NIPES

Journal of Science and Technology Research

Journal homepage: www.nipesjournals.org.ng

Achieving the Appropriate Measures of Trade Facilitation Using Intellectual Property Rights in Engineering and Trade Facilitation, for a Sustainable Global Trade

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Article Info

***Keywords*:**
Trade facilitation, intellectual property rights in engineering, documentation of trade, cross border trade transactions, cargo operations and customs procedures.

Received 06 September 2021
Revised 14 November 2021
Accepted 16 November 2021
Available online 12 December 2021

https://doi.org/10.37933/nipes/3.4.2021.19

https://nipesjournals.org.ng

Abstract

This study was aimed at achieving the appropriate measures of trade facilitation that will be able to sustain intellectual property rights in engineering and trade facilitation in innovations, inventions, trade secrets, industrial designs and patent of newest technologies for global trade. Questionnaires were administered to 280 respondents and data from results recorded were analyzed using descriptive statistics. From the five objectives and five hypothesis tested, fundamentals of trade facilitation and intellectual property rights to protect documentation trade were recorded. Results from model summary stated the coefficient of determinate (R) value to be 0.627 showing a 62.7% variation, with a P value of 0.000 which was less than 0.05 with F value of 80.132, showing a significant relationship between documentation in trade (DIT), Intellectual Property Rights (IPR), Trade Facilitation (TF), Cargo Operations and Customs Produces (COACP), Cross border trade transactions (CBTT) and using intellectual property rights for a sustainable global trade. Results from model summary from hypothesis 2, showed that ANOVA table results of F value of 40.4 with a P value of 0.000 was recorded. Since P<0.05 is accepted, there was a significant relationship between trade facilitation and the fundamental principles of trade facilitation with standard trade procedures. Results from model summary of hypothesis 3 showed that there was a significant relationship between effective transactions of Cross border trades, intellectual property rights and trade facilitation. Results from model summary hypothesis 4, showed that there was a significant relationship between trade facilitation and the fundamental principles of trade facilitation as it influenced trade and transport. Results from model summary of hypothesis 5, showed that there was a significant relationship between intellectual property rights and trade facilitation. From the summary of respondent's opinion, indices were recorded. DIT had an index of 3.07 to have the grand index, COACP had an index of 3.04, CBTT had an index of 2.98, TF had an index of 2.97 and IPR had an index of 3.10 showing that respondents affirmed their opinion on documentation in trade, cargo operations and customs procedures, intellectual property rights in engineering and manufacturing as the appropriate measures for effective Trade facilitation for a sustainable global trade. In conclusion, using intellectual property rights tools such as trademarks, trade secrets, industrial designs and patents will help protect inventions, innovations and enhance manufacturing of goods to promote distribution of goods and services.

1.Introduction

Original thoughts, innovations, inventions are all intellectual properties in engineering geared towards protecting valuable ideas in manufacturing to promoting licensing and development. Intellectual property right in engineering has four key areas which are: Industrial designs, patents, trade secrets and trademarks. Intellectual property rights in engineering are legal rights held by creator of the idea in question, and used to protect these creations.

1.1. Patents: These are licenses granted to patentees for a period of twenty (20) years to protect new products, and nouvelle inventions. Three categories of patents are used to protect innovations and inventions. They are: utility patent, design patent and plant patent.

1.2. Trademarks: Trademarks are unique designs, accrued to the owner of such design. The designs come in form of written texts, symbols, sounds, colors and logo. Trademarks are used to protect different classes of products and services rendered in trade transactions.

1.3. Trade secrets: Business secrets, industry secrets, strategies of operations in businesses, trade and information that are strictly confidential are all trade secrets. Trade secrets protect commercial usage of products from unauthorized users.

