

DEVELOPMENT OF PAYMENT PERFORMANCE ASSESSMENT TOOLS FOR  
THE NIGERIAN CONSTRUCTION INDUSTRY

SANI ABDULLAHI SARKI

A thesis submitted in fulfilment of the  
requirements for the award of the degree of  
Doctor of Philosophy (Quantity Surveying)

Faculty of Built Environment and Surveying  
Universiti Teknologi Malaysia

JANUARY 2019

## DEDICATION

This thesis is dedicated to my beloved wife Hajiya Hauwa'u Aminu and children Sara (Ihsan) Abdullahi, Nusaiba Abdullahi & Muhammad Abdullahi for their endless love, support, sacrifice, and encouragement.

*“Thank you for all the patience and endurance during this PhD voyage.*

## ACKNOWLEDGEMENT

Alhamdulillah! Finally, I have accomplished this great task! However, the completion of the thesis would not have been possible without the contribution of many people who give their support in many ways. I would like to thank my supervisors: Assoc. Prof. Dr. Razali Bin Abdul-Hamid, Assoc. Prof. Dr. Wan Yusoff Bin Wan Mahmood and Assoc. Prof. Dr. Rosli Bin Abdul-Rashid for their suggestions, observation, criticism and patience throughout my stay in Malaysia.

Special thanks to my sponsors the Tertiary Educational Trust Fund (TETFUND) and the management of Nuhu Bamalli Polytechnic Zaria, in particular the Quantity Surveying Department who gave me a unique opportunity to pursue my PhD programme in UTM. Effort of friends cannot be over emphasize for their invaluable suggestions and discussions during this work. Sincere appreciation goes to Buhari Mikailu of TETFUND Abuja. and Mustapha Sarki of Kaduna State Primary Management Board for their overwhelming support during the Ph.D. process.

I would like to express gratitude to my family especially my wife and children for their patience and endurance throughout my stay in Malaysia, my late father Alhaji Sani Musa (Sarkin Ashafa I (Igabi)), my mother Hajiya Saratu Salihu, my brothers Dahiru Sani Madaki and late Muhammad Abdullahi Sarki (M.S), my uncles Iliyasu Musa and Rabiu Madaki Musa and Suleiman Musa (Sarkin Ashafa II (Igabi)) and my sisters and I also sincerely appreciate and thank to all members of late Mallam Umaru Hafizi Madaka family for their moral and financial support.

Finally, I would like to appreciate Universiti Teknologi Malaysia (UTM) for creating enabling environment to complete this research.

## ABSTRACT

The widespread of late and non-payment in the construction industry is increasing at an alarming rate. Many researchers have investigated these problems in many countries. However, most of the studies focused on solutions based on managerial/administrative approaches emphasizing the causes, effects, reactions, and impacts. Besides, many of them tend to see the solutions to the payment problems from a legal perspective. This has led to the introduction of the legislative Payment Act in various countries of the world. Despite the rampant occurrence of late and non-payment, none of the research has looked at the criteria and attributes for evaluating client's payment performance in the industry. This study developed and validated the payment performance assessment tools on four selected organizations. Two methodologies, the Delphi method and Analytical Hierarchy Process (AHP) were used. After three rounds of inquiries with a panel of experts, a consensus was reached on organizational culture and payment performance attributes for public and private organizations. Moreover, Spearman Correlation was run for public and private client organizational culture, and the results revealed the existence of positive relationships between client's organizational culture and payment performance attributes when the level of significance was one percent ( $r = -0.561$ , Sig. = 0.004). The payment performance assessment tools were developed by integrating organizational culture and payment performance attributes. The tools were calibrated based on consensus benchmarking, ranging from 0.00-0.69 as late payment performance, 0.70-0.98 as prompt payment performance, and 0.99-1.00 as absolute/ perfect prompt payment performance. Finally, the payment performance levels of the 4 organizations were evaluated, and the results showed that organization (A) obtained 0.88 point, organization (B) recorded 0.509 point, organization (C) had 0.945 and organization (D) obtained 0.114 point. None of the organizations fell into the absolute prompt payment performance category. However, two of these organizations experienced late payment performance and the other two had prompt payment performance. The findings showed that a strong organizational culture resulted in prompt payment performance and vice-versa. This research provides payment performance assessment tools for the construction community that will be useful for clients and contractors. Besides, the present findings provide insights into a client's payment performance level. Based on the study, the clients should focus on supportive and innovative culture to achieve prompt payment performance and it is recommended that the study be extended across regions.

