INTELLECTUAL CAPITAL AND CORPORATE VALUE OF LISTED FIRMS IN NIGERIA: MODERATING ROLE OF BOARD DIVERSITY

BY

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A dissertation submitted in partial fulfilment of the requirement for the degree of Doctor of Philosophy in Accounting

Kulliyyah of Economics and Management Sciences
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JANUARY 2017

ABSTRACT

Global economy has, in the last two decades, witnessed some transformations. The principal among them is changing from the tangible production processes to intangible one tagged as knowledge-based economy where intangible asset has been considered as the main instrument of competitive advantages at both micro and macro levels. However, the extent to which this strategic resource has impacted corporate value remain unclear as most studies are limited to traditional accounting performance indicators. Thus, this study investigates the relationship between intellectual capital and corporate value moderated by ethnic diversity and religious diversity of board of director in Nigeria over a period of 2010 to 2014 using panel data analyses. The study is based on quantitative data obtained from 91 companies' annual reports and accounts, and supported with qualitative data using semi-structured interviews conducted with ten financial analysts and ten heads of accounts of listed firms in Nigeria. The findings from the analyses of the two-step system generalised method of moment (GMM) estimator and qualitative empirical investigation through face-to-face personal interviews were used to achieve the research objectives and answer the research questions advanced in the study. Twelve hypotheses are advanced based on resource based, signalling and upper echelons theories. While some of the findings were in line with theoretical expectations, others were found not to support the hypotheses formulated. The overall findings show that intellectual capital performance improves corporate value among listed firms in Nigeria in the period under study. The study also found that intellectual capital disclosure reduces the degree of share price volatility while it fails to significantly explain the corporate cost of capital. It was also found that ethnic diversity and religious diversity have favourable significant impact on the relationship between intellectual capital and corporate value of listed firms in Nigeria. The findings of the study have both theoretical as well as policy implications. In terms of theoretical implications, the use of upper echelons theory is supported by the findings of this study. Thus, this proves that board diversity along ethnic and religious lines can be used as a moderating factor in the intellectual capital accounting research. In terms of policy implications, the fact that board diversity moderated the relationship between intellectual capital and corporate value poses some regulatory questioning. Hence, there is a need for regulatory agencies to be more proactive in ensuring the appropriate mixture in the board room along ethnic and religious lines. Notwithstanding several limitations inherent in the study, the study contributes to the intellectual capital accounting research paradigm by employing relevant value related dependent variables as well as ethnic diversity and religious diversity as moderating variables together with the consideration of endogeneity based on the estimator approach adopted.

