

Effects of Intellectual Capital on Firm Sustainability: A Comparative Study of Plastic Manufacturing Firms In Abia State, Nigeria

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Abstract

There is growing argument among scholars as to whether or not the integration of intellectual capital into the operational whims of business could foster its sustainability in the face of environmental complexity. This argument had led to wrong application of intellectual capital by corporate organizations in general and plastic manufacturing firms in particular. This study, therefore, sought to establish the veracity of entrenching intellectual capital through a comparative study. As a comparative study, it explored the effects of intellectual capital on firm sustainability of plastic manufacturing firms in Abia State. The specific objectives are: to determine the effect of policy flexibility on firm sustainability of plastic manufacturing firms in Abia State, to ascertain the effect of relational assets on firm sustainability and to evaluate the effect of innovative ideas on firm sustainability of plastic manufacturing firms in Abia State. Quantitative research design was employed such that structured questionnaire designed in 5-likert scale was administered on the respondents of the study. Data collected were analyzed using Ordinary Least Square (OLS) via multiple regression models. The study revealed that policy flexibility of (2.223), relational assets (.144) and innovative ideas (.746) had a positive significant effect on firm sustainability for Double-Diamond plastic firm, Continental plastic (WA) Limited and Ace-toys plastic Company whereas for Elplastic manufacturing firms, Junction plastic Nig. Limited and Pet & Sons plastic firms had negative significant effect of policy flexibility (-1.452), relational assets (-.165) and innovative idea (-.599) on firm sustainability. The implication of the results is that effective employment of intellectual capital in-built internally-controlled mechanisms in rejigging operations management necessary for achieving improved and sustained business sustainability and concluded that intellectual capital has a significant and positive effect on firm sustainability. The study therefore recommended that the management of these plastic manufacturing firms should explore the unique opportunities of institutionalizing policy flexibility in their day-to-day planning, directing, and coordinating and communicating function in providing goods and timely-services that meet the expectations of the people, that intellectual capital provides for continuous adjustment of operations management and techniques needed for improved performance.

(Key words: Policy Flexibility, Relational Assets, Innovative Skill, Business sustainability)

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I. Introduction

Giving the upsurge in technological advancement in knowledge-based driven economy, organizations especially plastic manufacturing firms in Abia State have attempted to reconfigure their productive operational-architecture and capacities for the desired competitive advantage by placing emphasis on intellectual capital. This concern, heretofore, has created multidimensional approaches of utilizing creative skills, current knowledge modification, operational capacities and sustainable learning that enable organization to appropriate resources effectively in meeting the demands of the changing environment (Wealther and George, 2020). However, the basic tenet of intellectual capital seeks to integrate those informational resources such as ideas, capacities, knowledge and abilities at company's disposal that can be use to drive profits, gain new customers and create new products or services for business sustainability. Therefore, intellectual capital is all the knowledge resources possessed by organization that allow for strategic management of creative ideas and innovative behaviours that result to value creation and competitive advantage (Franklin, 2015).

Historically, intellectual capital was initially coined by John Kenneth Galbrath in 1969. It conveyed its meaning as "intellect", "intelligence" or individual knowledge (Daniela, Daniele and Kimiz, 2018). The emergence of this concept according to John (1969) came to limelight following the recognition of intellectual

assets as fundamental in fostering the needed knowledge, abilities and working dexterity in creating value in organization. Today, intellectual capital has continued to attract exceptional attention from scholars and practitioners all over the world due to its perceived benefits on organizational sustainability (Ekanem, 2017). Empirical evidences have shown that, the overall success of a business could partly be explained by the usage of its available intangible asset (Hamzah and Ismail, 2008). That is why Ekanem, (2017) opines that intellectual capital inherent in an organization could be an added advantage among its competitors. Therefore, proper alignment and integration of intellectual capital within the whims and caprices of their productive capacity gave vent to innovative behaviour capable of providing the needed products or services that meets the demand of the changing business environment for business sustainability.