1.4. Industrial designs: Industrial designs on manufactured products, used to drive innovations and build business growth and successes. Automobile design, tool design and equipment design. For efficient trade, new technologies should be protected and monetized to produce value for idea creations and enhance wise utilization of intellectual property rights in Engineering. Patents, trademarks, trade secrets and industrial designs should be promptly practiced at the lowest possible cost in order to enhance and promote trade globally. Trade facilitation creates access to businesses, help to solve issues of corruption in transactions, exports, imports and haulages using the appropriate measures of trade facilitation which are documentations in trade, cargo operations and customs procedures, cross border trade transactions, trade facilitation and intellectual property rights in engineering to achieve these measures, some basic fundamental principles of trade facilitation should be met and they are: transparency, simplification, harmonization, and standardization of trade procedures. Government use some trade facilitation skills to assemble raw materials, distribute finished goods facilitate border trade and procedures. Some of the trade facilitation skills are: meeting skills, planning skills, training skills, flexibility skills, active listening skills, time management skills and negotiation skills.

1.5. Research questions

1. How can countries use intellectual property rights in engineering to protect documentations in trade?
2. How can countries effectively implement standardized practices and procedures in custom activities and cargo procedures to facilitate trade?
3. How can countries implement effective transactions of cross border trade?
4. What is the influence of trade and transport on trade facilitation as regards its fundamental principles?
5. What can be done to establish efficient operations in trade and cargo transport using intellectual property rights in engineering?

1.6. Hypothesis testing

This study developed five hypotheses to tackle inefficient trade facilitation and poorly practiced intellectual property rights in engineering, in innovations, inventions and trade.

1.7. Hypothesis: There is a null hypothesis Ho against the alternative hypothesis H_a, where the **H_o**: indicators have not negatively affected trade facilitation while for the alternative hypothesis **H_a**: indicators positively affected trade facilitation and implementation of intellectual property rights in engineering. Conclusions were drawn from the test results where significance is less than 0.05 (5%), the null hypothesis (H_o) will be rejected showing that indicators positively affect trade facilitation and intellectual property rights in engineering implementation. If the mean in the T-test is less than 3 on the 5 point Likert scale in the questionnaire with 1 = strongly Agree, 2 = Agree, 3 = undecided, 4 = strongly disagree and 5 = disagree, it meant that majority of answers from the respondents were less than 3, so the alternative hypothesis was accepted.

The study was carried out using staff of College of Engineering, Igbinedion University Okada, and staff of Directorate of Intellectual Property and Technology Transfer Office (IPTTO) of Igbinedion University Okada, Edo State, Nigeria and staff of Ministry of Trade, Commerce and Industry, Edo State, Nigeria.

A total of 1,040 staff was available. A sample size of 288 was used. Using Yamane 1967 formula:

$$S = \frac{N}{1+N(e^2)} \quad \text{---------- (1)}$$

Where: S = Sample size

N = Population

e = level of significance

Where N = 1,040, e = 0.05

$$\therefore S = \frac{1040}{1+(1040)(0.05)^2} = \frac{1040}{3.6}$$

S = 288

∴ Sample size = 288

Questionnaires were distributed using the sample population of 288.

2. Research instrument

The research instruments used in this study were questionnaires with closed ended questions. The questionnaires were structured to elicit responses on the various aspects of intellectual property rights, trade and trade facilitation using the 5 point Likert scale of 5 = strongly agree , 4 = Agree ,

3 = Undecided (not sure), 2 = Disagree and 1 = strongly disagree. A 3 mean bench mark was used for the 5 point Likert scale to ascertain the parameter that can be adjudged significant. The 288 questionnaires were distributed but only 280 were found useable, filled, returned and analyzed.