خلاصة البحث

لقد شهد الاقتصاد العالمي بعض التحولات في العقدين الأخيرين، ومن أهم هذه التحولات هي تغيير عمليات الإنتاج الملموسة إلى غير ملموسة لأنها قائمة على المعرفة الاقتصادية، حيث تم اعتبار الموارد غير الملموسة كأداة رئيسة من مزايا التنافس على المستويين؛ الجزئي والكلي. ومع ذلك، فإن مدى تأثر هذا المورد الاستراتيجي على قيمة الشركات لا تزال غير واضحة كما تقتصر معظم الدراسات إلى مؤشرات الأداء المحاسبية التقليدية. وتستقصى هذه الدراسة العلاقة بين رأس المال الفكري وقيمة الشركات التي أدارها في التنوع العرقي والديني لمجلس إدارة في نيجيريا باسخدام لوحة تحليل البيانات خلال الفترة 2010م-2014م. وقد اعتمد الباحث في هذه الدراسة على البيانات الكمية التي تم الحصول عليها من التقارير والحسابات السنوية من قبل91 شركة، كما اعتمد أيضا على الببيانات النوعية باستخدام المقابلات التي أجريت مع عشرة محللين ماليين، وعشرة رؤساء حسابات في الشركات المدرجة في نيجيريا. وأظهرت النتائج تحليلًا عن طريقة تعميم نظام الخطوتين (GMM) والتحقيق التجريبي النوعي من خلال المقابلات الشخصية المباشرة لتحقيق أهداف البحث، والإجابة على الأسئلة البحثية المتقدمة في الدراسة. ويقدم البحث اثني عشر فرضية تقوم على أساس الموارد والتأشير ونظريات المراتب. في حين إن بعض النتائج تتماشى مع التوقعات النظرية، ولكن النتائج الآخرى لم تدعم الفرضيات الموضوعة. وتظهر النتائج العامة أن أداء رأس المال الفكري يحسّن قيمة الشركات المدرجة في نيجيريا في الفترة المقيدة للدراسة. وأظهرت الدراسة أيضا أن الكشف رأس المال الفكري يقلل من درجة تقلب سعر السهم بينما فشل بشكل كبير في شرح تكلفة شركات رأس المال. كما أظهرت الدراسة أن التنوع العرقي والديني يكون لها تأثير إيجابي كبير في العلاقة بين رأس المال الفكري والقيمة في الشركات المدرجة في نيجيريا. وتوصل الباحث إلى النتائج ذات آثار سياسات ونظرية. من حيث الآثار النظرية المترتبة إن استخدام نظرية الصفوف العليا مدعومة من نتائج هذه الدراسة. ومن ثَمّ، ثبتت أن تنوع المجلس على أسس عرقية ودينية يمكن استغلاله بوصفه عامل اعتدال في مجال بحوث محاسبية لرأس المال الفكري. والآثار المترتبة على السياسات، والحقيقة أن تنوع المجلس خاضع لإشراف العلاقة بين رأس المال الفكري وقيمة الشركات، يطرح بعض الأسئلة التنظيمية. وبالتالي، هناك حاجة للوكالات التنظيمية لتكون أكثر نشاطا في ضمان الخليط المناسب في قاعة المجلس على أسس عرقية ودينية. على الرغم من القيود العديدة المتصلة بالدراسة، تساهم الدراسة في إطار بحث رأس المال الفكري المحاسبي عن طريق استخدام القيمة ذات الصلة المتغيرات التابعة، وكذلك التنوع العرقي والتنوع الديني كقيم الإعتدال مع النظر في الباطنية على أساس النهج مقدر المعتمد

APPROVAL PAGE

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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This dissertation is dedicated to Abdulmuqsit, Nabeeha and Najaha

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

ANN	Artificial neural networks
ANOVA	Analysis of variance
AR	Auto Regression
ASR	Annual share return
ASX	Australia stock exchange
ATO	Assets turnover
BD	Board diversity
BOD	Board of director
BSOPM	Black-Scholes option pricing model
C_cap	Cost of capital
CAMA	Companies and Allied Mater Act
CAQDA	Computer aided qualitative data analysis
CBN	Central bank of Nigeria
CBV	Corporate book value
CC	Customer capital
CEE	Capital employee efficiency
CEO	Chief executive officer
CFO	Cash flow from operation
CG	Corporate governance
CIV	Calculated Intangible Value
CLSA	Credit Lyonnais Securities Asia
CMV	Corporate market value
CRS	Corporate social responsibility
CVA	Cash value added
Cval	Corporate Value
CVN	Conjoint value hierarchy
DIC	Direct intellectual capital
EP	Employee productivity
EPS	Earnings per share
EV	Enterprise value
EVA	Economic value added
FCF	Free cash flow
FCFF	Free cash flow to firm
FRCN	Financial reporting council of Nigeria
FV	Firm value
FVMT	Future value management methodology
GMM	Generalized Method of Moment
HC	Human capital
HCD	Human capital disclosure

