86	0.620	4	9.571	.008	S
Mobilization Fees	2.79	0.930	1	4.571	.033	S

TABLE 6: Project Funding Arrangement
*** Significance @ 5% i.e. $p<0.05$, S = Significant, NS = Not Significant**

Table 7 explains the year of existence of the firms surveyed. The average years of operation of the firms was calculated at 10 years. Most of the firms have been working for a decade which shows that they have satisfactory experience in the industry.

Year	Frequency	X	FX
0-5	1	2.5	2.5
6-10		8	72
11-15	2	13	26
16-20	1	18	18
21-25	1	23	23

Table 7: Years of Existence/Operation of Firms
Estimated Mean = *10 years*

7. DISCUSSION OF FINDINGS

The paper evaluated the structure of indigenous firms in the Nigerian construction industry. The study shows that these firms were medium size in terms of annual turnover, staff strength and equipment. This result agreed with the works of (18) who classified contracting firms in Nigeria into small, medium and large. The study of (19) on causes of collapses of construction firms was also carried out on medium to large scale firms. In Nigeria, (20) also studied asset structure of medium size construction firms in Nigeria. All these studies equally agreed with the conclusion of the study that most indigenous contracting firms are medium-sized. The study also established that most of these firms specialized in building works and this support the work of (3) who stated that the reason for this is because government who is the major client of the industry has continued to give foreign contractors power to execute major engineering projects while neglecting her own indigenous contractors. Assessment of business type or contract arrangement showed that most of these firms often involved in build only or design and build contract arrangement methods. This was supported by (4) who opined that inconsistent project management practices influence firms' chances in the market place. It was also established by (5) that consequences of failure to learn from shared advantages or experiences of procurement systems from developed nations could result into late and over-budgeting projects and low labour productivity. It also submitted that construction projects are becoming more complex, complicated and fragmented which necessitated specialist contractors and (6) also affirmed that adoption of traditional procurement systems has gradually faced out the indigenous contractors that are fully owned by Nigerians. The choice of these procurement systems could have impact on productivity because in most developed countries procurement system has gone beyond traditional system of design and build. The study also established that indigenous firms often work for state government, individuals and non-governmental organizations which were supported by (2) assertion that Nigerian government has developed foreign companies neglecting their own contractors starved of work. This means that Nigeria government has continued to award contracts to foreign firms rather than developing their own indigenous firms. However, most of the firms surveyed financed projects through mobilization fees paid by the client and rarely get bank loan. This shows that they do not have access to credits or loans facilities i.e. there were no structures to develop the financial capacity of the SMEs/indigenous firms. This was supported by (8) who compliment (7) assertion that Nigerian construction industry is dominated by foreign companies and this is due to the deficiencies and incapacity of the indigenous firms in the areas of financial effectiveness. The study of (9) and (6) also affirmed that the choice and preference for engaging foreign contractors as compared with other indigenous firms among others was poor financial management. This was established by the study of (15) in Paupa New Guinea that examined factors affecting the performance of small indigenous contractors. The study concluded that level of cash flow and financial management of the firms was part of the key factors affecting indigenous contractors.

8. CONCLUSION

This paper had examined the structure of indigenous contracting firms in Nigeria. Among issues raised were their size in terms of annual turnover, staff strength and equipment; area of specialization, business type/contract arrangement, type of clients, project funding arrangement and years of operation. This paper therefore concluded that:

i. Majority of the firms surveyed are medium size contracting firms in terms of their annual turnover, staff strength and equipment capacity. They have been in operation for more than a decade.
ii. Most of the contracting firms surveyed are frequently engaging in building construction more than other areas of construction such as civil works, industrial and heavy engineering.
iii. Majority of the firms do not have the capacity to produce independent designs for a project, finance projects prior to client financial contribution (mobilization fee) and do not have capacity to go into long-term financing and partnership.
iv. Also most of the firms surveyed are limited to their locality as their areas of operation. This could be true because it is usually longer for clients to build trust and confidence in any growing up firms.
v. Most of the projects handled by the firms are funded by the clients' personal funds, they rarely get bank loans to finance the projects, and there is poor savings culture among the firms. Finally, they do not have share capital which means they are not quoted on the Nigerian Stock Exchange and therefore could not fund project from company capital base.

9. REFERENCES

(1) T. Oluwakiyesi. “Nigerian Construction Industry: A Haven of Opportunities”. Vetiva Capital Management Limited, 266B, kofo Abayomi Street, Victoria Island, Lagos.

(2) I. Akintunde. Nigerian Construction Industry: Past, Present, Problems and Prospects. In I., Akintunde, Ibadan University Printery, 2003.

(3) F.A. Oseni. Need to Revive Our National Development Plans. In I., Akintunde, Nigerian Construction Industry: Past, Present, Problems and Prospects (p.17-55).Ibadan: Ibadan University Printery, 2002.

(4) D. Bolles. Building Project Management Centre of Excellences. New York: AMACOM, 2002.

(5) X.C. Dai and W.G. Wells. “An Exploration of Project Management Office Features and their Relationship to Project Performance”. International Journal of Project Management, 22(7), 523 – 532, 2004.

(6) G. I. Idoro. A Comparative Study of Direct Labour and Design-Tender- Construct Procurement Systems in Nigeria. A PhD Thesis. Department of Building, University of Lagos, Akoka, Lagos, Nigeria, 2007.

(7) O. Adams. “Contractor development in Nigeria: perceptions of contractors and professionals”. Construction Management and Economics, 15(1), 95-108, 1997.

(8) A. A. Olugboyega. “Indigenous Contractors’ Perceptions of the Importance of Topics for Contractor Training in Nigeria”. Habitat International. Vol. 22, No. 2, pp. 137-147, 1998.

(9) A. Enshassi, S. Mohammed, P. Mayer and K. Abed. “Bench marking Masonry Labour Productivity’. International Journal of Productivity and Performance Management .Vol. 56(4) 358 – 368, 2007.

(10) P.O. Ogbebor. Enhancing Indigenous Construction Industry as a National Goal in Nigerian Development. In I., Akintunde, Nigerian Construction Industry: Past, Present, Problems and Prospects, Ibadan: Ibadan University Printery, 2002, p.230-239.

(11) C. Chen, P. Chiu, R. Orr and A. Goldstein. An Empirical Analysis of Chinese Construction Firms’ Entry into Africa. International Symposium on Advancement of Construction Management and Real Estate. 8-13 August 2007, Sydney Australia

(12) S. Ogunlana. Sustaining the 20:20 vision through Construction: A Stakeholder Participatory Approach. Distinguished Guest Lecture Series. University of Lagos, 2010.