## ABSTRAK

Kelewatan dan kegagalan pembayaran dalam industri pembinaan berada pada tahap yang membimbangkan. Di kebanyakan negara, ramai penyelidik telah mengkaji tentang masalah ini. Walau bagaimanapun, kebanyakan kajian memberi tumpuan kepada penyelesaian berdasarkan pendekatan pengurusan/pentadbiran yang memberi penekanan kepada sebab-sebab, kesan, reaksi, dan impaknya. Selain itu, ramai di antara mereka cenderung untuk melihat penyelesaian kepada masalah pembayaran daripada perspektif undang-undang. Ini telah membawa kepada pengenalan akta pembayaran perundangan, di pelbagai negara di dunia. Walau bagaimanapun, masalah kelewatan pembayaran masih berterusan. Walaupun kelewatan dan kegagalan pembayaran ini berlaku secara berleluasa tiada kajian berkenaan kriteria dan atribut bagi menilai prestasi pembayaran klien dalam industri. Kajian ini membangunkan dan mengesahkan alat penilaian prestasi pembayaran pada empat organisasi terpilih. Dua kaedah, kaedah Delphi dan Proses Hierarki Analitik (AHP) telah digunakan. Selepas tiga pusingan siasatan dengan panel pakar, satu konsensus dicapai pada budaya organisasi dan atribut prestasi pembayaran bagi organisasi awam dan swasta. Selain itu, korelasi Spearman telah dijalankan untuk budaya organisasi klien awam dan swasta, dan keputusan menunjukkan wujudnya hubungan positif antara budaya organisasi klien dan atribut prestasi pembayaran apabila tahap signifikan adalah satu peratus ( $r = -0.561$ ,  $Sig = 0.004$ ). Alat penilaian prestasi pembayaran telah dibangunkan dengan mengintegrasikan budaya organisasi dan atribut prestasi pembayaran. Alat tersebut dikalibrasi berdasarkan penandaarasan konsensus, antara 0.00-0.69 sebagai prestasi pembayaran lewat, 0.70-0.98 prestasi pembayaran segera dan 0.99-1.00 untuk prestasi pembayaran muktamad/sepurna. Tahap prestasi pembayaran 4 organisasi telah dinilai, dan hasilnya menunjukkan bahawa organisasi (A) memperoleh 0.88 mata, organisasi (B) mencatatkan 0.509 mata, organisasi (C) mencatatkan 0.945 dan organisasi (D) memperoleh 0.114 mata. Tiada organisasi termasuk dalam kategori prestasi pembayaran mutlak. Walau bagaimanapun, dua organisasi ini mengalami prestasi pembayaran lewat dan dua organisasi lain adalah organisasi prestasi pembayaran segera. Penemuan menunjukkan bahawa budaya organisasi yang kuat menghasilkan prestasi pembayaran yang segera dan sebaliknya. Penyelidikan ini menyediakan alat penilaian prestasi pembayaran kepada komuniti pembinaan yang akan berguna kepada klien dan juga kontraktor. Di samping itu, ia juga menunjukkan kedudukan tahap prestasi pembayaran klien. Berdasarkan kajian, klien harus memberi tumpuan kepada budaya yang menyokong dan inovatif untuk mencapai prestasi pembayaran segera dan disarankan agar kajian ini diperluaskan diseluruh wilayah..