Table 1: Measure of Variables

S/N.	Variables	Operationalization of variables	Measures	Item number
	Section A Socio-demographic variables			Appendix 1, Section A
1.	Gender	Male or Female	2 point scale	Q1
2.	Age	Age group of respondents	4 point interval scale	Q2
3.	Marital status	Single, married, separated, widowed.	4 points scale	Q3
4.	Level of Education	Educational qualification	5 points Scale	Q4
	SECTION B Intellectual property and trade facilitation		On a 5 point likert scale	Appendix 1, Section B
1.	Documentation in trade		5 = SA Strongly agree 4 = A Agree 3=UD Undecided (not sure) 2 = D Disagree 1 = SD Strongly disagree	6 – 10
2.	Cargo operations and custom procedures			11 – 15
3.	Cross border trade transactions			16 – 20
4.	Trade Facilitation			21 – 45
5.	Intellectual property rights in engineering			26 – 30

2.1. Reliability and validity

Cronbach's coefficient alpha (α) was used to test for reliability and validity of the results. It helped to check for dependability and predictability of the measurement.

SPSS was used to analyze the data and each of the 5 hypotheses were tested in relation to the relevant 5 objectives.

2.2. Response rate

Table 2: Showing response rate of respondents.

Number of questionnaires administered	Retrieved questionnaires	% retrieved
288	280	97.22%

Table 2 showed response rate of the respondents with a total of 288 questionnaires administered but only 280 were retrieved with a high rate of response at 97.22% and only 2.78% decline.

Table 3: Analysis of demographic characteristics of the respondents.

Gender	Frequency	Percentage
Male	146	52.1
Female	134	47.9
Total	**280**	**100%**
Ages		

26 – 35	71	25.4
36 – 45	109	38.9
46 – 60	97	34.6
60 and above	03	1.1
Total	**280**	**100%**
Marital Status		
Single	77	27.5
Married	197	70.4
Separated	4	1.4
Divorced	2	0.7
Total	**280**	**100%**
Educational status		
B.Sc	141.0	50.4
Masters	136.0	48.6
Ph.D	3.0	1.1
Total	**280**	**100%**

The percentage distribution by gender was recorded at 47.9% female and 52.1% male. By age, 38.9% were from the 36-45 age range, 34.6% from 46-60yrs, 21.40% from 26-35yrs and 1.4% from 60yrs and above.

Summary of respondent opinions on:

1. Documentation in trade
2. Cargo operations and customs procedures
3. Cross border trade transactions
4. Trade facilitation
5. Intellectual property rights in engineering

Table 4: Documentations in Trade (DIT)

S/N.	Statement	Strongly		Agree		Undecided		Disagree		Strongly Disagree		Index
		Frequency.	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
6		6	20	12	40	3	10	7	23.3	2	67	3.43
7		4	13.3	5	16.7	5	16.7	7	23.3	9	30	2.60
8.		10	33.3	4	13.3	5	16.7	6	20	5	16.7	3.27
9.		8	26.7	8	26.7	3	10	6	20	5	16.7	3.27
10.		4	13.3	6	20	6	20	7	23.3	7	23.3	2.77

	Subtotal	6	21.3	7	23.3	4	14.7	7	22	6	18.7	3.07

Table 5: Cargo operations and Customs procedures (COACP)

S/N.	Statement	Strongly		Agree		Undecided		Disagree		Strongly Disagree		Index
		Frequency.	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
11.		8	26.7	4	13.3	6	20	5	16.7	7	23.3	3.03
12.		5	16.7	8	26.7	3	10	8	26.7	6	20	2.93
13.		6	20	8	26.7	9	30	2	6.7	5	16.7	3.27
14.		5	16.7	9	30	6	20	4	13.3	6	20	3.10
15.		8	26.7	3	10	5	16.7	4	13.3	10	33.3	2.83
16.		6	20	5	16.7	9	30	6	20	4	13.3	3.10
	Subtotal	6	21.1	6	20.6	6	21.1	5	16.1	6	21.9	3.04

Table 6: Cross border trade transactions (CBTT)

