

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search http://ageconsearch.umn.edu aesearch@umn.edu

Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

POLITICAL RISK EFFECTS AND ENTRY MODE STRATEGIES OF MULTINATIONAL CORPORATIONS (MNCS) IN NIGERIA

Akinbola, Olufemi Amos

Department of Business Administration, College of Management Sciences, Federal University of Agriculture, Abeokuta, Nigeria E-mail: akinbolaoa@funaab.edu.ng

Agbatogun, Taofik Osindero

Department of Accounting, Federal University of Agriculture, Abeokuta, Nigeria E-mail: agbatogunto@funaab.edu.ng

Akinbola, Omolola Sariat

Department of Business Administration, Faculty of Management Sciences, University of Lagos, Nigeria. E-mail: omololakinbola@gmail.com

Sanni, SekinatArike

Department of Business Administration, Federal University of Agriculture, Abeokuta, Nigeria E-mail: sannisa@funaab.edu.ng

Abstract: Research on the political risk and entry mode of multinational companies (MNCs) has been one of the major subjects of interest in international business terrain, and the political risk factor has constitute a major basis for explaining whether exporting, licensing, franchising, or joint venture agreement (JVA) and Foreign direct investment seems to be appropriate. As such, the study examined the effect of political risk as it affects the entry mode strategies of selected multinational corporations in Nigeria as the economy of most developing economies has been characterized as being exposed to political instability and risk. The research adopted the survey technique with inference to the expo facto method and adopted questionnaire as an instrument through content and test re-test appraisal before data were analyzed through the IBM Statistical Package for the Social Sciences. The results from the analysis indicated that franchising remains a viable option of multinationals in Nigeria and the second hypothesis indicated that licensing significantly reduces the risk exposure of multinational corporations as the licensor have lesser liability in an unstable political economy of the licensee. Based on these findings companies are recommended to adopt appropriate entry strategies in line with governmental policies and economic situation before entering foreign markets.

> Keywords: Multinational Corporations, Political Risk, Joint Venture, Licensing Jel Codes: M1, M10.



INTRODUCTION

The influence of multinational corporations in development of economic activities of developing countries cannot be overemphasized. Multinational Corporations are companies with international subsidiaries in the host country in which they are often faced with political risk. Weston and Sorge's (2012) defined political risk as the undertakings of national governments which impedes business transactions, or the terms of agreements. Brooke and Remmers (2010) states that political environment is an element of business risk which could lead to collapse of business based on political changes. It is most commonly conceived as government meddling in business operations. There is "micro risk" where political occasions bring about requirements on all outside big business and "micro risk" which influences just "chosen fields of business action or remote ventures with explicit attributes Robock (2012). Moreover, in accordance to Jiménez and Bjorvatn (2018), a portion of the investments in developing markets dwell in nations which are seen to be politically dangerous and regardless of the way that one would expect worldwide FDI stream to fall because of political hazard, they have really done the inverse and have risen. It in this manner follows that once MNCs have put resources into a nation that is politically unsafe and these hazard components show themselves, MNCs respond and on occasion it might be past the point where it is possible to stay away from the unfriendly outcomes. These risks have prompted the improvement of an industry committed to giving protection covering political dangers to worldwide tasks and they are typically alluded to as Political risk insurers.

STATEMENT OF RESEARCH PROBLEM

In Nigeria, the activities of most multinational companies have been identified as unethical because of the harms they have caused on the society. MNCs have gain monopoly of power due to complexity of their raw materials and strong financials; hence straddle the indigenous entrepreneurs and hinders their capability to obtain license agreement since they will not be able to maintain the standards of MNCs.

In tangent, the entry mode of MNCs in developing economies most specifically the joint venture based MNCs has often been affected by political action and policies of the states coupled with political instability and unstable political environment.(Berlin, 2014).Most Nigerian markets have progressively shaky worlds of politics, with increasingly visit changes in government approach. MNCs have explicit attributes that cause them to see political risk contrastingly consequently, there is a requirement for political risk evaluation (PRE) specifically Nigeria market to consolidate all the particular political risk factors as the extent of risk in not ascertained. In order to mitigate failure, assessing political risk is relevant so that the type of investment and entry modes can be determined during the internationalization of MNCs within Nigeria markets. Based on this two hypotheses as listed is postulated.