## TABLE OF CONTENTS

	<b>TITLE</b>	<b>PAGE</b>
	<b>DECLARATION</b>	<b>ii</b>
	<b>DEDICATION</b>	<b>iii</b>
	<b>ACKNOWLEDGEMENT</b>	<b>iv</b>
	<b>ABSTRACT</b>	<b>v</b>
	<b>ABSTRAK</b>	<b>vi</b>
	<b>TABLE OF CONTENTS</b>	<b>vii</b>
	<b>LIST OF TABLES</b>	<b>xvi</b>
	<b>LIST OF FIGURES</b>	<b>xx</b>
	<b>LIST OF ABBREVIATIONS</b>	<b>xxii</b>
	<b>LIST OF SYMBOLS</b>	<b>xxiii</b>
	<b>LIST OF APPENDICES</b>	<b>xxiv</b>
<b>CHAPTER 1</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	Background of the Study	1
1.1.1	Payment Problems in Nigerian Construction Industry	2
1.1.2	Organizational Culture and Performance in other Industry	3
1.1.2.1	Organizational Culture Research Approaches	4
1.1.2.2	Client's Organizational Culture and Payment Performance	5
1.2	Problem Statement	6
1.3	Research Gap	7
1.4	Research Questions	8
1.5	Objectives	8
1.6	The Significance of the Study	9
1.7	Scope of the Research	9
1.8	Contribution to knowledge	10
1.9	Organization of the Thesis	10

<b>CHAPTER 2</b>	<b>PAYMENT PROBLEM IN NIGERIAN CONSTRUCTION INDUSTRY</b>	<b>13</b>
2.1	Introduction	13
2.2	Nigeria as a Country	13
	2.2.1 Economy	15
2.3	Construction Industry	15
	2.3.1 Nigerian Construction Industry and its Performance	16
	2.3.2 The Procurement Method Used	18
2.4	Definition of Payment	20
	2.4.1 Structure of Construction Contract in Nigeria	20
	2.4.2 Payment in Nigerian Construction Industry	23
2.5	Payment Practice/Process and Procedure	23
2.6	Payment Performance Attributes	25
	2.6.1 Nature of Payment in the Construction Industry	25
	2.6.1.1 Credit Payment	25
	2.6.1.2 Project Duration	26
	2.6.1.3 Amount of Interim Payment	27
	2.6.1.4 Cost Overrun	27
	2.6.1.5 Time Overrun	28
	2.6.2 Legal and Contractual Payment Related Matters	28
	2.6.2.1 Contract Forms Used in Nigeria	29
	2.6.2.2 Rights to Payment	32
	2.6.2.3 Regular Payment	33
	2.6.2.4 Payment Clause	33
	2.6.2.5 The Employer's Right to Set-off or Abate (Sum Certified).	34
	2.6.2.6 Certified Value Retained	35
	2.6.3 Client's Payment Obligations	36
	2.6.3.1 Certification of Work Executed	36
	2.6.3.2 Movement of the File for Payment Approval	36

2.6.3.3	Supervision	37
2.6.3.4	Selective Payment	38
2.6.3.5	Paymasters/Client Satisfaction	39
2.6.4	Contractor's Payment Related Matters	39
2.6.4.1	Project Delivery Time	39
2.6.4.2	Compliances to Design	40
2.6.4.3	Compliances to Specifications	40
2.6.4.4	Claims	41
2.6.4.5	Contractor's Satisfaction	43
2.6.5	External Payment Related Matters	43
2.6.5.1	War or Civil Disturbance	44
2.6.5.2	Flooding	44
2.6.5.3	Earthquake	45
2.6.5.4	Change of Government/Policies:	45
2.6.5.5	Economic Meltdown	46
2.7	Payment Problems	49
2.7.1	Late and Non-Payment	49
2.7.2	Approaches to Address Payment Problems	56
2.7.2.1	Technical/ Managerial Approach	56
2.7.2.2	Administrative Intervention Approaches	56
2.7.2.3	Legislative Payment Act Approaches	57
2.8	Chapter Summary	60
<b>CHAPTER 3</b>	<b>ORGANIZATIONAL CULTURE AND PERFORMANCE</b>	<b>61</b>
3.1	Introduction	61
3.2	Meaning of Organizational Culture	61
3.3	Nature and Types of Culture and Styles	64
3.4	Theories of Culture	66
3.4.1	Culture as a Socio-Cultural System	68
3.4.2	Culture as an Ideational System	69