(13) J.E. Idiake and K. Bala Improving Labour Productivity in Masonry Work in Nigeria: The Application of Lean Management Techniques *In:* Laryea, S., Agyepong, S.A., Leiringer, R. And Hughes, W. (Eds) *Procs 4th West Africa Built Environment Research (WABER) Conference,* Abuja, Nigeria, 24-26 July 2012, 677-686. 677.

(14) W. D. Thwala and M.J. Phaladi. “An Exploratory study of Problems Facing Small Contractors in the North West Province of South Africa”. African Journal of Business Management Vol.3 (10), pp. 533-539, October 2009.

(15) D. Wasi, A. Bridge and R.M. Skitmore. “Factors Affecting the Performance of Small Indigenous Contractors in Papua New Guinea’. The Australian Journal of Construction Economics and Building 1(1):pp. 80-90, 2001.

(16) N. Blake, J. Croot and J. Hastings. Measuring the Competitiveness of the UK Construction Industry. Construction Economics and Statistics, vol. 2, 2004.

(17) BTEC’s own resources: Structure of the Construction Industry.

(18) M.A. Adebayo. “Application of Strategic Management among Construction Firms in Nigeria. Construction”. The Journal of the Federation of Construction Industry, 19, 1, January-May, 2004.

(19) R. Iyagba and J. Ojuola. “An Overview of the Causes of Collapse of some Construction Firms”. The Journal of the Federation of Construction Industry, 19, 2, October-December, 2004.

(20) J.O. Kehinde and T.O. Mosaku. “An empirical study of assets structure of building construction contractors in Nigeria”. Engineering, Construction and Architectural Management, Vol. 13 Iss: 6, pp.634 – 644, 2006.

(21) A. Akintoye. “Analysis of factors influencing project cost estimating practice”. Construction Management and Economics, 18(1), 77-89, 2000.

(22) S.Q. Wang, R.L.K. Tiong, S.K. Ting, and D. Ashley. “Evaluation and Management of political risks in China’s BOT projects”. Journal of Construction Engineering and Management, 126(93), 242-250, 2000.

(23) H.A. Odeyinka. The development and validation of models for assessing risk impacts on construction cash flow forecast, Ph.D. Thesis, Glasgow Caledonian University, 2003.

The Adoption Of Tailor-made IT-based Accounting Systems Within Indonesian SMEs From Actor Network Theory Perspective

Samiaji Sarosa systemscraft@gmail.com
Accounting Department
Atma Jaya Yogyakarta University
Yogyakarta 55281, Indonesia

ABSTRACT

This paper examines the adoption process of computer-based accounting information systems within Indonesian SMEs. The analysis was conducted using theoretical framework proposed by Slappendel [1] which is interactive process. Interactive process argues that adoption of innovation (IT in particular) should be viewed as an interactive process between individual member, organization, and its environment. One of the emerging theories within interactive process is Actor Network Theory (ANT) proposed by Latour, Callon, and Law[2-7]. ANT classified adoption process as four stages process, namely problematisation, interrestment, enrolment, and mobilization. We used qualitative approach to gather data, analyze and draw conclusion. As the result we come up with factors that influencing the adoption process along with the failure and success of such endeavour. We argues that ANT is better in explaining the adoption of IT compared to other model due its ability to identified not only the factors but also the process of adoption and explaining the success or failure of the process.

Keywords: Adoption, Computer-based AIS, Actor Network Theory, Indonesia, SMEs

1. INTRODUCTION

Small and Medium Enterprises (SMEs) arguably form a significant proportion of economic development in many countries including Indonesia [8-10]. In Indonesia, SMEs have been promoted as one of the tools to overcome the 1997 economic crisis [11]. We observed how Indonesian SMEs struggle to acquire and deploy Information Technology (IT)-based accounting systems solutions and how in some cases they have failed.

Typical adoption of innovation study such as this article used diffusion of innovation theory [12] to explain the phenomenon. Such approach have been heavily criticise due to pro innovation bias view and the tendency to focus more on factors (drivers and barriers) instead of the adoption process itself [13, 14]. We used Actor Network Theory [3, 7, 15] to explain the adoption of IT-based accounting systems due to its ability to explain the adoption phenomenon as an interactive process between organisations and its environment rather than focusing on individual factors that may affecting the adoption [1, 16].

We have been intrigued by the adoption of computer-based accounting information systems by some of Indonesian SMEs. Some of them succeed quiet well and yet some of them failed miserably. Some of them invested their IT budget wisely, while others became victims to irresponsible vendors.

The qualitative approach is deemed appropriate for this study since the use of a process-based perspective required a thorough analysis and understanding of the IT-based accounting systems adoption process [1, 17]. The qualitative approach with semi-structured interviews allowed us to explore in depth all the factors and the interaction of all stakeholders within an IT-based accounting systems adoption process [18-20]. We actually found the success and failure theme while we were analysing the data. Constant comparison based on grounded theory was conducted [21, 22]. We found pattern emerged that deemed important to be analysed and explored further.

On the next sections we will discuss the theoretical based of our study along with the methodology justification. We also reveal our respondents profile continued by our findings. At the end we present our conclusions along with possible future works.

2. ADOPTION OF IT WITHIN SMES

Studies of the adoption of IT can be considered as originating from the study of the diffusion of innovation (DOI) and more specifically diffusion of IT innovation [12, 14]. Within this paper, we shall consider three different terminologies: *diffusion, adoption*, and *IT innovation*. The notion of diffusion is often associated with the effort to spread innovation to a greater audience using communication channels, while adoption is often associated with the decision to accept and use the innovation [12, 23-26]. Innovation is associated with something new, such as ideas, artefacts or products [12]. In this paper new systems introduced into the organisation are considered as an innovation.

2.1. Definition of adoption

Basically there are three different definitions of adoption of innovation. The first refers to the Diffusion of Innovation (DOI) theory [12], in which adoption means decision to make physical acquisition of technical artefacts or a commitment to implement innovation with the emphasis being on the decision to adopt [27, 28]. The commitment to use the innovation is the result of a decision to make full use of an innovation or adoption [12]. Rogers's diffusion of innovation theory was drawn mainly from communication theory. Accordingly, its main idea was concerned with the process of communicating the idea of innovation to the potential adopters. The main objective is to convey the innovation message and encourage the potential adopters to accept the innovation. Adoption would be achieved in the adopter's mind and it is not important how the innovation is actually put into use by the adopter.

The second definition of adoption is from the works of Thong and Yap [29], where adoption of IT is defined as using IT to support business. This definition has similarities with the third definition of IT adoption, which is using innovations as intended by the designer [23]. The difference is that Bøving and Bødker [23] argued that modification of an innovation by a user in practice or by re-invention [12] was not supported by their findings, therefore it was concluded that not all use of innovation was equal and could be called adoption. Only a full use of innovation as intended by the designer without reinvention can be called adoption. On the other hand Thong and Yap [29] did not differentiate between full use and modified use of IT in their studies. Still, these two definitions argue that unless the innovation is put to use, it is not an adoption. This argument is in line with Zaltman et.al. [26], Damanpour [30], and Damanpour and Evan [31]; they considered a new idea as innovation when implemented.