Firm sustainability represents business resiliency over time, it explains a business concern that have been in operations for considerable years (George, 2015). Freil (2015) sees business sustainability as business concern that has swerved through the socio-economic, political, and environmental challenges of its operations in meeting the demand of the environment. Research findings according to Gilead (2017) have shown that business sustainability seldom be achieved, if adequate attention is not directed toward the alignment of intellectual capital into the strategic management of the organization. This alignment, perhaps, would engender policy flexibility, relational assets and innovative skills as informational resources in value creation. This suggests that business sustainability of plastic manufacturing firms in Abia State derive on the informational resources, knowledge, innovative skills and the like which the firm possesses in providing essential services that meet the demands of the environment. However, the plastic manufacturing firms in Abia State that have attempted to rejig their operations management through the instrumentation of intellectual capital were Ace Toys & Plastic Company, Continental Plastic (W.A) Limited, Double-Diamond Plastic Company, Elplastic Manufacturing Company, Junction Plastic Nig. Limited and Pet and Sons Plastic Company.

II. Statement of the Problem

Achieving and sustaining competitive advantage in the market through the institutionalization of intellectual capital and continuous innovation is an ever abiding challenge to many business organizations. This concern, however, appears to be more critical in the plastic manufacturing industry. In Abia State for instance, it appears that most of the plastic manufacturing firms have not been able to compete favourably in a sustainable manner in the past 10 years as no significant improvement has been recorded especially on product quality improvement, value addition, product diversification, increased market share and the like. These firms appear to have failed in rejigging their productive capacity in producing all-inclusive house-hold products that meets customers' expectations with respect to product reliability, taste, durability and value addition in carving an inch in the market for the desired sustainability. In 2008 for instance, Elplastic Company, Junction plastic firm and Pet and Sons plastic manufacturing firms were the leading plastic firms in Abia State, where customers from all walks of life come to place their orders based on specification on house-hold products like plastic chairs, tables, trays, plates, jerrycans and GP tanks of different sizes and the like, but today most of the aforementioned products are not sold in Elplastic, Junction and Pet and Sons Company. This situation had made most of these firms to loss their customers to Double Diamond plastic firm, Continental plastic (WA) and Ace toys plastic Company because of their inability to innovate their operations through the instrumentality of intellectual capacity, as a result, questioned their business sustainability, since customer loyalty is declining. Therefore, the continuous decline of customer patronage on them posed serious problem on their operations, hence affects their performance.

In addition, research findings according to Maxwell (2015) have showed that policy rigidity does not allow for flexibility in operations management which is quintessential for improved performance. The seeming reactive management amongst Elplastic Company, Junction plastic firm and Pet and Sons plastic manufacturing firms seldom allow for proactive management approach to have institutionalized policy flexibility which has the potentiality of positioning the organizations attuned with the changing environment. Therefore, the extent to which policy flexibility has impacted on their sustainability calls for empirical study. More so, any firm that undermines intellectual capital seldom sustains the desired operational skills, knowledge and abilities considered sacrosanct in reconfiguring their business processes and capacities that is innovative-based driven in achieving the goal of the organization. This situation is what led to collapse of Doggler plastic firm. Therefore, efforts should be guided to foster intellectual capital to have enshrined relational assets that would helped them secure vital information especially from their competitors, customers, and alike in reconfiguring their operations for the desired business sustainability. Therefore, this study was a comparative study of Double Diamond plastic firm, Continental plastic firm and Ace toys plastic Company with Elplastic plastic Company, Junstion plastic Nigeria Limited and Pet and Sons plastic firms as it explored the effect of intellectual capital on firm sustainability of plastic manufacturing firms in Abia State. Specifically, the objectives are to:

1. Determine the effect of policy flexibility on firm sustainability of plastic manufacturing firms in Abia State.

2. Ascertain the effect of relational assets on firm sustainability of plastic manufacturing firms in Abia State.
3. Evaluate the effect of innovative skill on firm sustainability of plastic manufacturing firms in Abia State.