3.5	Instruments for Assessing and Measuring Culture	70
3.5.1	The Competing Values Framework (Cameron and Quinn, 1999)	71
3.5.2	Organizational Culture Index Profiles (Wallach's 1983)	73
3.5.3	Denison Surveillance of Organizational Culture (Denison, 2000).	74
3.5.4	Deshpande and Farley Framework (Deshpande and Farley, 1999)	74
3.5.5	Framework for Cultural Differences (Hofstede 2010)	76
3.5.6	Deal and Kennedy's Model of Organizational Culture (Deal and Kennedy, 1982)	77
3.5.7	Handy's Model of Organizational Culture (Handy, 1985)	79
3.5.8	Trompenaars and Hampden-Turner's Framework (1997)	81
3.5.9	Framework for Measuring the Influence of Organizational Culture, Leadership and Performance (Emmanuel and Harris, 2000)	83
3.5.10	Assessment of Organizational Culture on Performances (Olanipekun and Abiola-Falemu, 2014)	84
3.5.11	Giorgi, Lockwood, & Glynn, Framework (2015)	85
3.5.12	Organizational Culture Inventory Framework Cooke and Szumal (2000)	86
3.5.13	Aluko Framework for Organizational Culture by (Aluko, 2003)	87
3.6	Organizational Performance	91
3.6.1	Performance Measurement Tools in other Industry	92
3.7	Organizational Culture and Performance	93
3.8	Payment Performance	94
3.9	Chapter Summary	94
<b>CHAPTER 4</b>	<b>RESEARCH METHODOLOGY</b>	<b>97</b>
4.1	Introduction	97

4.2	Research Philosophy, Approach, and Design	97
4.3	Methodological Framework	99
4.4	Phases 1: Study Foundation Literature Review and Problem Identification	101
4.5	Phase 2: Identification of Organizational Culture and Payment Performance Attribute	103
4.5.1	Stage 1: Overview of the Delphi Methodology	106
4.5.1.1	Participants (The Panel of Experts)	107
4.5.1.2	Anonymity	110
4.5.1.3	Consensus	112
4.5.1.4	Multiple Iterative Rounds of Inquiry	115
4.5.1.5	Delphi Questionnaire Design	116
4.5.1.6	Delphi Questionnaire Administration	120
4.5.2	Stage 2: Data Collection and Analysis of Delphi Round 1	120
4.5.2.1	Delphi Participants Demographic Data.	121
4.5.2.2	Synthetic Data Analysis Delphi Round 1	121
4.5.2.3	Organizational Culture and Payment Performance Attributes Descriptions.	122
4.5.2.4	Feedback: Delphi Round 1 to Delphi Round 2.	123
4.5.3	Stage 3: Data Collection and Analysis of Delphi Round 2	123
4.5.3.1	Delphi Round 2 Data Analysis.	124
4.5.3.2	Feedback: Delphi Round 2 to Delphi Round 3.	126
4.5.4	Stage 4: Data Collection and Determination of Consensus between Delphi (Round 2 and Round 3)	126
4.5.5	Stage 5: Determining Consensus between Delphi (Round 2 and Round 3)	126
4.5.6	Internal Validity.	127

4.6	Phase 3: Development of Scheme of Relationship for Organizational Culture and Payment Performance	129
4.6.1.1	Stage 1: Correlation Analysis	130
4.7	Phases 4: Tools Development for Payment Performance Assessment	131
4.7.1	Stage 1: Delphi Inquiry for Organizational Culture and Payment Performance Attribute	132
4.7.2	Stage 2: AHP Questionnaire Design, Data Collection and Average Score of Respondent	133
4.7.2.1	The Survey Questionnaire Design for Analytical Hierarchy Process (AHP)	133
4.7.3	Stage 3: Analytical Hierarchy Process (AHP) Software Expert Choice 11 Building the Weight for Organizational Culture and Payment Performance attributes	135
4.7.3.1	Pair-Wise Comparison	136
4.7.3.2	Comparison Matrix	137
4.7.4	Stage 4: Payment Performance Assessment Tools	141
4.8	Phase 5: Payment Performances Assessment Tools Validation	142
4.8.1	Stage 1: Public and Private Organization's Contractors	143
4.8.2	Stage 2: Identification of Prompt Payment Performance Organizations and Late Payment Performance Organizations	144
4.8.3	Stage 3: Evaluating Payment Performance Using the Tool	144
4.8.3.1	Assessment	145
4.8.4	Payment Performance Assessment Tools Development Process	145
4.9	Chapter Summary	146
<b>CHAPTER 5</b>	<b>RESULTS AND DISCUSSIONS</b>	<b>147</b>
5.1	Introduction	147
5.2	Profile of Research Respondents	147
5.2.1	Numbers Sample	148
5.2.2	Academic Qualification	148