Ho1: Social factors do not significantly affect licensing.Ho2: Political risks do not significantly affect joint venture agreement.

REVIEW OF LITERATURE ON POLITICAL RISK AND CAUSES

There is little accord on an 'obvious' meaning of political hazard and the idea of political hazard which appears to have tormented the academicians and corporate leaders because of its temperament, as political hazard is abstract and difficult to evaluate. Wilkin and Zonis (2012) pointed political risk cover a variety of dangers. This variety of dangers imply different implications for various firms" and very regularly for various individuals inside a similar firm. The World Bank (2011) described political risk as 'the probability of interferences of the undertakings of organizations by political powers and occasion, whether or not they occur in have countries or result from changes in the worldwide condition. Instances of political risk incorporate burden of new controls, war, insurgency or insurrection. The causes or features of political risk are contributing components or variables that can be used to choose the level of the robustness of a universe of governmental issues, especially in making countries. These causes or factors are connected with monetary viewpoints, money related and social factors, and can make a universe of governmental issues experience changes sporadically.

CLASSIFICATION OF GENERAL TYPES OF RISKS IN INTERNATIONAL BUSINESS

Risk can be arranged dependent on the point of view of political risk protection offices. Ordinarily, political risk protection, as announced by Bradford, (2011), covers resources against seizure, appropriation, contract denial and currency inconvertibility. Albeit numerous sorts of political hazard can be guaranteed through private back up plans, a few misfortunes that come from political sources can't. Besides, on the part of uninsured misfortunes that outcomes from government traits (as opposed to choices) like racial quantities in the employing of faculty. As it has been noted, political hazard can be named:

- a) Governmental, for example, import limitations, or societal, for example, showings, uproars and insurgence
- b) Intrastate, for example, confiscation or interstate, for example, war;
- c) Insurable, for example, confiscation or uninsurable, for example, tax assessment

STRATEGIES FOR POLITICAL RISK MEDIATION BY MNCS

Research has demonstrated that as MNCs acquire involvement with a nation they become bound to reinvest in that nation in the future Rosenzwieg, (2013). Therefore, MNCs need to develop strategies in order to survive within such political environment. Some strategies that should be adopted are:

- a) **Low Involvement Strategy:** This technique utilizes the basic methodology of picking up scale economy to accomplish cost decrease. Right now, with comparative goals structure alliances to pick up scale in data assembling and activity.
- b) **High Involvement Strategy:** this includes making a system of nearby, provincial, and national partners ready to exhaust more prominent assets and build up an increasingly intricate technique since they can hope to influence the world of politics in manners that give sufficient profit for their endeavors.
- Inference to Institutional theory

According to Davis (2012), this theory assists with understanding the distinction in institutional conditions among home and host nations that may impact the entry mode choice characterized by specific principles, standards, and qualities. Cultural distance may expand internalization costs, for example, costs identified with gathering data and correspondence in the host nation Steigner& Sutton, (2011). What's more, the host nation hazard (for example political risk) is additionally one of the most examined institutional factors in the entry mode literature. To enter a high-chance nation, the firm may require the assistance of a neighborhood accomplice that can give it access to information about the outside market and offer risk (Luo, 2011). This theory is important to this investigation as it assists with demonstrating diverse political environmental variables that hampers entry mode decision strategy.

EMPIRICAL REVIEW ON SOCIAL FACTORS AND LICENSING

Nordin (2016) as indicated by Davis (2012), this hypothesis assists with understanding the distinction in institutional situations among home and host nations that may impact the section mode choice characterized by specific guidelines, standards, and qualities. Social separation may expand disguise costs, for example, costs identified with gathering data and correspondence in the host nation Steigner& Sutton, (2011). What's more, the host nation chance (for example political hazard) is additionally one of the most looked into institutional factors in the section mode writing. To enter a high-chance nation, the firm may require the assistance of a nearby accomplice that can give it access to information about the remote market and offer risk (Luo, 2011). This hypothesis is important to this examination as it assists with demonstrating distinctive political ecological variables that hampers section mode choice technique.