2.1 Concept of Intellectual Capital

Ekanem, (2017) sees intellectual capital as the value of a company's employee knowledge, skills, business training or any proprietary information that may provide the company with a competitive advantage. Intellectual capital is considered as an asset, and can broadly be defined as the collection of all informational resources a company has at its disposal that can be used to drive profits, gain new customers, create new products or otherwise improve the business (George, 2015). Edvinsson (1997) cited in Sunarti, Huang and Kalsom (2018) observed that intellectual capital management is 'leveraging human capital and structural capital together. The goal of the intellectual capital is to improve the company's value by generating capabilities through identifying, capturing, and leveraging on the informational resources of the firm. This includes both value creation and value extraction. Sunarti, Huang and Kalsom (2018) also see intellectual capital as the art and science of managing employee knowledge, capabilities, dexterity, and innovative ideas in a way that achieves maximum value extraction in organization. From the avalanche of definitions, intellectual capital therefore is the combination of intangible assets such as knowledge, experience, working dexterity and creative ideas that translate into innovative behaviour necessary for value creation in organization. Intellectual capacity was measured with policy flexibility, relational assets and innovative ideas.

2.1.1 Policy Flexibility

A policy is a deliberate system of principles to guide decisions and achieve rational outcomes. A policy is a statement of intent, and is implemented as a procedure or protocol. Policies are generally adopted by a governance body within an organization (Micheal, 2016). Therefore, policy flexibility is the adjustment of those principles of guidelines and procedure per time to reflect the trends in the environment. Policy flexibility assists in objective decision that is contingent on day-to-day events on the environment.

2.1.2 Relational Assets

Relational asset is the degree of relating with your competitors in order to outsource vital business information that could boost the operations of the firm (Ekanem, 2017). Relational assets is also measured with the level of agreement with others, acquaintance with colleagues, number of contacts with others, acceptance of opinion of others and level of passion for the generation of business ideas. The way and manner firms relate with their immediate environment often depicts innovations and added value in their operations.

2.1.3 Innovative Ideas

Innovative ideas are ideas that provoke innovative behaviour that leads to new approaches of doings, new inventions, improved operational management and alike in the comity of operations management (Timothy, 2015). Continuous process innovation leads to value creation which sustains the firm in business. Innovative idea is simply turning new and imaginative ideas into reality. It is characterized by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and generate solutions (Micheal, 2016). The product of innovative ideas is succinctly the combination of old and new knowledge. One major vital principle of implanting innovative idea is having the capacity to bring old and new knowledge in reinforcing innovative behaviour that will result to new pattern of doings, improved processes etc.

2.1.4 Business Sustainability

Deril (2008) sees business sustainability as meeting the needs of people today without compromising the ability of future generations to meet their own needs. It implies that business sustainability revolve around firm providing goods and services that meets the expectations of the people per-time. Kingsly (2016) argues that any firm that fails to provide services that meet peoples' expectations are bound to collapse.

2.2 Empirical Review

Ekanem (2017) studied intellectual capital and organizational sustainability in manufacturing firms in Rivers State. This study examines the relationship between intellectual capital and organizational suitability. The population for this study comprises of 266 supervisors and management staffs. The krejcie and Morgan table for sample size determination was used to arrive at a minimum sample size of one hundred and fifty seven (157) management employees. A conceptual model was developed and ten (10) hypotheses were formulated and tested with Kendall's tau statistical technique using the statistical package for social science (SPSS). Data were collected through personally administered questionnaire. The findings revealed a positive and significant

relationship between intellectual capital and organization sustainability. Based on the findings, it was concluded that the dimensions of intellectual capital have significant relationship on the sustainability of manufacturing firms. Based on the conclusion, it was recommended that employees with new ideas should be encouraged so as to help secure the economic, social and environmental sustainability of the firm.

More so, Niken (2018) examined the effect of intellectual capital and sustainability reporting disclosure toward company values analysis. The study was designed to ascertain the implications of intellectual capital and sustainability reporting among selected corporate organization in Surabaya, East Java-Indonesia. Quantitative research design was adopted such that data collected were analyzed with Ordinary Least Square (OLS) via multiple regression models. The study revealed that intellectual capital has a positive correlation with firm value and concluded as firms continues to engender intellectual capital, the more their operations transient to competitive advantage.