5.2.3	The Profession of Delphi Participants	148
5.2.4	Work Experience	149
5.2.5	Participants Ranks/ Positions	150
5.2.6	Reliability Test	150
5.3	Data Analysis and Discussion	151
5.3.1	Identification of Clients Organizational Culture in the Construction Industry	151
5.3.2	Private Clients Organizational Culture	158
5.4	Identification of Payment Performance Attributes	161
5.4.1	Public Clients Payment Performance Attributes	165
5.4.2	Consensus in Both Public and Private Client's Organization.	165
5.4.3	Private Clients Payment Performance Attributes	166
5.5	Correlation between Organizational Cultures and Payment Performance Attributes.	169
5.5.1	Correlation between Public Clients Organizational Cultures and Payment Performance Attributes.	170
5.5.2	Correlation between Private Clients Organizational Cultures and Payment Performance Attributes.	171
5.6	Development of Tool for Assessing Payment Performance	173
5.6.1	Hierarchy Process Analysis (AHP)	173
5.6.2	Analytical Hierarchy Process Using Expert Choice Software	176
5.6.2.1	Results Obtained from the Experts Choice Software Analysis	176
5.6.2.2	Normalized Weightings of Influences	185
5.6.2.3	Payment Performance Assessment Tools	187
5.6.2.4	Assessment Ranking Scale, Meaning, and Score	187
5.7	Validation of Payment Performance Assessment tools	191

5.7.1	Identification of client's organizations by contractors.	192
5.7.2	Selection of Prompt Performance Organizations	192
5.7.3	The result of Prompt and Late Paying Organizations	192
5.7.4	Payment Performance Assessment of Four Organizations	194
5.7.4.1	Organization A	194
5.7.4.2	Result for Organization A	198
5.7.4.3	Organization B	200
5.7.4.4	The Result of Organization B	202
5.7.4.5	Organization C	204
5.7.4.7	Organization D	209
5.7.4.8	The Result of Organization D	212
5.7.5	Ranking of the Four Organizations Assessed Base on their level of Payment Performance in the Nigerian Construction Industry	214
5.8	Chapter Summary	215
<b>CHAPTER 6</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>	<b>217</b>
6.1	Introduction	217
6.2	Achievement of the Research Objectives	217
6.2.1	Objective 1: Identify Public and Private Client's Organizational Culture in the Construction Industry	218
6.2.2	Objective 2: Identify Public and Private Client's Attributes of Payment Performance in the Construction Industry	219
6.2.3	Objective 3: Determine the Relationship between Organizational Culture and the Attributes of Payment Performance	220
6.2.4	Objective 4: Developing and Validating a Payment Performance Assessment Tool	220
6.4	Limitations of the Research	222
6.5	General Conclusion	223
6.6	Recommendations and Future Research	224