Zaltman et.al. [26] divided the innovation adoption process into initiation and implementation stages. Palen and Grudin [32] furthermore supported this distinction by using the term adoption for the decision to begin using a technology and using the term deployment for making the technology available. For innovation adoption, in this paper, we argue that the definition of adoption should include the implementation stage. IT-based systems as innovation are not only ideas but also include artefacts. It is not enough that the use of IT-based system is only accepted or decided upon without any physical implementation. Rogers [12] noted that all activities until the decision is made to adopt innovation were mental activities and the implementation of the innovation required physical activities.

2.2. Interactive process perspective of adoption

There are three different approaches to study adoption of innovations, which are individualist, structuralist, and interactive process [1, 16, 17]. Individualist and structuralist approaches are focusing on individual actors and organizations as unit of study. Accordingly, the focus of studies is mainly on factors such as individual characteristics, size of organizations, leader's characteristics, and the structure of organizations. In real life, those factors are not sitting in a container and staying still, there are evidence of interactions between individuals, organizations, and their environment. Interactive approach, on the other hand, offers a more comprehensive view which covers the interactions.

It can be said that interactive processes offer more comprehensive perspectives of innovation within organisations. Individuals' actions and the structure of an organisation would determine the adoption of innovation. The interactive process acknowledges that individuals might act within the organisation and its structure, yet at the same time organisational characteristics and its environment would influence the individual's actions. Adoption of innovation is a process which involves the individual, the organisation, the environment, and the interactions between them [1]. Palen and Grudin [32] investigated the adoption and deployment of calendaring application within organisation. The organisation deployed the calendar application and the process of individuals using the calendar began. Palen and Grudin called this discretionary adoption. Within interactive process perspectives, Actor Network Theory (ANT) is one of the emerging theories that attempts to explain adoption of innovation as a result of interaction process [33-35].

2.3. Actor Network Theory

ANT is often accredited as the work of Michel Callon, Bruno Latour, and John Law [2-5, 34-38]. ANT deals with [39]:

> *"… progressive constitution of a network in which both human and non-human actors assume identities according to prevailing strategies of interaction. Actors' identities and qualities are defined during negotiations between representatives of human and non-human actors. The most important of these negotiations is 'translation', a multi faced interaction in which actors: construct common definitions and meanings, define representatives, co-opt each other in the pursuit of individual and collective objectives."*

The translation process consist of four stages [2]:

1. ***Problematisation***. Key actors attempt to define the problem and roles of other actors to fit the proposed solution, which was made by the key actors. Key actors proposed solutions to the problems [40]. The key actors persuade the other actors that they all have the same interest and the answer to the problems is in the solutions proposed by key actors [7, 34]. The desired result would be the other actors would accept a set of specific conventions, rules, assumptions, and ways of operating defined by heterogeneous engineers which ultimately resulted in the formation of network [4, 5].

2. ***Interresment***. Processes that attempt to impose the identities and roles defined in problematisation on other actors. The key actors and other actors enrolled in the new created network try to lock other non enrolling actors. They gradually dissolve the existing networks and replacing them with new networks created by the enrolling actors [34, 35]. The enrolling actors try to stabilise the new identities for the other actors.

3. ***Enrolment***. A process where one set of actors (key actors) imposes their will on others. The other actors will be persuaded to follow the identities and roles defined by the key actors. This will then lead to the establishment of a stable network of alliances. The enrolment process includes among other things coercion, seduction, and voluntary participation [33].

4. ***Mobilisation***. This is where the proposed solutions gain wider acceptance. The network would grow larger with the involvement of other parties that were not involved previously. This growth is due to the influence of actors.

When using ANT to investigate IT adoption, a researcher would focus on issues such as network formation, human and non-human actors, alliance, and network build up [34, 38]. Stronger alliances would be likely to influence the decision to adopt or reject IT. In conclusion, ANT recognises that adoption of innovation is initiated by individuals who build a network of individuals (in the form of an organisation) and nonhumans (machine, tools, etc.) to adopt innovations. ANT is different from DOI in several ways:

- It breaks the communication into stages (of translation).
- It considers the details of "resistance" (anti-program).
- It treats non-humans as actors.
- It explains success and failure with the same model.

ANT was originally developed to explain the diffusion of science into society [for example the idea of pasteurisation in 5]. It is similar to Rogers's DOI. The difference is that Rogers's DOI viewed the adoption as merely a communication process, while ANT viewed adoption of innovation as involving a political game where an actor (who wants to spread the innovation) builds a network that will use the innovation.

Some other examples are the works of McMaster [13, 33] and Tatnall ([34, 35]. In those studies, the process of translation was believed to be richer and deeper in that it acknowledged the intertwining and inseparability of technical and social issues.

ANT is an example of a theory to explain how different stakeholders in an organisation try to spread their ideas to the other stakeholders and influence them to accept the ideas. From the ANT perspective, an actor would build a network of power to overcome other networks of power so he or she could win and impose their ideas [6, 15, 36]. At the end, the actors would use the network to achieve their own goals. In the context of adoption of innovation, the ANT perspective could be used to show how different actors spread their ideas (innovation) to be adopted by others through the development of a network [13, 14, 33]. When their ideas (innovation) are accepted by the other stakeholders (the development of a network), the actor could use the network to achieve his or her own goals. Non human actors could be 'act" in different way than intended or imposed by the key actors. Latour [5, 6] has shown how the Aramis failed to perform so it caused the abandonment of mass rapid transit project in Paris or how bacteria have been conquered by Pasteurization so it caused the jettison of Louis Pasteur into scientific stardom to show the role of non human actors.

In this light of ANT process, we will identify the actors and network they build, along with the process of network development (translation). We will draw from participants' own account of their adoption experience to explain the process. We mapped the participants' experiences into the translation's stages. We could also explain the success and failure of adoption using ANT.

2.4. Success and failure

Rogers [12] believed that adoption of innovation is about accepting the innovation, not whether the innovation works. With IT adoption, it is different since an IT solution often must be tailored to each SME. We would not necessarily say it was "adopted" until it was in use – (i.e. it had succeeded). Failure might be a combination of when the idea for IT is accepted, but the implementation is not. The acceptance of an innovation (in this article the innovation is IT) could be associated with the success of IS and rejection could be associated with failure of IS. This view is also supported by ANT, where ANT explains the success or failure of adoption of innovation is based on the interaction between networks.