Jian and Bingham (2018) studied intellectual capital, financial performance and company's sustainable growth. The study was aimed at examining the effect of intellectual capital on firm's sustainable growth in the Korean Manufacturing Industry. Multiple regression models are applied with data collected from 390 manufacturing companies listed on the Korean Stock Exchange during 2012–2016. The results of the analysis show that intellectual capital has a positive impact on financial performance and companies' sustainable growth. In addition, companies' performance and sustainable growth are positively related to physical capital, human capital (HC), and relational capital (RC). RC is found to be the most influencing factor. Finally, innovative capital captures additional information on structural capital (SC) which negatively affects the performance of Korean manufacturing companies. The results extend the understanding of IC in creating corporate value and building sustainable advantages in emerging economies.

Sunarti, Huang and Kalsom (2018) studied intellectual capital management: Pathways to sustainable competitive advantage. The study was designated to explore the effect of intellectual capital management on competitive advantage among Malaysian firms. The study was theoretically based; meanwhile Intellectual Capital Model (ICM) was employed in the classification and the literature reviewed, it was found that intellectual capital management enhances organization to achieve and sustain competitive advantage and concluded that it is critical for organization to manage their intangible resources such as knowledge, innovation and intellectual property resources to attain a sustainable competitive advantage. Therefore, it should be emphasized that each company should develop its own model of ICM due to the importance of ICM as an enabler of future performance.

2.3 Theoretical Framework

The concept of Core Competence Theory was developed by Professors Garry Hamel and C.K. Prahalad in 1990. The assumption of this theory is premised on the fact that core competency stems from individual capability, knowledge and ability which reinforces innovative behaviour. It is this innovative behaviour that will enable them turn their new and imaginative ideas into reality. This theory believes that creative ideas are direct product of knowledge and capability possessed by individuals. For instance, for any organization to be relevant in the changing environment, it must be proactive in harnessing the informational resources within its operational ambit in achieving competitive advantage.

Gupta (2015) opined that, to deliver sustainable competitive advantage, organizations must adopt the concept of core competence. Core competency is "a unique capability acquired by a firm over a period of time in form of a resource, operations facility, especially skilled manpower, technology know-how or delivery of service which gives the firm sustainable competitive advantage. Andriessen (2001) observes that intellectual capital and business sustainability is largely dependent on the core competency within their disposition. Therefore, the theory argues that the core competency of the employees should not be relegated rather harness effectively for its potentials. However, the theory assumed that organization should be proactive in harnessing the core competency of their employees in creative value in their businesses.

III. Methodology

The study employed quantitative research design. The research design attempted to build mathematical cum statistical models that would capture the degree of relationship between the modeled variables and its net effect (s) on the dependent variable. However, the focus of the model was on policy flexibility, relational assets and innovative ideas as independent variables while firm sustainability is the dependent variable. Structured questionnaire designed in 5-point likert scale was administered on the sample of two hundred and eighty five (285), from the population out of which, two hundred and seventy three (273) copies were returned, hence used for the analysis. Ordinary Least Square (OLS) therefore formed the estimation basis of the regression models, such that:

$$FS = \beta_0 + \beta_1PF + \beta_2RA + \beta_3INI + \mu$$

Where:

- FS = Firm Sustainability
- PF = Policy Flexibility
- RA = Relational Assets
- INI = Innovative Ideas
- β_0 = The regression intercept (constant term)
- $\beta_1-\beta_3$ = Coefficients of the explanatory variables

μ = Residual or Disturbance term, which represents the composite effect of exogenous variables outside the model which were not explicitly identified in the model.

4.1 Questionnaire Response Rate

Meanwhile, two hundred and eighty five (285) questionnaire items were administered on the respondents, out of which, Two hundred and seventy three (273) questionnaire items were returned, hence used for the analysis. For the comparative study, Double Diamond plastic firm, Continental Plastic (WA) Limited and Ace-toys plastic Company were compared with Elplastic plastic manufacturing Company, Junction plastic Nig. Limited and Pet and Sons plastic firms in Abia State.

Table 1: Questionnaire Response Rate for Diamond, Continental and Acetoys firms

Questionnaire	Number	Percentage %
Questionnaire administered	172	100
Questionnaire collected	164	95
Questionnaire not collected	8	5

Source: Field survey, (2020).

Table 1 above showed that 172(100%) copies of structured questionnaire were administered on the staff of Double Diamond plastic firm, Continental plastic (WA) and Ace-toys plastic Company, 164(95%) copies of questionnaire were returned and 8(5%) questionnaires were not returned.