METHODOLOGY

The methods espoused for carrying out this research include the survey, and ex-post facto. Opinions were gathered by administering questionnaire (survey method) as well as personal interviews. The population of the study is estimated to be 8013 which constitute PZ Cussons, Cadbury and Nestle employees. The three firms were selected purposely based on the criteria that: they reflect characteristics of international businesses (all of these companies operate globally), they have interacted with more than one country in the course of their operations, and they have been into business for a sustainable amount of years.

Table 1 List of the selected multinational companies in Lagos, Nigeria

S/N	Name of Organization	Industry	No of Employees	No of Samples
1.	PZ CUSSONS	FCMG	4961	127
2.	Cadbury	FCMG	727	127
3.	Nestle	FCMG	2325	127
TOTAL			8013	381

Source: Researchers Compilation, (2020).

Sample and Sampling Techniques

The sampling technique that was used in this research work is the Simple Random Sampling technique. This technique allows for all elements in a sample to have equal chances of being selected. The study will use Yaro and Yamani formula with 95% confidence level of the sample size.

It is expressed below: $n = \underline{N}$ $1 + N(e)^2$ Where: n= Sample size N= Total population e= Error Margin (5%) $n = \underline{8013}$ $1+8013(0.05)^2$ $\underline{8013}$ 1+833 (0.0025) n = 8013 = 380.98 21.0325n = 381 approximately

Data presentation

Questionnaire was administered to three hundred and eighty one (381) employees of Pzcussons, Nestle and Cadbury Plc. Of this part, Two hundred and eighty six (286) questionnaires representing 75% were returned, and twentysix (95) questionnaires representing 25% were not returned. The table shows that 286 respondents, 157 (54.9%) are male, while 129 (45.1%) are females. What's more, out of the 200 and eighty six (286) respondents, 125(43.7%) are single while 140 (49.0%) are married and 21(7.3%) are neither married nor single. By suggestion, a large portion of the respondents are married. All the more in this way, 108(37.8%) of the 286 respondents have 1-5 years' work understanding, 108 (37.8%) have 6-10 years' work understanding, 46 (16.1%) have 11-15 years' work understanding and, 24(8.4%) have over 15years work understanding. By suggestions, a large portion of the respondents have between 1-10years of work understanding.

Additionally, there are 57 M.Sc and M.BA respondents which is (19.9%), 187 HND/BSc holders (65.4 percent), 42 are SSCE holders (14.7%) in the example. By suggestion, the respondents have high HND/BSc educational qualification. Once more, out of the 200 and eighty six (286) respondents, 28 (9.8%) are 51 years or more, 47 (16.4%) are somewhere in the range of 41 and 50 years old, 109(38.1%) are somewhere in the range of 31 and 40 years, and 102 (35.7%) are somewhere

in the range of 21 and 30 years. By suggestion a large portion of the respondents are between the age of 31 and 40 years. All significantly, out of the 286 respondents, 35 (12.2%) are employees in the artisan industry, 130 (45.5%) are workers in the service industry; 114 (39.9%) are representatives in manufacturing industry while 7 (2.4%) don't indicate their industry. By suggestion, we have a greater amount of service industry employees as respondents in the sample.

Characteristics	Category	Frequency	Percentage	Cumulative percent
GENDER	Male	157	54.9	54.9
	Female	129	45.1	100.0
MARITAL STATUS	Single	125	43.7	43.7
	Married	140	49.0	92.7
	Others	21	7.3	100.0
WORK EXPERIENCE	1-5 years	108	37.8	37.8
	6-10 years	108	37.8	75.5
	11-15 years	46	16.1	91.6
	Over 15 years	24	8.4	100.0
INDUSTRY	Manufacturing	114	39.9	39.9
	Service	130	45.5	85.3
	Artisan	35	12.2	97.6
	Others	7	2.4	100.0
EDUCATIONAL QUALIFICATION	SSCE	42	14.7	14.7
	HND/BSC	187	65.4	80.1
	MSC/MBA	57	19.9	100.0
AGE	21-30 years	102	35.7	35.7
	31-40 years	109	38.1	73.8
	41-50 years	47	16.4	90.2
	50 and above	28	9.8	100.0

Table 2 Frequency Distribution of Demographic Characteristics of Respondents

Source: Author's Fieldwork Computation, 2020

Also table 2 below shows descriptive statistics with respect to Political factors, Social factors, licensing, joint ventures