S/N.	Statement	Strongly		Agree		Undecided		Disagree		Strongly Disagree		Index
		Frequency.	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
17.		5	16.7	9	30	4	13.3	6	20	6	20	3.03
18.		6	20	2	6.7	9	30	5	16.7	8	26.7	2.77
19.		3	10	10	33.3	6	20.4	4	13.3	7	23.3	2.93
20.		9	30	6	20	4	13,3	5	16.7	6	20	3.23
21.		5	16.7	3	10	4	13.3	8	26.7	10	33.3	2.50
22.		6	20	9	30	10	33.3	-	-	5	16.7	3.37
	Subtotal	6	18.9	7	21.7	6	20.5	6	18.7	7	23.3	2.98

Table 7: Trade Facilitation (TF)

S/N.	Statement	Strongly		Agree		Undecided		Disagree		Strongly Disagree		Index
		Frequency.	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	

23.		5	16.7	9	30	4	13.3	6	20	6	20	3.03
24.		6	20	2	6.7	9	30	5	16.7	8	26.7	2.77
25.		3	10	10	33.3	6	20	4	13.3	7	23.3	2.93
26.		9	30	6	20	4	13.3	5	16.7	6	20	3.23
27.		5	16.7	3	10	4	13.3	8	26.7	10	33.3	2.50
28.		6	20	9	30	10	33.3	-	-	5	16.7	3.37
	Subtotal	6	18.9	7	21.7	6	20.5	6	18.7	7	23.3	2.97

Table 8: Intellectual property rights (IPR)

S/N	Statement	Strongly		Agree		Undecided		Disagree		Strongly Disagree		Index
		Frequency.	%	Frequency	%	frequency	%	Frequency	%	Frequency	%	
29.		9	30	4	13.3	6	20	1	3.3	10	33.3	3.03
30.		9	30	5	16.7	4	3.3	6	20	6	20	3.17
31.		13	43,3	6	20	3	10	3	10	5	16.7	3.63
32.		5	16.7	3	10	6	20	7	23.3	9	30	2.60
33.		9	30	4	13.3	2	6.7	10	33.3	5	16.7	3.07
34.		9	30	4	13.3	2	6.7	10	33.3	5	16.7	3.07
35.		9	30	4	13.3	2	6.7	10	33.3	5	16.7	3.07
	Grand total	7	22.6	6	19.2	5	17.9	6	18.6	7	21.7	3.04
	Subtotal	9	30	4	14.7	4	17	5	18	7	23.3	3.10

(Questions 10 – 35)

The Table shows Documentation in trade (DIT), cargo operations and customs procedures (COACP), cross border trade transactions (CBTT), Trade Facilitation (TF) and intellectual property rights (IPR) and their indices as:

1. DIT = 3.07
2. COACP = 3.04
3 CBTT = 2.98
4 TF = 2.97
5. IPR = 3.10

The grand index 3.04 belongs to cargo operations and customs procedures (COACP) showing that respondents affirmed their opinion on the choice of effective cargo operations and customs procedures as a way of improving trade efficiency, delivery goods and services at lowest cost possible in order to standardize trade procedures for global.

2.3Testing of hypothesis

Hypothesis One:

Research Question 1:

How can countries use IPR to protect documentation trade?
What is the relationship between documentation in trade, intellectual property rights and trade facilitation?

H_{o1}: there is no significant relationship between DIT, IPR and TF
H_{a1}: this is a significant relationship between DIT, IPR and TF.

Table 9: Model summary

Model	R	R-square	Adjusted R square	Standard error of the estimate
1	0.627[a]	0.394	0.389	0.3621

a. Predictors: (constants), documentations in trade and intellectual property rights.

Table 9b: Analysis of variance ANOVA[a]

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	21.017	2	10.508	80.132	0.000
1 Residual	32.392	247	0.13		
Total	53.409	249			

a. Dependent variable: Trade facilitation.

b. Predictors: (constant) documentations in trade and intellectual property rights.

Table 9c: ANOVA[a]

Model 1	standardized coefficients	Standard coefficients	T	P-value
Constant	11.258	0.153	-	0.000
Documentation in trade	0.508	0.050	0.558	0.000
Intellectual property rights	0.096	0.039	0.134	0.015

a. dependent variable: Trade facilitation

TF = 1.258 + 0.508 DIT + 0.96 IPR ---------- equation 2.