Table 2: Questionnaire Response Rate for Elplastic, Junction and Pet & Sons firms

Questionnaire	Number	Percentage %
Questionnaire administered	113	100
Questionnaire collected	109	96
Questionnaire not collected	4	3.53

Source: Field survey, (2020)

Table 2 above showed that 113(100%) copies of structured questionnaire were administered on the staff of Elplastic manufacturing firm, Junction plastic Nig. Limited and Pet & Sons plastic firm, 109(96%) copies of questionnaire were returned and 4(3.53%) questionnaires were not returned.

Results for Double-Diamond, Continental and Ace-toys plastic firms

Table 3: Descriptive Statistics

	FS	PF	RA	INI
Mean	31.8512	7.9583	9.3869	10.1429
Maximum	41.00	14.00	12.00	14.00
Minimum	23.00	5.00	5.00	5.00
Std. Dev.	6.07009	3.00370	3.11636	2.78853
Skewness	-684	583	-0.253	-.0531
Kurtosis	-1.562	-1.114	-1.739	-.803
Observations	164	164	164	164

Source: Researcher's Compilation from SPSS Version 0.20

Table 3 shows the descriptive statistics of the variables under study namely: firm sustainability (FS), policy flexibility (PF), Relational assets (RA) and Innovative ideas (INI). The result in Table 3 represents results from Double Diamond plastic firm, continental plastic firm and Ace-toys plastic Company in Abia State. The results showed average (mean) of firm sustainability, policy flexibility, relational assets, and innovative ideas as 31.8512, 7.9583, 9.3869 and 10.1429. On the other hand, Standard Deviation measures the dispersion in the values. Standard deviation measures spread or dispersion in the values. From table one above the standard deviation for firm sustainability, policy flexibility, relational assets, and innovative were 6.07009, 3.00370, 3.11636 and 2.78853. Skewness measures the degree of asymmetry of distribution of the values around its mean. The skewness of a normal distribution is zero. Positive skewness implies that the distribution has a long right tail and negative skewness implies that the distribution has a long left tail. From the above table, we

discover that all the variables have negative skewness except policy flexibility with positive skewness. Kurtosis measures the flatness of the distribution of the values. If the kurtosis is greater than three, the distribution is said to be peaked or leptokurtic as compared to the normal and when < three, such distribution is said to be flat or platykurtic relative to others

Table 4: Correlation Results for Diamond, Continental and Ace-toys firms

		Firm Sustainability	Policy Flexibility	Relational Assets	Innovative Ideas
Pearson Correlation	Firm Sustainability	1.000	.920	.693	.084
	Policy Flexibility	.920	1.000	.666	-.381
	Relational Assets	.693	.666	1.000	.098
	Innovative Ideas	.084	-.381	.098	1.000
Sig. (1-tailed)	Firm Sustainability	.	.000	.000	.140
	Policy Flexibility	.000	.	.000	.000
	Relational Assets	.000	.000	.	.104
	Innovative Ideas	.140	.000	.104	.
N	Firm Sustainability	164	164	164	164
	Policy Flexibility	164	164	164	164
	Relational Assets	164	164	164	164
	Innovative Ideas	164	164	164	164

Source: Researcher’s Compilation from SPSS Version 0.20

The correlation analysis in Table 4 showed that all the explanatory variables namely policy flexibility, relational assets and innovative ideas have positive signs and are significantly correlated with firm sustainability and it implies that a unit increase in any of them as a predictor variable will result, to a significant increase on their firm sustainability in Abia State.

Results for Elplastic, Junction and Pet & Sons plastic firms

Table 5: Descriptive Statistics

	FS	PF	RA	INI
Mean	36.2759	.19397	7.8966	10.0345
Maximum	41.00	10.00	12.00	14.00
Minimum	25.00	5.00	5.00	5.00
Std. Dev.	3.288	1.0445	2.90744	3.56053
Skewness	.288	3.675	625	428
Kurtosis	4.166	14.686	-1.393	4.166
Observations	113	113	113	113

Source: Researcher’s Compilation from SPSS Version 0.20

Table 5 above shows the descriptive statistics of the variables for firm sustainability, policy flexibility, relational assets and innovative ideas. These results were succinctly for Elplastic manufacturing firms, Junction plastic and Nig. Limited and Pet & Sons plastic firms in Abia State. Aside from the mean, standard deviation, maximum, minimum, but the results of the skewness showed that all the variables have positive skewnesses opposed to the result of Double Diamond plastic firm, continental plastic firm and Ace-toys plastic Company in Table 3.