Table 3 Descriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
Political Factors	286	1.20	4.20	2.4552	.51954
Joint Ventures Agreement	286	1.00	4.60	2.5140	.59896
Licensing	286	1.20	5.00	2.8042	.68752
Social Factors	286	1.00	4.40	2.6175	.66647
Valid N (list wise)	286				

Source: Author's Fieldwork Computation, 2020

DATA ANALYSIS BASED ON HYPOTHESES

The hypotheses of the study are: (1) Social factors and political risks do not significantly affect licensing; (2) There is no significant effect of social factors and political risks on joint ventures agreement. Multiple regression analysis was used to test these hypotheses with the aim of achieving the study objectives. Multiple regression is based on correlation but embeds more analysis on complex penetration of the existing variables interrelationships with assumptions of normality for dependent variable (i.e. multinational companies entry mode), multicollinearity that assumed that the independent variables (Social factors and political factors) are not highly correlated, also Homoscedasticity is even and linearity of variables is linear. Also, the normal curve was used to test for normality on Joint Ventures Agreement and Licensing. This study shows that scores are reasonable and normally distributed.

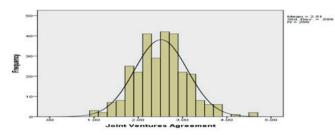


Fig 1 Histogram of Perceived Joint Ventures Agreement Scores. Source: Author's Fieldwork Computation, 2020

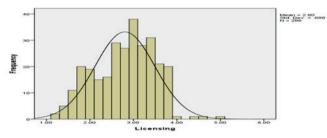


Fig 2 Histogram of Perceived Licensing Scores Source: Author's Fieldwork Computation, 2020.

Test of Multicollinearity

Multicollinearity shows a correlation of 0.296. Reflecting low multicollinearity challenge among Political risks effects (Political risk factor and social factors). Which below standardized r = .7 and above. The tables below shows all the variables are retained.

Table 4 Correlations among Political Risk Effect Variables

	Political Factors	Economic Factors	Social Factors	
	Pearson Correlation	1	.366**	.292**
Political Factors	Sig. (2-tailed)		.000	.000
	Ν	286	286	286
	Pearson Correlation	.292**	.296**	1
Social Factors	Sig. (2-tailed)	.000	.000	
	Ν	286	286	286

**. Correlation is significant at the 0.01 level (2-tailed). Source:Author's Fieldwork Computation, 2020.

Test of Homoscedasticity and Linearity for Hypothesis One

Diagrammed scatter plot in Fig 3 and 4 for testing homoscedasticity and linearity of the relationship between dependent variables (i.e. licensing and joint ventures agreement) and independent variables (i.e. Social factors and political factors). Shows a moderate, positive correlation among the variables.

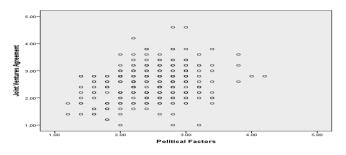


Fig 3 Scatter Plot of Political factors and Joint Venture Agreement Scores Source: Author's Fieldwork Computation, 2020.

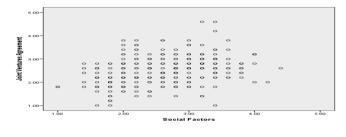


Fig 4 Scatter Plot of Social Factors and Joint Venture Agreement Scores Source: Author's Fieldwork Computation, 2020.

Test of Hypothesis One

Ho1: Political risk factor and social factors does not significantly affect Joint Venture Agreement. Based on Standard multiple regression reflected F-test of 16.02, less than 1 percent significant to show model was well specified.

		Table 5		ANOVAa		
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	14.888	3	4.963	16.020	.000 ^b
1	Residual	87.357	282	.310		
	Total	102.244	285			
	1	iable: Joint Ventu onstant), Social Fa		0	ctors	

Source: Author's Fieldwork Computation, 2020.

The model summary table shows the R Square value of 14.6per cent. This means that the model (which includes Political risk factor and social factors) has 14.6 per cent variance in Joint Ventures Agreement.

Model	R	R Squa	re Adjuste	d R Square Std. Error of the Estimate
1	.382ª	.146	.137	.55657
Predic	tors: (C	Constant),	Social Fac	tors, Political Factors, Economic Factors.