IT adoption process could result in either IT being accepted and used to support the business (which might lead to further adoptions) or rejected [12]. The acceptance and usage of IT is often associated with the success and failure of implementation of IT as part of an Information System [41-43]. Adoption of IT could be closely associated with the success or failure of the initial implementation. On the other hand, the failure might be a slow process. The technology might seem to work well in the early stages, but then it may fail [44]. We are interested in the assessment of failure or success in the early stages of implementation, because the flaw (which may lead to failure in the later stage) might be detected and fixed, which may be able to prevent the ultimate failure.

2.4.1. IS Success

The concept of IS success is problematic and can be interpreted in different ways [45]. For example, Brabander and Thiers [46] defined IS success as related to the efficiency of the IS itself in meeting the requirements. IS success is also often associated with the benefits gained from the IS compared to the cost to acquire the IS [47]. However, cost–benefit analysis to measure IS success is difficult and previous studies were inconclusive in providing definitive evidence of benefits arising from IS or IT investment [48, 49]. Other measurements of IS success are related to its effectiveness, which is associated with the IS contribution toward achieving the organisation's goals and performance [50, 51]. However, measuring the impact of IS on organisational performance is also problematic, since it is difficult to isolate the impact of IS from other factors influencing organisational performance [43, 52].

In order to measure IS success, two surrogate measures in the form of two variables are often used: computer utilisation and user satisfaction [41, 42, 52]. Computer utilisation refers to the actual use of computers within organisation, which is shown by the frequency and length of use [42]. User satisfaction, according to some authors such as Raymond [41], emphasises factors that contribute to user satisfaction, including whether the applications were developed internally, usage of administrative applications, whether applications are interactive, the presence of high ranking MIS functions, and whether the organisation is situated in a less remote region. DeLone [42], on the other hand, argues that user satisfaction is shown by the actual usage of the applications by the user.

Looking at the different definitions and measures of IS success, we need to formulate a way to measure IS success. In this article, IS success is measured by:

- Computer usage by looking at the actual usage of computer (e.g. what the computer is used for, by whom, etc)
- Impact on the business measured by number of applications in used, perceived application importance, and perceived application success.

2.4.2. IS Failure

While most studies in IS success are interested in defining or measuring the success itself, there are also studies in IS failure that usually looked for factors or causes of the failure. Information systems (IS) failures have been documented extensively in the literature. Research literature in recent years has attempted to explain the reasons for and the impacts of an IS failure within organisations [eg. 53, 54, 55]. The problem with this type of research about IS failure is that it focuses mainly on the reasons for and impacts of the failure and little is revealed about what the organizations did to recover after the failure. Furthermore, most studies were conducted on larger corporations and only very few for SMEs [e.g. 56]. Arguably, the impact of IS failure within SMEs could be as significant as within larger companies or sometimes even worse due to the SMEs' limited resources [57, 58]. Accordingly, action taken after an IS failure could be a critical point for SMEs.

IS failure is a complex phenomenon that is difficult to define. There have been a number of efforts to adequately define the concept of IS failure since 1970 [53]. The term IS failure itself is often influenced by the perception of people who are involved in it [54, 59-61]. While one group of researchers perceive the notion of "failure" in IS as termination of a project due to an unbearable accumulation of flaws, others consider failure as the inability of an IS to meet its stakeholders' expectations [53]. A flaw is a condition that if accumulated might cause the system to fail, but it can be corrected at the later stage at a cost or accepted at a cost [53]. Accordingly, different organisations will behave differently when coping with IS failure within their organisations. Many of the definitions of IS failure assume that technology is neutral and unproblematic [62] as stated by one summary that defined IS failure as [63]:

> *'System failure is constituted by the system not working properly: it does not perform as expected, it is not operational at the specified time and it cannot be used in the way intended'.*

This definition, however, does not portray the full complexity of IS failure as a combination of technology and social issues.

Two approaches related IS failure to the social and organisational context [53], namely the concept of "*expectation failure*" [64] that was later broadened by Lyytinen [65] to distinguish between "*development failure*", and "*useage failure"* with the concept of "*termination failure*" [66].

Lyytinen and Hirschheim [64] identified four major categories of IS failure. Lyytinen [65] argued that stakeholder groups might recognise failure in either the development or the use phase. In the development phase, the stakeholders try to fit the IS development process to their interests, while in the use phase the stakeholders endeavour to align the IS with their ongoing concerns. Ewusi-Mensah and Przasnyski [67], while supporting Lyytinen's idea, argued that IS failure is better defined as failure in IS usage or operation, whereas failure in the development of IS should be called project abandonment. The project abandonment itself can be categorised into three different types:

- *Total abandonment* is where all project activities are terminated completely before implementation.
- *Substantial abandonment* is where major modification occurs to the project that makes it significantly different from the original specification before implementation.
- *Partial abandonment* is where the original specification is reduced without resulting in major changes before implementation.

Sauer [66] portrays IS development as an interaction of project organisation, supporters and IS arranged in a triangle shape. The project organisation depends on its supporters for the provision of support. Supporters depend on IS for benefits, and IS depends on the effort and expertise of the project organisation to sustain it. In this model, the IS development process is open to flaws, defined as an undesired problem that needs to be solved. The flaws need to be corrected within an acceptable cost range. When flaws are not adequately dealt with, they might reduce the capacity of the IS to serve its supporters and might introduce new flaws into the systems. At some stage the accumulation of flaws might trigger a decision to stop support and terminate the project. Accordingly, IS cannot be deemed a failure until the development or operation ceases and the supporters are dissatisfied because the IS no longer serves their interests. This is what Sauer referred to as termination failure.

Sauer’s definition of IS failure is somehow narrower than Lyytinen and Hirschheim’s that the failure is caused by an unbearable accumulation of flaws as a result of interactions between the three components of Sauer’s model. Even with a tolerable accumulation of flaws, IS failure still can occur when environment variables such as unfavourable government regulations or economic conditions influence the triangle interactions. Lyytinen and Hirschheim’s definition on the other hand provides a wider understanding of IS failure.

The literature has shown the different definitions of failure and the stages where failures might occur [64-66, 68]. However, there is little coverage of how an organisation copes and recovers from failures, especially for SMEs. Failures in IS could have a considerable effect on SMEs due to their lack of resources. We believe that the issues of IS success and failure as the end result of IT adoption process and how the SMEs cope and recover from such failure need to be explored further.