<b>REFERENCES</b>	<b>225</b>
<b>LIST OF PUBLICATIONS</b>	<b>332</b>

## LIST OF TABLES

<b>TABLE NO.</b>	<b>TITLE</b>	<b>PAGE</b>
Table 2.1	Sectored Contribution to GDP of the Nigerian Economic Sectors	16
Table 2.2	The Period of Interim Payment and Time for Honouring the Certificate	30
Table 2.3	Summary of the Past Research Findings on Payment Performance Attributes	48
Table 2.4	Synthesis of Payment Issues	53
Table 3.1	Some Definitions of Organizational Culture	62
Table 3.2	Nature and Types of Culture and Styles	64
Table 3.3	Wallach's Organizational Culture Index Profiles	73
Table 3.4	Wallach's cultural dimensions	73
Table 3.5	Denison Surveillance of Organizational Culture	74
Table 3.6	Deshpande and Farley Framework of Culture	75
Table 3.7	Framework for Cultural Differences (Hofstede 2010)	76
Table 3.8	Charles Handy Model of Organizational Culture	80
Table 3.9	Trompanaars & Hampden-Turner Framework of Cultural Dimension	81
Table 3.10	Emmanuel and Harris Framework for Measuring Organizational Culture	83
Table 3.11	Framework for Organizational Culture Assessment on Performances	84
Table 3.12	Organizational Culture Framework by Giorgi, Lockwood, & Glynn	86
Table 3.13	Framework for Organizational Culture inventory by Cooke and Szumal	87
Table 3.14	Framework for Organizational Culture by (Aluko 2003	88
Table 3.15	Past Research Findings on the Organizational Culture Dimensions	89
Table 4.1	Comparison Matrix Table	138

Table 4.2	Example of Respondents Scores of Relative Weight Influence of Organizational Culture and Payment Performance (Pairwise comparison)	139
Table 4.3	Solution Matrix Table	139
Table 4.4	Priority Vectors Table	140
Table 4.5	Ranking Scale and Grade Allocation Adopted from (Ushan, 2008)	142
Table 5.1	Academic Qualification of the Delphi Participants	148
Table 5.2	Academic Qualification of the Delphi Participants	149
Table 5.3	Delphi Panel Participants Years of Experience	149
Table 5.4	Participants Ranks and Position	150
Table 5.5	Internal Reliability Test for Organizational Culture	151
Table 5.6	Internal Reliability Test for Payment Performance Attributes	151
Table 5.7	Result of Delphi Round 1 Organizational Culture	152
Table 5.8	Organizational Culture Evaluated by Round 2 Inquiry for a Public Organization	155
Table 5.9	Hypothesis Summary Public Client Organizational Culture	157
Table 5.10	Organizational Culture Evaluated by Round 2 Inquiry for Private Organizations	158
Table 5.11	Hypothesis Summary of Private Client Organizational Culture	161
Table 5.12	The Result of the Delphi Round 1 Payment Performance Attributes	163
Table 5.13	Showing Payment Performance Attributes Evaluated by Round 2 for Public Organization	164
Table 5.14	Hypothesis Summary of Public Client Payment Performance Attribute	165
Table 5.15	Payment Performance Round 2 Inquiry for Private Organization	166
Table 5.16	Hypothesis Summary of Private Client Payment Performance Attribute	169
Table 5.17	Results of Examining the Relationship of Public Client's Organizational Culture on Payment Performance Attribute using Spearman Correlation	170



Table 5.18	The Results of Examining the Relationship of Private Client’s Organizational Culture on Payment Performance Attribute Using Spearman Correlation	172
Table 5.19	Consistency Ratio of Public and Private Client Organizational Culture and Payment Performance Attributes	177
Table 5.20	Normalized Weightings of Influences for Public Organizational Culture	186
Table 5.21	Normalized Weightings of Influences for (Public) Payment Performance	186
Table 5.22	Normalized Weightings of Influences for Private Organizational Culture	186
Table 5.23	Normalized Weightings of Influences for (Private) Payment Performance	187
Table 5.24	Assessment Ranking Scale	188
Table 5.25	Payment Performance Assessment Tool (Public Clients Organization)	189
Table 5.26	Payment Performance Attributes Sub Criteria Score of the Tool	190
Table 5.27	Final Assessment Private Organization	190
Table 5.28	Payment Performance Assessment Tool (Private Clients Organization)	190
Table 5.29	Final Assessment Private Organization	191
Table 5.30	Prompt and Late Clients’ Organizations (Public)	193
Table 5.31	Prompt and Late Paying Organizations (Private)	193
Table 5.32	Assessments of Organization (A), According to Former Organizational Staff (Retiree) Public Organization	195
Table 5.33	Assessment of Organization (A) by the Contractors (Public organization)	196
Table 5.34	Summary Results of Organizational Culture and Payment Performance Attributes for Organization A	198
Table 5.35	Payment Performance Attributes Sub Criteria score for Organization A	199
Table 5.36	Final Score for Organization A	199
Table 5.37	Represents the Assessments of Organization (B) According to the Former Organizational Staff (retiree)	200