Table 6 Model Summary

Source: Author's Fieldwork Computation, 2020.

The table 7 below shows a positive relationship between Political risk factor and Joint Agreement Venture reflecting .232 unit increases in Joint Agreement Venture scores which is significant at 1 per cent with 0.05 p value less. The null hypothesis is therefore rejected based on relationship that exists between Joint Venture Agreement and Political risk factor.

Lastly, there was positive relationship between social factors and Joint Venture Agreement which means that a unit rises in social factors scores of .231 unit increase in Joint venture Agreement.

Table 7 Coefficients

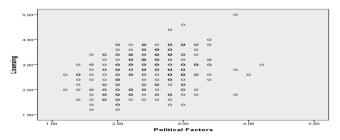
Model		Unstandardized Coefficients		Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
	(Constant)	1.271	.196		6.495	.000
	Political Factors	.232	.070	.201	3.322	.001
1	Economic Factors	.027	.061	.027	.446	.656
	Social Factors	.231	.053	.257	4.369	.000
Dep	pendent Variable: J	oint Vei	ntures Agree	ement		

Source: Author's Fieldwork Computation, 2020.

Test of Homoscedasticity and Linearity for Hypothesis Two

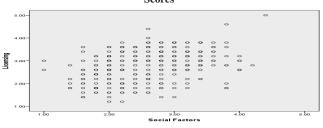
Hypothesis two shows a moderate, positive correlation among the variables. Respondents with low level of licensing entry mode are highly affected by Political risk. On the other hand, firms that are less affected by Political risk factor, economic factor and social factors have high levels of Licensing. The scatter plot shows a fairly even cigar shape along its length for Homoscedasticity.

Fig 5 Scatter Plot of Political Factors and Licensing Scores



Source: Author's Fieldwork Computation, 2020.

Fig 6 Scatter Plot of Social Factors and Foreign Direct Investment Scores



Source: Author's Fieldwork Computation, 2020.

Test for Hypothesis Two

Ho2: Political risk factor and social factors has no significant influence licensing. Standard multiple regression shows that the F-test was 23.14, significant at 1 percent with [p<.000] for Political risk factor and social factors on Licensing. The result of regression as contained in the table of ANOVA,

Table 8 ANOVAa

Mode	el	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	26.608	3	8.869	23.136	.000b
1	Residual	108.107	282	.383		
	Total	134.715	285			

Source: Author's Fieldwork Computation, 2020.

Consequently, regression analysis of the Model Summary shows the R Square 1.9 percent. This implies the model (which incorporates Political risk factor and social factors) has around 19 percent of effect on licensing.

Table 9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444ª	.198	.189	.61916
Predicto	ors: (Co	onstant), Soc	ial Factors, Poli	tical Factors

In particular, the consequence of regression result as contained in the table of Regression Coefficients, tests the second hypothesis of this investigation. From the result underneath, there was a positive relationship between Political risk factor and Licensing such that a unit increment in political risk factor scores caused around .183 unit increments in licensing scores which was factually noteworthy at 1 percent with the guide of the p which is under 0.05. In light of the outcome, the invalid theory is dismissed; subsequently, there was certain connection among Licensing and Political risk factor.

Lastly, there was positive relationship between social factors and Licensing such that a unit rise in social factors

scores induced about .280 unit increase in Licensing scores is statistically significant at 1 per cent with p value (0.000). Based on the result, the null hypothesis is rejected; thus, Licensing is affected by Social Factors.

Table 10 Coefficientse

Model		Unsta Coeffi	ndardized cients	Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
	(Constant)	1.081	.218		4.963	.000
1	Political Factors	.183	.078	.138	2.361	.019
	Social Factors	.280	.059	.272	4.757	.000
De	ependent Variable: L	icensing				

Source: Author's Fieldwork Computation, 2020.

Discussion of Findings of Hypothesis One

The findings of this study have shown that political risk has a positive effect on Joint venture agreement i.e. it has been established that the constraint been faced by joint ventures is on high level of political effect. The Nigeria government should endeavor to create an enabling political atmosphere and political environment which enhances joint ventures and its operational value to the society and for the betterment of the people. However, creating a smooth political environment and political enablement will drive up more hands of local producers in joint partnership with foreign countries which they tends to gain technical and managerial expert skill in business which could aid competence skill labor and contribute positively to the economic growth and development of the country.