3. RESEARCH METHOD

IT adoption within SMEs is a complex socio-technical phenomenon [1, 12-14]. SMEs consist of individuals and other resources that interact with each other in their daily operations. By introducing an innovation (in this case IT) the interaction both within an SME and between the SME and its environment will change. Such complexity needs to be explored in its fullness. Any effort to reduce such complexity into mere numbers and figures could obscure the real picture. A quantitative approach using tools such as surveys was considered but not adopted since the use of a survey tends to prejudge the outcome beforehand. In the end, the quantitative approach will either accept or reject the hypothesis. Instead of making an educated guess at the outcome, the qualitative approach used in this study will explore the phenomena. The outcome should provide a more complete picture drawn from the data collected by semi-structured interviews.

As discussed in the previous section, the qualitative approach allows the researcher to study the phenomenon in its context and with all its complexity [69]. It enables the adoption of IT within SMEs to be explored beyond just the factors influencing IT adoption by Indonesian SMEs and also allows an investigation of the complexity of adoption process experienced by Indonesian SMEs.

Establishing the research approach used in this study also establishes the selection of methods and tools to collect and analyse the data from research participants. As it is the intention of a qualitative research to study the phenomenon in its context, the methods used has to enable interaction with the research participants [19, 69]. In this study, the data comes from the participants’ experience in adopting IT for their organisation. One method of collecting such data is the interview, which may be structured, semi-structured, or unstructured [18, 69-71]. A structured interview provides a set of questions prepared by the researcher and the participants are required to give answers to those questions [69, 70]. In a way, it is similar to delivering a survey orally and the data collector filling in the survey rather than asking the participants to fill the survey. Unstructured interviews do not have any detailed guidance on how the topic should be explored [69, 70]. The unstructured interview could get carried away from the main research topic and might not capture the required data. Therefore, the semi-structured interview with open-ended questions is selected as the method to collect data for this study. The semi-structured interview allows the researcher to explore participants’ experiences of IT adoption and to focus on the main issues, yet at the same time allows the interviewer to explore participants’ responses further or to clarify issues emerging during the interview [69, 70].

Once the data is collected, content analysis can be used as an analysis tool. Content analysis is used to identify patterns and themes within the data [69, 72, 73]. From the analysis, stages of the adoption of IT within the participant’s organisation can be identified, along with other relevant information that may be important but does not directly relate to the adoption of IT. We mapped the result to 4 stages of ANT’s translations.

4. PARTICIPANTS PROFILE

The participants were selected from a list of Indonesian SMEs in the furniture and handicraft industry and situated in the Yogyakarta and Surakarta regions in Central Java. The list was compiled from data provided by the Indonesian Yellow Pages and the Indonesian SMEs association (ASMINDO). The furniture and handicrafts industries were chosen because they are not obviously IT intensive. These SMEs usually do not have a dedicated IT department, yet they need to use IT in their day-to-day operations.

The chosen (adjacent) regions of Central Java are considered one of the main centres for furniture and handicrafts in Indonesia. As all the SMEs are from the same region, they face similar business environments (transportation, raw materials sources, export markets, etc.) We had been working with various SMEs prior to this research project as an IT consultant. Some of the SMEs we have been working in the past were in the furniture and handicrafts industry. Therefore, it was easier to initiate contact and invite the participants since we were known to them.

We managed to secure participations from more than 55 SMEs. However, only 12 are included for the purpose of this article since the rest were only using office package for general purpose and graphical design package for product design purpose. We assign R#, where # is sequential number as code for participants. We would like to protect participants' privacy and anonymity. Table 1 shows the profile of our participants with its original codes.

Participants	Developer	Status	Type of Apps.	Key Actor(s)
R01	Internal, Bespoken	Failed	Inventory and employee attendance	Manager
R02	External, Bespoken	Failed	Inventory	Manager/owner
R03	External, COTS	Failed	ERP	Owner & Vendor
R04	External, Bespoken	Failed	Accounting Package	Manager/owner
R05	External, Bespoken	Failed	Order/Sales Entry	Manager
R06	External, Bespoken	Failed	Order/Sales Entry	Owner/Vendor
R07	External, Bespoken	Failed	Accounting Package	Manager
R08	Internal, Bespoken	Succeed	Accounting Package	Manager & Staff
R09	Internal, Bespoken	Succeed	Accounting Package	Manager & Staff
R10	Internal, Bespoken	Succeed	Accounting Package	Manager
R11	External, Bespoken	Succeed	Inventory	Manager/Owner
R12	External, Bespoken	Succeed	Order/Sales Entry	Manager/Owner & Staff

Table 1. Participants' profile

External developer means that the system was built by external parties, while internal means the opposite. Failed means that the system was either failed to be finished or finished but abandoned [53, 62, 74]. Succeed means that the system was used as initially intended [42, 45]. Actor refers to the initial individual/parties who had the idea and initiate the adoption process. We differentiate manager from owner since the owner might be the manager or they would hire somebody else to run their business. Type of application refers to the software used to manage accounting systems. It was ranging from inventory management to full accounting package and even an ERP system. We also differentiate commercial-off-the-shelf to bespoken system, although only one using COTS systems.

5. TRANSLATION PROCESS

In this section, we will map the participants' experience to the stages of translation [2, 3]. Along the way, we will also present some quotes from our participants[1].

5.1. Problematisation

Key actors attempt to define the problem and roles of other actors to fit the proposed solution, which was made by the key actors. Problematisation means the actor who initiates adoption effort saw problems with their old system or opportunities for offering new system. The key actors also would like to see other actors subscribe to their view.

All but R03 and R06 had only internal key actors who initiated the system development effort. In R03 case, ERP consultant approached the owner to build their own ERP systems guided by the consultant. All the key actors (manager/owner, manager, staff, and vendor) perceived that the organisation have problems with their current accounting systems.

> *"We need more accurate inventory reports" R01 manager/owner*
>
> *"We need to integrate and share our accounting information" R03 manager*

The key actors then persuaded other to start adopting desired solutions which was building a new accounting system. The position as manager or owner certainly was favourable for the key actors to impose their proposal. The key actors would like to impose a set of new rules, assumptions, conventions, and operating procedure in form of a new accounting system.

> *"We want to be able to manage our production process from material requisition to sales." R03 manager*
>
> *"We want to reduce error in the administrative area" R02 manager/owner*

Yet, as seen in table 1, it did not necessarily translated into success or acceptance by the others.

5.2. Interresement

Processes that attempt to impose the identities and roles defined in problematisation on other actors.

In this stage, key actors then assigned other actors to start the development of new accounting systems. Key actors in seven participants[2] (R02, R04, R05, R06, R07, R11, and R12) have to bring external actors to develop the accounting systems since nobody within their organisation able or deemed able to assume the role of systems developer.

> *"I hired a programmer who happen to be my old colleague while I was working for a computer store" R11 manager/owner*

Others were utilising internal actors and even themselves as developer.