Table 9a, b and c shows hypothesis one test for 280 respondents. The predictors were documentation in trade and intellectual property rights while trade facilitation was the dependent variable. Table 9a, showed a variation for the predictor accounting for 39.4% with a record of 0.394 as the R-square (coefficient of determination).
Table 9b showed P-value of 0.000 which was less than 0.05 with F-value of 80.132. This showed that there is a positive significant relationship between documentations in trade, intellectual property rights and trade facilitation. Hence, the null hypothesis is rejected and the alternative hypothesis, accepted. This shows that there is a significant relationship between DIT, IPR and TF implying that documentations in trade impinges on IPR and trade facilitation which will bring about sustainable trade.

Hypothesis two

2.4. Research Question 2:

How can countries of the world, effectively implement standardized practices and procedure in custom activities and cargo operations to facilitate trade global.

H_{o2}: There is no significant relationship between custom activities and cargo operations in facilitating trade globally.

H_{a2}: There is a significant relationship between customs activities and cargo operations in facilitating trade globally.

Facilitation skills used to facilitate trade as expressed in the questionnaire are: Meeting (M), planning sessions (PS), Trainings (T), Setting guidelines (SG), Flexibility (F), Active listening (AL) and Managing Time (MT), negotiation.

Table 10a: Model summary

Model	R	R-square	Adjusted R square	Std error of the estimate
1	0.441[a]	0.1950	0.182	0.58505

a. Predictors: (constants), FACILITATION SKILLS.

Table 10b: ANOVA

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	20.286	4	5.071	14.815	
1 Residual	83.860	245	0.342		0.000[b]
Total	53.409	249			

a. Dependent variable: Customs activities and cargo operations.

b. Predictors: (constant) facilitation skills such as managing time, negotiation, active listening, flexibility, selling guidelines, trainings, planning sessions and meetings.

Table 10c: Coefficients [a]

Model 1	Unstandardized Coefficients	df	Standardized coefficients	F	Sig.
	B	Standard. Error	Beta (B)		
Constant	1.371	0.235	-	5.837	0.000[b]
Negotiation	0.135	0.057	0.150	2.357	0.019
Time management	0.144	0.060	0.149	2.389	0.018
Planning session	0.077	0.057	0.090	1.357	0.176
Meetings	0.198	0.055	0.231	3.583	0.000
Flexibility	0.180	0.050	0.201	3.581	0.000

a. Dependent variable: custom activities and cargo operations.

3. Results and Discussion

From Table 10a, the model summary shows the R-square value of 0.195 indicating a 19.5% variation in the criterion variable. From the ANOVA table, F-statistics of 14.816 and P-value of 0.000 from the regression model, shows adequacy in the regression model B value of 0.077 and P value of 0.776 were positive and had a positive relationship with custom activities and cargo operations. The null hypothesis which states that:

H_{o2}: There is no significant relationship between facilitation skills and cargo activities and cargo operations. This analysis shows there is a positive significant relationship between effective implementation of standardized practices and procedures in custom activities and cargo operations to facilitation trade using facilitation skills.

From the regression analysis in table 10c, β values of 0.198 with P values of 0.000 positively and significantly influence custom activities and cargo operations. The equation of the model

COACP = 1.371 + 0.135 + 0.144, TM + 0.077 PS + 0.198. ---------- (3)

Hypothesis 3

Research question 3

How can countries of the world implement effective transactions of cross border trade using intellectual property rights?

H_{a2}: There is a significant relationship between effective transactions of cross border trade, intellectual property rights and trade facilitation.

H_{a3}: There is a significant relationship between effective transactions of cross border trade, intellectual property rights and trade facilitation.