Table 6: Correlation Results Elplastic, Junction and Pet & Sons plastic firms

		Firm Sustainability	Policy Flexibility	Relational assets	Innovative Ideas
Pearson Correlation	Firm Sustainability	1.000	-.541	-.801	-.833
	Policy Flexibility	-.541	1.000	.130	.074
	Relational assets	-.801	.130	1.000	.887
	Innovative Ideas	-.833	.074	.887	1.000
Sig. (1-tailed)	Firm Sustainability	.	.001	.000	.000
	Policy Flexibility	.001	.	.251	.352
	Relational assets	.000	.251	.	.000
	Innovative Ideas	.000	.352	.000	.
N	Firm Sustainability	29	29	29	29
	Policy Flexibility	29	29	29	29
	Relational assets	29	29	29	29
	Innovative Ideas	29	29	29	29

Source: Researcher’s Compilation from SPSS Version 0.20

The correlation analysis in Table 6 showed that all the explanatory variables of policy flexibility, relational assets and innovative ideas have negative signs and are significantly correlated with firm sustainability and it implies that as Elplastic manufacturing firm, Junction plastic Nig. Limited and Pet & Sons plastic firms continue to relegate policy flexibility, relational assets and innovative ideas, the more it affect their firm sustainability. This result by comparison contrasted the correlation result of Double Diamond plastic firm, continental plastic firm and Ace-toys plastic Company in Table 4.

Table 7: Comparative Diagnostic Regression Results on the firms

Table 7 (A): Regression Results on Double Diamond, Continental and Ace-toys plastic firms						Table 7 (B): Regression Results on Elplastic, Junction and Pet & Sons plastic firms				
(A)						(B)				
Var.	B	Std. Error	Beta	T	Sig	B	Std Error	Beta	T	Sig
C	55.759	.722		77.242	.000	-1.351	.074		52.720	.000
PF	2.223	.069	-1.100	-32.299	.000	-1.452	.064	-.473	-8.856	.000
RA	.144	.062	.074	2.331	.021	-.165	.227	-.150	-1.299	.206
INI	.746	.056	-.343	13.430	.000	-.599	.103	-.665	-5.803	.000
R ²	0.932					0.562				
DW	1.727					1.845				

Source: Researcher’s Compilation from SPSS Version 0.20

Table 7 above shows the comparative regression results of the explanatory variables for Double Diamond plastic firm, Continental plastic firm and Ace-toys plastic Company with Elplastic Company, Junction plastic Nig. Limited and Pet & Sons plastic firm obtained via Ordinary Least Square (OLS) estimation. However, Table 7 (A), showed regression equation of $FS = 55.759 + 2.223X_{PF} + 0.144X_{RA} + 0.746X_{INI}$ explaining the positivism of their relationships. The three predictor variables of X_{PF} , X_{RA} , and X_{INI} represent policy flexibility, relational assets and innovative ideas of Double Diamond plastic firm, Continental plastic firm and Ace-toys plastic firm. The result showed the coefficient of the constant term of 55.759 and shows where the line intercept the Y axis and statistically significant at 5% level of significance. This implies that holding these explanatory variables constant, the firm sustainability of the plastic manufacturing firms will increase by 55% significantly. The possible increase is due to extraneous factors outside the modeled variables. Also, the R² value of 0.932 indicates that 93% total variations in the firm sustainability of these firms are explained by policy flexibility, relational assets and innovative ideas, respectively. The result of the computed Durbin-Watson was 1.727. At 5% level of significance with three explanatory variables and 164 observations, the tabulated DW for DI and DU are 1.702 and 1.810, respectively. Thus, there is no evidence of positive first order serial correlation from the stated model. In Table 7(A), all the explanatory variables had positive coefficient on firm sustainability. This means, as Double Diamond plastic firm, Continental plastic (WA) and Ace-toys plastic firm continue to engender policy flexibility, relational assets and innovative ideas, such actions, will enhance their business sustainability. Therefore, the crystallization of these factors into the operations management of the business concern would create room for improved process modification, improved ways of doing things that are unique and value creation in the business which is fundamental in driving business sustainability.