> *"I developed the new system myself" R01 manager*
>
> *"One of our staff have adequate programming skills to develop the application" R09 manager*

---

[1] The actual interviews were in Indonesian and Javanese language. The excerpts are translated and presented in English by the author.

[2] R03 is excluded since the origin of the new system development was from external parties in form of COTS. It was only natural that the developer would be external.

In this stage, non human actors in form of computers and applications are brought in to form a new network. The new network in this context is the new accounting systems. Key actors rallied other actors (human and non human) to form set of procedure and applications to manage accounting data.

> *"I did all the purchase, setup, and installation" R10 manager*

> *"The staff required computers to perform their duties" R08 manager/owner*

5.3. Enrolment

A process where one set of actors (including key actors) imposes their will on others. The other actors will be persuaded to follow the identities and roles defined by the key actors. This will then lead to the establishment of a stable network of alliances.

Once the network started to form, the key actors rallied support from other non enrolling actors. All enrolling actors made attempts to entice non enrolling actors to join the new network. The enrolling human actors would made attempts using communications channel.

> *"We started with the marketing department which need sales applications; we hoped that the other would see the benefit." R12 manager*

Enrolling non human actors in successfully doing what they intended to do, would demonstrate the "positive" aspects of the new network. Ultimately success or failure of the accounting systems would determine if the stabilisation of network formed. The failure of non human actors to perform had negative effects to the network formation. Non enrolling actors did not want to join the network due to the failure.

> *"The inventory system shown negative balance, I think the programmers were incapable!" R02 owner/manager.*

> *"The application build was not suitable for our business process, we had to made too many adjustments which were not desirable" R03 manager*

5.4. Mobilisation

This is where the proposed solutions gain wider acceptance. The network would grow larger with the involvement of other parties that were not involved previously. This growth is due to the influence of actors. The accounting system, either in development process or finished product, was accepted as sole solutions to the problems. The key success factors in this stage is two which are:

- Wide acceptance from other actors, especially non enrolling human actors.
- The ability of non human actors and enrolling human actors to perform their pre defined roles as intended. In other words, the accounting system is demonstrating its capabilities to solve the problems.

It is need to be noted that on R03 case, the ERP project eventually failed. However, the owner/manager have seen and convinced the benefit of an integrated accounting system (much like the doomed ERP project). The owner then hired the ERP consultant to be permanent employee and oversee the development of new accounting systems. The system was developed by internal staff from scratch which seemed suitable for the company.

6. DISCUSSION

Actor Network Theory with its four stages of translations arguably could better explain the adoption of IT-based accounting systems [13, 14, 34, 40]. By looking at the adoption process through translation, we could identify actors (both human and non-human). We also could observe how their action (or inaction) could lead to the successful or failure of adoption.

The key actors who initiated the development of new accounting systems mostly involved directly with the organisations' daily operations. R04 have external key actors. Yet the external actors able to rallied another key actors (the owner/manager) to subscribe to the idea. Although the key actors mostly a person with the highest possible authority in the organisation, it does not guarantee acceptance.

To gain acceptance, the new accounting systems need to be developed. In order to develop the accounting systems, the key actors rallied the assistance of other actors. It might be external developers (R01, R04, R05, R06, R07, R08, and R11) or internal developers and even themselves (R02, R03, R09, and 10). The key actors also include non human actors in form of computers and accounting systems applications. The key actors and their allies then try to entice non-enrolling human actors to join the network, which means accepting and using the accounting system.

The key success factors for non human actors are two. The first factor is wide acceptance from other actors, especially non enrolling human actors. The second factor is the ability of non human actors and enrolling human actors to perform their pre-defined roles as intended. In other words, the accounting system is demonstrating its capabilities to solve the problems.

R01, R02, R03, R04, R05, R06, and R07 were failed due to the inability of the accounting systems to accomplish their goals. All three accounting systems failed to functions properly. R02's inventory applications showed negative balance. R03 failed to deliver ERP systems. R07 simply failed to develop a standard accounting system.

R01, R05, and R06 failed to entice non enrolling human actors to join the network. R01 manager failed to convince other to use his inventory and time attendance recording system. The employee went to the owner and the owner veto the application. R06 and R07 were similar. The staff could not use the application even though they have been intensively trained. R06 cited the lack of discipline to use the accounting application, while R07 cited the lack of English language skills made them unable to use the order entry processing systems. R07's system was designed to handle overseas order, so English language skills were essentials.

7. CONCLUSIONS

We have demonstrated in this article how Actor Network Theory could provide a better picture on adoption of bespoke IT-based accounting systems within Indonesian SMEs. Conventional adoption of innovation research would focus more on drivers and barriers and the characteristics of innovations. Actor Network Theory provides a view where the adoption is a social process. A process where key actors try to impose their view on the problems and their version of the solutions to toher actors by building a network of human and non human actors. The network was in form of IT-based accounting systems where a set of roles, rules, and procedures was implemented. Actor Network Theory also looks at the success and failure of such endeavour.

The network formation will be success if the key actors could entice other actors either human or non human to join their new network. By forming new networks (new accounting system), the alliance dissolves the old network (the old accounting system). Non human actors need to perform their intended duties, otherwise the new network will crumble and failed to form. Some might say that the human actors responsible for making non human actors to perform yet we could see from time to time that for some reason a computer and its applications simply does not work. The fact was the system failed to perform and the network failed to gain wider acceptance.

The study was conducted using organisation as unit of study. Therefore the dynamic shown are on organisational level. We could gather more fact if we also looking at individual level. We also only interviewed key actors. We did not look at non key actors especially the external developers and non human actors. We might get a better understanding on what went wrong (or what went right for that matter) if we could study the failure of non human actors performance.

REFERENCES

1 Slappendel, C.: 'Perspectives on Innovation in Organizations', Organization Studies, 1996, 17, (1), pp. 107-129

2 Callon, M.: 'Some Elements of Sociology of Translation: Domestication of The Scallops and The Fishermen of St Brieue Bay', in Law, J. (Ed.): 'Power, Action, Belief: A New Sociology of Knowledge' (Routledge& Kegan Paul, 1986), pp. 196-233

3 Callon, M.: 'Actor-network Theory - the Market Test', in Law, J., and Hassard, J. (Eds.): 'Actor Network Theory and After' (Blackwell Publishers, 1999), pp. 181-195

4 Latour, B.: 'Science in Action' (Open University Press, 1987. 1987)

5 Latour, B.: 'The Pasteurization of France' (Harvard University Press, 1988. 1988)

6 Latour, B.: 'Aramis, or, The Love of Technology' (Harvard University Press, 1996. 1996)

7 Law, J.: 'After ANT: Complexity, Naming, and Topology', in Law, J., and Hassard, J. (Eds.): ' Actor Network Theory and After' (Blackwell Publishers, 1999), pp. 1-14