HCE	Human capital efficiency
HCRMC	Human capital regarding motivation/commitment
HCROC	Human capital regarding qualification and competence
HCRPS	Human capital regarding personnel
HCRTOT	Human capital regarding total quality
IA	Intellectual assets
IAS	International accounting standard
IASB	International Accounting Standard Board
IC	Intellectual capital
IC_Perf.	Intellectual capital performance
ICAR	Intellectual Accounting Research
ICCI	Intellectual capital cluster index
ICD	Intellectual capital disclosure
ICD_ Ethcty	Interaction of intellectual capital disclosure and ethnic diversity
ICD_ Relty	Interaction of intellectual capital disclosure and religious diversity
IC-dVAL	Intellectual capital dynamic value
ICE	Intellectual capital efficiency
ICF	Intellectual capital formula
ICP_Ethcty	Interaction of intellectual capital performance and ethnic diversity
ICP_Relty	Interaction of intellectual capital performance and religious diversity
ICT	Information communication and technology
IFRS	International financial reporting standard
IL	Intellectual liabilities
InC	Innovation capital
InVCD	Innovation capital disclosure
InvCE	Innovation capital efficiency
IP	Intellectual property
ISE	Iranian stock exchange
IVM	Inclusive valuation methodology
JB	Jague-Bera
KBV	Knowledge-based view
LSE	London stock exchange
Lsize	Firm Size
m_VAIC	Modified Value Added Intellectual Capital
MB	Market to Book value
MC	Market capitalisation
MCM	Market capitalisation methods
NAICOM	National insurance commission
NASB	Nigeria accounting standard board
NICI	National intellectual capital index
NOPAT	Net operating profit after tax
NSE	Nigeria Stock Exchange
OCED	Organisation Communities Economic Development

OI/S	Operating income/sales
OLS	Ordinary Least Square
PAT	Profit after tax
PEG	Price/earnings to growth
PENCOM	National pension commission
PrcCD	Process capital disclosure
PrcCE	Process capital efficiency
PtdCD	Protective capital disclosure
PtdCE	Protective capital efficiency
R&D	Research and development
RBT	Recourse based theory
RBV	Resource-based view
RC	Relational capital
RCD	Relational capital disclosure
RCE	Relational capital efficiency
ROA	Return of assets
ROCE	Return on capital employed
ROE	Return on equity
ROI	Return on investment
ROM	Real option model
SACAT	Self-assessment computer analysed testing
SAS	Statement of accounting standard
SBF	Société des Bourses Françaises
SC	Structural capital
SCE	Structural capital efficiency
SCM	Score card method
SEC	Securities and exchange commission
SPV	Share price volatility
SSC	Systematic scorecard
STVA	Structural Capital Value added
SysRisk	Systematic Risk
TEV	Total enterprise value
TICD	Total intellectual capital disclosure
TICD	Total Intellectual Capital Disclosure
TVA	Total value creation
UnsysRisk	Unsystematic Risk
VA	Value added
VAHU	Value added human capital
VAIC	Value added intellectual capital
VCI	Value creation index
VIF	Variance Inflation Factor
WACC	Weighted average cost capital
WHCD	Weighted average Human capital disclosure

WInvCD	Weighted average Innovation capital disclosure
WPrcCD	Weighted average Process capital disclosure
WPtdCD	Weighted average Protected capital disclosure
WRCD	Weighted average Relational capital disclosure

CHAPTER ONE

INTRODUCTION

1.1   BACKGROUND OF THE STUDY

The global economic environment has witnessed transformation from traditional tangible to new intangible economy (Drucker, 1993) due to globalisation, exponential growth of technological changes and deregulation in key sectors (e.g. Hand & Lev, 2003; Soete & Ter Weel, 1999). The new economy, which has been tagged as knowledge-based economy (Drucker, 1993), has the capability to improve the competitive advantage of macro, meso and micro organs of nations' economies (e.g. Drucker, 1993; Edvinsson & Sullivan, 1996).