Table 11a: Model summary

Model	R	R-square	Adjusted R square	Std error of the estimate
1	0.621[a]	0.385	0.375	0.3660[2]

a. Predictors: Intellectual property rights and trade facilitation.

Table 11b: ANOVA[a]

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	20.584	4	5.146	38.410	0.000[b]
1 Residual	32.824	245	0.134		
Total	53.409	249			

a. Dependent variable: Cross border trades.

b. Predictors: (constant) intellectual property rights and trade facilitation.

Table 11c: Coefficients[a]

Model 1	Unstandardized Coefficients	Df	Standardized coefficients	F	Sig.
	B	Std. Error	Beta (B)		

Constant	1.367	0.147	-	9.307	0.000
Intellectual property rights	0.179	0.036	0.277	14.992	0.000
Patents	0.16	0.038	0.233	4.265	0.000
Trade secret	0.128	0.036	0.297	3.591	0.000
Trademarks	0.101	0.035	0.164	2.911	0.004

a. Dependent variable: cross border trades.

Table 11c shows the regression model summary with square values of 0.385 indicating 38.5% variation in the criterion variable. The ANOVA f-statistics and P value is 0.000. Testing at a δ level of 0.05 (50%) since P<0.05. There is significant relationship between cross border trades and intellectual property rights and trade facilitation.

In table 11c, intellectual property (β = 0.179; P = 0.000), Patents (β = 0.161; P = 0.000), trade secrets (β = 0.101; P = 0.004) positively influence cross border trades and trade facilitation and significantly, influences cross border trades. Therefore, we reject the null. In order words the higher the impact of trade on cross border trades, the higher the protective on IPR and importance of patents, trademarks and trade secrets in border trading.

The equation of the model is:

CBT = 1.367 + 0.179 IPR + 0.161 p + 0.128 TS + 0.101 TM. ---------- (4)

Hypothesis 4

Research Question 4:

What is the influence of trade and transport on trade facilitation using TF fundamental principles and intellectual property rights. The fundamental principles of trade facility are:

1. Transparency in trade
2. Harmonization of trade
3. Simplifying trade
4. Standardizing Trade procedures

Intellectual property rights e.g. trade secret

H_{o4}: There is no significant relationship between trade facilitation and fundamental principles of trade facilitation as it influences trade and transport and intellectual property right.

H_{a4}: There is a significant relationship between trade facilitation, fundamental principles of trade facilitation, transport and trade and IPR.

Table 12a: Model summary

Model	R	R-square	Adjusted R square	Std error of the estimate
1	0.374[a]	0.140	0.137	0.4303

a. Predictors: (constant), fundamental, principles of trade facilitation and IPR.

Table 12b: ANOVA

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	7.489	1	7.489		
Residual	45.919	248	0.185		0.000[b]
Total	53.409	249			

a. Dependent variable: trade facilitation.
b. Predictors: (constant): Fundamental principles of trade facilitation are intellectual property rights.

Table 12c: Coefficients

Model 1	Unstandardized Coefficients	Df	Standardized coefficients	F	Sig.
	B	Std. Error	Beta (B)		
Constant	2.315	0.134	-	17.316	0.000
Fundamental principles of trade facilitation	0.268	0.42	0.374	6.360	0.000

a. Dependent variable: trade facilitation.

From table 12a, R-square (coefficient of determination) was recorded at 0.140 meaning that trade facilitation accounted for a variation of 14% in the criterion variable. The ANOVA table showed F = 40.447 and P value of 0.000. Since P<0.05 alpha is accepted, when there is a significant relationship between trade facilitation and fundamental principles of trade facilitation and intellectual property rights.

A positive TF and good influence of IPR results in positive trade transactions and standardization of trade procedures. The equation of the model:

TF = 2.315 + 0.268 TF ---------- (5)

Analysis of trade facilitation intellectual property rights and across five objectives.