8 Aragon-Sanchez, A., and Sanchez-Marin, G.: 'Strategic Orientation, Management Characteristics, and Performance: A Study of Spanish SMEs', Journal of Small Business Management, 2005, 43, (3), pp. 287-308

9 Drew, S.: 'Strategic Uses of E-Commerce by SMEs in The East of England', European Management Journal, 2003, 21, (1), pp. 79-88

10 O'Regan, N., and Ghobadiah, A.: 'Short-and Long-term Performance in Manufacturing SMEs: Different Target, Different Drivers', International Journal of Productivity and Performance Management, 2004, 53, (5), pp. 405-424

11 Hill, H.: 'Small and Medium Enterprises in Indonesia: Old Policy Challenges for A New Administration', Asian Survey, 2001, 41, (2), pp. 248-270

12 Rogers, E.M.: 'Diffusion of Innovations' (Free Press, 1995, 4th edn. 1995)

13 McMaster, T.: 'The Illusion of Diffusion in Information Systems Research', in Ardis, M., and Marcolin, B. (Eds.): 'Diffusing Software Products and Process Innovations' (Kluwer Academic Publishers, 2001), pp. 67-85

14 McMaster, T., and Kautz, K.: 'A Short History of Diffusion', in Editor (Ed.)^(Eds.): 'Book A Short History of Diffusion' (IFIP, 2002, edn.), pp. 10-22

15 Latour, B.: 'Reassembling The Social: An Introduction to Actor-Network-Theory' (Clarendon, 2005. 2005)

16 Kautz, K.: 'The Enactment of Methodology: The Case of Developing a Multimedia Information Systems', in Editor (Ed.)^(Eds.): 'Book The Enactment of Methodology: The Case of Developing a Multimedia Information Systems' (2004, edn.), pp.

17 Kautz, K., and Nielsen, P.A.: 'Understanding The Implementation of Software Process Improvement Innovations in Software Organizations', Information Systems Journal, 2004, 14, (1), pp. 3-22

18 Creswell, J.W.: 'Research Design: Qualitative, Quantitative, and Mixed Methods Approaches' (Sage Publications, 2003, 2nd edn. 2003)

19 Crotty, M.: 'The Foundations of Social Research: Meaning and Perspective in The Research Process' (Allen & Unwin, 1998. 1998)

20 Lam, D., Boymal, J., and Martin, B.: 'Internet Diffusion in Vietnam', Technology in Society, 2004, 26, (1), pp. 39-50

21 Williamson, K.: 'Research Methods for Students, Academic and Professionals: Information Management and Systems' (Centre for Information Studies, 2002, 2nd edn. 2002)

22 Strauss, A., and Corbin, J.: 'Basics of Qualitative Research: Grounded Theory Procedures and Techniques' (Sage Publications, 1990. 1990)

23 Bøving, K.B., and Bøker, K.: 'Where is The Innovation?', in Editor (Ed.)^(Eds.): 'Book Where is The Innovation?' (Kluwer Academic Publishers, 2003, edn.), pp. 39-52

24 Brown, L.A.: 'Innovation Diffusion: A New Perspective' (Methuen, 1981. 1981)

25 Schon, D.A.: 'Beyond Stable State' (The Norton Library, 1971. 1971)

26 Zaltman, G., Duncan, R., and Holbek, J.: 'Innovations and Organizations' (Wiley, 1973. 1973)

27 Aiken, M., Bacharach, S.B., and French, J.L.: 'Organizational Structure, Work Process, and Proposal Making in Administrative Bureaucracies', Academy of Management Journal, 1980, 23, (4), pp. 631-652

28 Fichman, R.G., and Kemerer, C.F.: 'Adoption of Software Engineering Process Innovations: The Case of Object Orientation', Sloan Management Review, 1993, 32, (4), pp. 7-22

29 Thong, J.Y.L., and Yap, C.S.: 'CEO Characteristics, Organizational Characteristics and Information Technology Adoption in Small Businesses', Omega The International Journal of Management Science, 1995, 23, (4), pp. 429-442

30 Damanpour, F.: 'The Adoption of Technological, Administrative, and Ancillary Innovations: Impact of Organizational Factors', Journal of Management, 1987, 13, (4), pp. 675-688

31 Damanpour, F., and Evan, W.M.: 'Organizational Innovation and Performance: The Problem of "Organizational Lag"', Administrative Science Quarterly, 1984, 29, (3), pp. 392-409

32 Palen, L., and Grudin, J.: 'Discretionary adoption of group support software: lessons from calendar applications': 'Implementing collaboration technologies in industry: case examples and lessons learned' (Springer-Verlag, 2003), pp. 159-179

33 McMaster, T., Vidgen, R.T., and Wastell, D.G.: 'Technology Transfer -- Diffusion or Translation?', in McMaster, T., Mumford, E., Swanson, E.B., Warboys, B., and Wastell, D. (Eds.): 'Facilitating Technology Transfer Through Partnership - Learning from Practice and Research' (Chapman and Hall, 1997), pp. 64-75

34 Tatnall, A., and Burgess, S.: 'Using Actor-Network Theory to Identify Factors Affecting the Adoption of E-Commerce in SMEs', in Singh, M. (Ed.): 'E-Business Innovation and Change Management' (IDEA Group Publishing, 2004), pp. 152-169

35 Tatnall, A., and Lepa, J.: 'The Internet, E-Commerce, and Older People: An Actor Network Approach to Researching Reasons for Adoption and Use', Logistics Information Management, 2003, 16, (1), pp. 56-63

36 Latour, B.: 'On Recalling ANT', in Law, J., and Hassard, J. (Eds.): 'Actor Network Theory and After' (Blackwell Publishers, 1999), pp. 15-25

37 Sidle, C.C., and Warzynski, C.C.: 'A New Mission for Business Schools: The Development of Actor-Network Leaders', Journal of Education for Business, 2003, 79, (1), pp. 40-45

38 Sismondo, S.: 'An Introduction to Science and Technology Studies' (Blackwell Publishing, 2004. 2004)

39 http://www.ascusc.org/jcmc/vol3/issue2/bardini.html, accessed 12 June 2004

40 Tatnall, A.: 'Modeling Technological Change in Small Business: Two Approaches to Theorizing Innovation', in Burgess, S. (Ed.): 'Managing Information Technology in Small Business: Challenges and Solutions' (IDEA Group Publishing, 2002), pp. 83-97

41 Raymond, L.: 'Organizational Characteristics and MIS Success in the Context of Small Business', MIS Quarterly, 1985, 9, (1), pp. 37-52