Meanwhile, from the micro economic viewpoint, the debate concerning the new economy began in the late 1980s when the corporate book value of firms in most developed economies constantly shrunk in relation to their market value, resulting in wide discrepancy between the two which contradict random walk theory of the market hypotheses[1] (Bodie, Kane, & Marcus, 2011). The difference has been attributed to intangible assets of the firms that are hiding in financial reports (e.g. Bontis, 1996; Brooking, 1996; Edvinsson & Malone, 1997; Edvinsson & Sullivan, 1996) and have generally been referred to as intellectual capital (Stewart, 1991).

Intellectual capital (IC) has been a subject of discussion in the literatures from different perspectives regarding its definition, composition, management and

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[1] The market value of a security moves randomly around its intrinsic value, which is based on book value calculation. Therefore, it is expected that the book value of an entity should not significantly differ from the market value, ceteris paribus

measurement. As a multi-facet concept, it has been defined in various ways in many fields of study. However, taking it from the management perspective, IC is referred to as a group of knowledge assets which belongs to an entity and most importantly capable of improving the competitive power of the entity by adding value to the identified stakeholders (Marr & Schiuma, 2001). Also, it has been considered as the difference between market and book value of an enterprise (Brooking, 1997; Edvinsson, 1997a).

Further, IC has been commonly classified into three main categories: structural capital, human capital and relational capital (e.g. Brennan & Connell, 2000; Brooking, 1997; Mouritsen, Larsen, & Bukh, 2001). Structural capital explains the knowledge owned by the organisation which is created by employees and incorporated into the entity's internal structure (Abeysekera, 2011) while according to Bontis (1998), relational capital is the knowledge embedded in the relationships external to the organization, such as suppliers, customers, business partners which among others include items such as brand and reputation, customer satisfaction, distribution channels, business or research collaborations, and licensing agreements. Also, Chang (2007, p. 24) defines human capital as individual's knowledge such as qualification, skills, values and experience within an organization, which goes home with employees after work.

However, due to its intangible nature, IC fails to meet up with the recognition criteria of accounting and financial reporting standard as stipulated in IAS 38 which requires an entity to recognise intangible assets whether purchased or self-created (at cost) if, and only if it is probable that the future economic benefits that are attributable to the asset will flow to the entity and the cost of the asset can be measured reliably (IAS 38.21), thus, leaving management and estimation of IC to the mercy of 'those charged with governance' since there is no scientific framework for such exercises.

Nonetheless, the intellectual discourse concerning IC has increased due to the growing understanding that the creation of corporate value and wealth depends on both tangible assets such as financial and physical-plant capital and organisational capital that include human and other relatively hidden assets (Zéghal & Maaloul, 2010).

Meanwhile, literatures have advocated for the proper management, measurement and disclosure of IC given its dominant role in valuation of business organisations and in ensuring the dynamics of organisational sustainability as well as value creation (e.g. Firer & Stainbank, 2003). The extent in which IC has been able to ensure sustainable advantage to corporate entities has been considered by prior studies by investigating its influence on corporate performance (see Sharabati, Jawad, & Bontis, 2010; Vishnu & Gupta, 2014) surrogated by traditional measures such as return on assets (ROA), return on equity (ROE); however, there is no scientific conclusion.

Furthermore, corporate valuation is a relevant exercise to both entity as legal persons and various stakeholders, particularly the investors. Thus, corporate value could be seen both from corporate book and corporate market value (Koller, Goedhart, & Wessels, 2010). Also, in the contemporary theory in finance, value maximisation has been given adequate concern compared to traditional profit maximisation concept of classical school of thought in determining corporate value, both in financing and investing decision-making among various stakeholders (López-Iturriaga & Rodríguez-Sanz, 2001). Hence, measures such as economic value added and free cash flow are now given more consideration in corporate valuation (Shrieves & Wachowicz, 2001) due to their superiority over the traditional profit maximisation concept most especially in explaining the book value of corporate entities.

Moreover, the link between corporate market value and cost of capital is an inverse one since the lower the cost of capital, the higher will be the value of the firm