On the other hand, Table 7 (B) above shows the regression equation of $FS = -1.351 - 1.452X_{PF} - 0.165X_{RA} - 0.599X_{INI}$ results of the explanatory variables obtained via Ordinary Least Square (OLS) estimation. The three predictor variables of X_{PF} , X_{RA} , and X_{INI} also represent policy flexibility, relational assets and innovative ideas of Elplastic manufacturing Company, Junction plastic Nig. Limited and Pet & Sons plastic firms. The result showed the coefficient of the constant term of -1.351. The implication of the foregoing is that considering their reactive approach to the management of their businesses, holding the three explanatory variables constant, firm sustainability will decrease by 1% significantly. This is predicative of the fact that reactive approach to business management does not allow for cross-breeding of new ideas necessary for innovative attitude, even though, policy flexibility, relational assets and innovative ideas are hold constant. These firms could not explore other factors outside the studied parametersto have positively influenced their business sustainability due to issues relating to reactive approach to management. This consideration among others suggested that firms should be innovative by accessing tacit information through their relational assets while responding to the trends in the business environment. That is why, Double Diamond plastic, Continental plastic (WA) Limited and Ace-toys plastic Company in Table 7(A) had a coefficient of the constant term of 55.759, suggesting, even at zero level of implementing policy flexibility, relational assets and innovative ideas, other factors outside the mentioned factors, may have contributed significantly in enhancing their firm sustainability due to their proactive approach to management. In Table 7(B), all the explanatory variable of policy flexibility, relational assets and innovative ideas have negative effect on firm sustainability. The negative correlation of policy flexibility of -1.452, relational assets of -.165 and innovative ideas of -.599 are indications

of their indifferent and inefficient implementation of policy flexibility, relational assets and innovative ideas, as such, result to significant decline on firm sustainability.

IV. Conclusion

From the findings of the study, it is logical to conclude that intellectual capital has a significant and positive effect on firm sustainability. The study provided empirical evidence that point to the fact that organizations especially plastic manufacturing firms should pay adequate attention to intellectual capital due to its potentially of harnessing employee knowledge, capability, dexterity, and constructive ideas for value creation. Creating value in the operations of any organization appears to be quintessential in achieving and sustaining competitive advantage. From the findings, and conclusion drawn, the following recommendations were made:

The management of these plastic manufacturing firms should explore the unique opportunities of institutionalizing policy flexibility in their day-to-day planning, directing, and coordinating response-framework in responding to the demands of the environment by producing products that meet customers' expectations. Operational flexibility allow for the production of plastic products that are all-inclusive of the desired quality, durable and reliable that meets customer's expectations. Policy flexibility provides for continuous adjustment of operations management and techniques needed for improved performance. It is when performance improved over-time that sustainability can be secured.

The result of the study showed that relational asset has a significant and positive effect on firm sustainability for Double-Diamond plastic firm, Continental plastic (WA) Limited and Ace-toys plastic Company as opposed to Elplastic manufacturing firm, Junction plastic Nig. Limited and Pet & Sons plastic firms that have negative coefficients on firm sustainability and therefore recommended that the management of these plastic firm should take adequate measure in creating close-knitting relationship with their competitors through the instrumentality of intellectual capital to be able to access vital information that could help boost the operations of their firm. Informational resources possessed help the firm to create value in their operations, hence achieve firm sustainability.

The study found that innovative ideas have significant positive effect on Double-Diamond, Continental plastic firm and Ace-toys plastic Company on firm sustainability and therefore recommended that the management of Elplastic manufacturing Company, Junction plastic Nig. Limited and Pet & Sons plastic firms should reconfigure and revamp their operations management to continue to harness the potentials of new ideas in providing improved quality service delivery, improved method of doing things etc., that are essentially pertinent in sustaining the organization.

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