42 DeLone, W.H.: 'Determinants of Success for Computer Usage in Small Business', MIS Quarterly, 1988, 12, (1), pp. 50-61

43 Turban, E., MacLean, E., and Wetherbe, J.: ‘Information Technology for Management: Transforming Business in The Digital Economy’ (John Wiley & Sons, 2002, 3rd edn. 2002)

44 Turban, E., Leidner, D., MacLean, E., and Wetherbe, J.: ‘Information Technology for Management: Transforming Business in the Digital Economy’ (John Wiley & Sons, 2006, 5th edn. 2006)

45 Caldeira, M.M., and Ward, J.M.: ‘Understanding The Successful Adoption and Use of IS/IT in SMEs: An Explanation from Portuguese Manufacturing Industries’, Information System Journal, 2002, 12, (2), pp. 121-152

46 Brabander, S., and Thiers, G.: ‘Successful Information Systems Development in Relation to Situational Factors which Affect Effective Communication Between MIS-Users and EDP-Specialists’, Management Science, 1984, 30, (2), pp. 137-155

47 Ives, B., Olson, M., and Baroudi, J.: ‘The Measurement of User Information Satisfaction’, Communications of the ACM, 1983, 26, (10), pp. 785`793

48 Cragg, P.: ‘Benchmarking Information Technology Practice in Small Firms’, European Journal of Information Systems, 2002, 11, (4), pp. 267-282

49 Tallon, P.P., Kraemer, K.L., and Gurbaxani, V.: ‘Executives' Perceptions of The Business Value of Information Technology: A Process-oriented Approach’, Journal of Management Information Systems, 2000, 16, (4), pp. 145-173

50 Raymond, L.: ‘Organisational Context and Information Systems Success: A Contingency Approach’, Journal of Management Information Systems, 1990, 6, (4), pp. 5-20

51 Thong, J.Y.L., Yap, C., and Raman, K.: ‘Top Management Support, External Expertise and Information Systems Implementations in Small Businesses’, Information Systems Research, 1996, 7, (2), pp. 248-267

52 Delone, W., and McLean, E.: ‘Information Systems Success: The Quest for The Dependent Variable’, Information Systems Research, 1992, 3, (1), pp. 60-95

53 Beynon-Davies, P.: ‘Human Error and Information Systems Failure: The Case of The London Ambulance Service Computer-aided Despatch System Project’, Interacting with Computers, 1999, 11, (6), pp. 699-720

54 Poon, P., and Wagner, C.: ‘Critical Success Factors Revisited: Success and Failure Cases of Information Systems for Senior Executives’, Decision Support Systems, 2001, 30, (4), pp. 393-418

55 Southon, G., Sauer, C., and Dampney, K.: ‘Lessons from a Failed Information Systems Initiatives: Issues for Complex Organisations’, International Journal of Medical Informatics, 1999, 55, (1), pp. 33-46

56 Lees, J.D., and Lees, D.D.: ‘Realities of Small Business Information System Implementation’, Journal of Systems Management, 1987, 38, (1), pp. 6-13

57 Fink, D.: ‘Guidelines for The Successful Adoption of Information Technology in Small and Medium Enterprises’, International Journal of Information Management, 1998, 18, (4), pp. 243-253

58 Welsh, J.A., and White, J.F.: ‘A Small Business Is Not a Little Big Business’, Harvard Business Review, 1981, 59, (4), pp. 18-32

59 Jiang, J.J., Klein, G., Balloun, J.L., and Crampton, S.M.: ‘Systems Analysts' Orientations and Perceptions of System Failure’, Information and Software Technology, 1999, 41, (2), pp. 101-106

60 Keil, M., Wallace, L., Turk, D., Dixon-Randall, G., and Nulden, U.: 'An Investigation of Risk Perception and Risk Propensity on The Decision to Continue A Software Development Project', The Journal of Systems and Software, 2000, 53, (2), pp. 145-157

61 Peterson, D.K., Kim, C., Kim, J.H., and Tamura, T.: 'The Perception of Information Systems Designers from The United States, Japan, and Korea on Sucess and Failure Factors', International Journal of Information Management, 2002, 22, (6), pp. 421-439

62 Mitev, N.: 'Toward Social Constructivist Understanding of IS Success and Failure: Introducing A New Computerized Reservation System', in Editor (Ed.)^(Eds.): 'Book Toward Social Constructivist Understanding of IS Success and Failure: Introducing A New Computerized Reservation System' (2000, edn.), pp. 84-93

63 Wilson, M., and Howcroft, D.: 'Re-conceptualising Failure: Social Shaping Meets IS Research', European Journal of Information Systems, 2002, 11, (4), pp. 236-250

64 Lyytinen, K., and Hirschheim, R.A.: 'Information Systems Failure: A Survey and Classification of The Empirical Literature', in Zorkoczy, P.I. (Ed.): 'Oxford Surveys in Information Technology' (Oxford University Press, 1987), pp. 257-309

65 Lyytinen, K.: 'Expectation Failure Concept and Systems Analysts' View of Information System Failure: Results of an Exploratory Study', Information & Management, 1988, 14, (1), pp. 45-56

66 Sauer, C.: 'Why Information Systems Fail: A Case Study Approach' (Alfred Waller, 1993. 1993)

67 Ewusi-Mensah, K., and Przasnyski, Z.H.: 'Factors Contributing to The Abandonment of Information Systems Development Projects', Journal of Information Technology, 1994, 9, (3), pp. 185-201

68 Ewusi-Mensah, K.: 'Critical Issues in Abandoned Information Systems Development Projects', Communications of the ACM, 1997, 40, (9), pp. 74-80

69 Leedy, P.D., and Ormrod, J.E.: 'Practical Research: Planning and Design' (Pearson, 2005, 8th edn. 2005)

70 Gillham, B.: 'The Research Interview' (Continuum, 2000. 2000)

71 Yin, R.K.: 'Case Study Research: Design and Methods' (Sage Publications, 2003, 3rd edn. 2003)

72 Boyatzis, R.E.: 'Transforming Qualitative Information: Thematic Analysis and Code Development' (Sage Publications, 1998. 1998)

73 Neuendorf, K.A.: 'The Content Analysis Guidebook' (Sage Publications, 2002. 2002)

74 Whittaker, B.: 'What Went Wrong? Unsuccessful Information Technology Projects', Information Management & Computer Security, 1999, 7, (1), pp. 23-29

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Volume: 4 - **Issue: 2**

i. Submission Deadline : January 31, 2013 **ii. Author Notification:** February 15, 2013

iii. Issue Publication: April 2013

CONTACT INFORMATION

Computer Science Journals Sdn BhD
B-5-8 Plaza Mont Kiara, Mont Kiara
50480, Kuala Lumpur, MALAYSIA

Phone: 006 03 6207 1607
006 03 2782 6991

Fax: 006 03 6207 1697

Email: cscpress@cscjournals.org

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