Discussion of Findings of Hypothesis Two

The outcome of this study resonates with the views of Nordin (2016) who attempt to measure the impact of social factor on licensing while it is imperative for country to inject more on amenities and create an enabling society for investors in order for them to always prepare ahead of uncertainties. Foreign investor's contribution to growth depends on social conditions in the recipient country, when investors in a particular environment are provided with effective good social conditions of such region will be greatly enhanced because they will have a longer life span to contribute to the country.

Empirical Findings from the Study

The summary of findings from the empirical study is presented in the following sections relative to each objective and findings in the study:

i. The study found that political risk effect does affect Joint venture agreement entry mode indicating that the government of a particular home country should therefore maintain a political stability in law and order in order to reduce the burden for smooth operation as they are capable of developing such home countries effectively where their subsidiaries is located for the betterment of the country and citizen as a whole.

ii. In consonance to the findings of (Zacharakis, 2017) which examine the impact of social factor in which firm with less experience may face difficulties coping with the internal social uncertainty, as they may not have efficient systems for managing their foreign operations.

CONCLUSION

MNCs without incertitude have been discerned as an integral factor of growth and development both in undeveloped and developing countries. It is unfortunate as some of governmental policies and actions do affect them. In global competitive environment MNCs has been increasing in relevance to nations mostly in developing countries through many of its subsidiaries. MNCs in Nigeria have been limited in full huge success. This is reflected in joint venture agreement, foreign direct investment and licensing in Nigeria. In the light of existing literature on political risk effect and Multinational Corporations mode of entry issues captured in this study; and the analyses of collated primary data; the study found that political and social factors had significant effects on MNCs entry mode as captured in this descriptive study.

POLICY RECOMMENDATIONS

- i. Following the findings and conclusion, the study made the following recommendations:
- ii. Government is implored to create enabling operating environment in the marketplace as it is important to revisit multinational regulatory laws to minimize areas of overlap and to enhance proper execution for favorability of multinational corporations that will develop the economy and create more jobs.

Multinational Corporations are encouraged to continue to study each political risk factor that may hinder smoothly the operational excellence of their firm in advancement of their subsidiaries and they are encouraged to play effective employability creation role in the home country so as to be much perceive as a contributor to their growth and development as much as that is being put to place, they should not put aside their responsibility to the community and society in which they operate in each developing nations.

REFERENCES

Berlin, F. (2014) study on political risk effect in the oil and gas industry 8th edition prentice Hall, London

Bradford (2011), International Marketing Strategy 8th edition prentice Hall, London

Brooke, Michael, and Remmers, H. Lee, (2010). The Strategy of Multinational Enterprise. London: Longman Group Ltd 2010

Davis, S.K., (2012). The influence of emotional intelligence (EI) on coping and mental health in adolescence: Divergent roles for trait and ability EI. Journal of Adolescence, 35(5).

Jiménez, A. and Bjorvatn, T. (2018), "The building blocks of political risk research: a bibliometric co-citation analysis", *International Journal of Emerging Markets, Vol. 13 No. 4, pp. 631-652.* https://doi.org/10.1108/IJoEM-12-2016-0334

Luo.P.k (2011). "Choice of entry mode in emerging market: Influences on Entry strategies to China". Journal of global marketing Neighboring developing countries. Emerging Markets Finance and Trade, 47(4), 59

Nordin, A. G. (2016). Social science research: theory and principles. Nairobi: Applied Research and Training Service. Robock, Stefan H. "Political Risk: Identification and Assessment." Columbia Journal of World Business, July-August 2012, pp. 6-20

Rosenzwieg, (2013) Capital Budgeting and the Multinational Corporation." California Management Review, Summer 2013, pp. 39-54

Steigner.B and Sutton .F.W, (2011)."Predicting the Political Environment of International Business."Long Range Planning, September 2011, pp. 7-14

Weston, V. Fred, and Sorge, Bart W. (2012) International Managerial Finance. Homewood, IL: Richard D. Irwin, Inc.,

Zacharaki.A (2017). "Ingredients Matter: How the Human Capital of Philanthropic and Traditional Venture Capital Differs," Journal of Business Ethics, Springer, vol. 145(3), pages 623-635, October.