Table 12d: ANOVA

S/n.	Objectives	Mean	N	Ranks
1.	Documentation in trade	3.07	9	1st
2.	Cargo operations & custom	3.04	6	2nd
3.	Cross border trade transactions	2.98	3	4th
4.	Trade facilitation	2.97	6	5th
5.	Intellectual property rights	3.10	1	3rd
	Total	3.05	30	

Table 12e: (30 respondents from ministry of Trade, commerce and industry in Nigeria) on trade facilitation

	Sum of squares	Df	Means square	F	Sig.
Between groups	0.670	4	0.168	-	0.000
Within groups	2.507	25	0.00	1.6	0.000
Total	3.177	29	0.100	7.1	188

From Table 12d, documentations in trade was first (1st) in ranking with 3.07 mean value at 9 trade ministries supporting documentation of trade dealings as a sustainable tool to facilitate trade.

Analysis of trade facilitation across (250) Post HOC test for trade facilitation, and intellectual property rights. Student New man – keuls

Table 13a: Coefficients

	Some of squares	Df	Means square	F	Sig.
Between groups	11.352	4	2.838	7.493	0.000
Within groups	92.793	245	0.379		
Total	104.145	249			

Table 13b: ANOVA

	Measures of trade facilitation	N	Subset for alpha = 0.05	Ranking	Sig.
1.	Trade facilitation	57	1 2	1st	
2	Cargo operation & custom procedure	58	13.689	1st	
3.	Cross border trade transactions	20	2.985	3rd	
4.	Trade facilitation	51	2.958	5th	
5.	Intellectual property rights	64	2.98	4th	

Table 13a and b show the available of trade facilitation and the rankings. The higher mean was recorded at 3.4.7 with N = 88 for documentation in trade ranking 1st. the 2nd in ranking was cargo operations and custom practices at N = 57 with a means of 3.03.

3.1 Findings:

1. Trade facilitation was positively and significantly related to good documentations in trade, effective cargo operations and customs procedures, standard cross border trade transactions, using intellectual property rights and will help to improve trade efficiency, take advantage of new technologies facilitate access to trade.
2. There is significant relationship between custom activities and cargo operation in trade facilitation globally.
3. There is a significant relationship between effective transactions of cross border trades IPR and TF.
4. There is a significant relationship between trade facilitation and the fundamental principles of trade facilitation as it influences trade and transport and IPR.
5. There is significant relationship between intellectual property rights and trade facilitation.

4. Conclusion and Recommendation

Empirically, intellectual property rights such as trademarks, trade secrets, patents and industrial designs when implemented in innovations and inventions, trade will be enhanced and trade facilitation measures will be boosted. Applying TF skills, when applied in trade will create a synergy between countries doing trade and improve procedures in border activities.

Utilizing IPR will provide protection for newest technologies, commercialize latest technologies and boost global trade. Patent when monetized will create wealth, value and enhance trade. Services products are protected using IP tools likes trademarks etc. and commercial usage of products can only be executed by IPR permitted by IPR owner.

Creating access to business, tackling corruption in exports of goods and services will be tackled effectively with implementation of measures of trade facilitation using transparency, simplification, harmonization and standardization of trade procedures.

Nigerian trade organizations should develop:

1. A sound documentation procedure for all trade transactions using IPR to protect documentations in trade.
2. Countries of the world should effectively implement standardize practices and procedures in custom activities and cargo operations to facilitate trade, globally.
3. Countries of the world should implement effective cross border transactions using IPR and TF.
4. Trade positively influences transportation with the help of TF fundamental principles and so, IPR should be incorporated into trade for: Transparency in trade, trade harmonization, trade simplification and trade procedure standardization.
5. Countries of the world should effectively implement IPR on all innovations and invention mostly for new technologies in order to eradicate theft of ideas and encourage manufacture for development and trade facilitation globally.

Nomenclature

β	Regression coefficients
DIT	Documentation in trade
IPR	Intellectual Property Rights
TF	Trade Facilitation
COACP	Cargo operations and customs Procedures
CBTT	Cross border trade transactions

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