Table 5.38	Assessment of Organization (B) by the Contractors (Public Organization)	201
Table 5.39	Summary results of Organizational Culture and Payment Performance Attributes for Organization B	203
Table 5.40	Payment Performance Sub Criteria Score for Organization B	204
Table 5.41	Final Score for Organization B	204
Table 5.42	Assessments According to the Staff (retiree) of Organization (C)	205
Table 5.43	Represents Assessment Organization (C) by Contractor	206
Table 5.44	Summary results of Organizational Culture and Payment Performance Attributes for Organization C	208
Table 5.45	Payment practice Sub Criteria Score for Organization C	209
Table 5.46	Final Score for Organization C	209
Table 5.47	Assessment According to the Organization's Staff (retiree)	210
Table 5.48	Assessment of Organization (D) by Contractor	211
Table 5.49	Summary Results of Organizational Culture and Payment Performance Attributes for Organization D	212
Table 5.50	Payment Performance Sub Criteria Score for Organization D	213
Table 5.51	Final Score for Organization D	213

## LIST OF FIGURES

<b>FIGURE NO.</b>	<b>TITLE</b>	<b>PAGE</b>
Figure 2.1	Map of Nigeria showing States and boundaries with other African countries	14
Figure 2.2	Building and Construction Growth and Contribution to Total GDP	17
Figure 2.3	The Arrangement of Traditional Design Bid and Build System	21
Figure 2.4	Payment Practice and its Performance Attributes	24
Figure 3.1	Typology of the Concepts of Culture	67
Figure 3.2	The Competing Values Framework	72
Figure 3.3	Model of Organizational Culture (Deal & Kennedy, 1982)	77
Figure 3.4	Aluko Cultural Dimensions	88
Figure 3.5	Conceptual model for the study	90
Figure 4.1	Research Design	99
Figure 4.2	Research Operational Framework	100
Figure 4.3	Phase 1 of the Study	101
Figure 4.4	Flowchart of Phase 2	105
Figure 4.5	The Framework of the Delphi Technique in Qualitative Research	116
Figure 4.6	Flowchart of Phase 4	132
Figure 4.7	A Detail of Three-Level Hierarchy ( Satty and Vargas, 2006)	135
Figure 4.8	Weighting for Setting up the Process with AHP (Lo,1999)	136
Figure 4.9	Relative Scale of Comparison between Variable I and j	137
Figure 4.10	Phase 5 (Payment Performances Assessment Tools Validation)	143
Figure 4.11	Payment Performance Assessment Tools Development Process	146

Figure 5.1	Inconsistency for Public Organizational Culture and Payment performance	178
Figure 5.2	Inconsistency for Private Organizational Culture and Payment Performance	178
Figure 5.3	Inconsistency for Public Clients Organizational Cultures	179
Figure 5.4	Inconsistency for Private Clients Organizational Cultures	179
Figure 5.5	Inconsistency for Public Payment Performance	180
Figure 5.6	Inconsistency for Private Payment Performance	180
Figure 5.7	Inconsistency for Public Payment Performance (Legal and Contractual Related Matters)	181
Figure 5.8	Inconsistency for Private Payment Performance (Legal and Contractual Related Matters)	181
Figure 5.9	Inconsistency for Public Payment Performance (Clients Related Matters)	182
Figure 5.10:	Inconsistency for Private Payment Performance (Clients Related Matters)	182
Figure 5.11:	Inconsistency for Public Payment Performance (Contractors Related Matters)	183
Figure 5.12:	Inconsistency for Private Payment Performance (Contractors Related Matters)	183
Figure 5.13:	Inconsistency for Public Payment Performance (Construction Related Matters)	184
Figure 5.14:	Inconsistency for Private Payment Performance (Construction Related Matters)	184
Figure 5.15	Inconsistency for Public Payment Performance (External Related Matters)	185
Figure 5.16	Inconsistency for Private Payment Performance (External Related Matters)	185
Figure 5.17	Organization Ranking According to their Level of Payment Performance	214

## LIST OF ABBREVIATIONS

AHP	-	Analytical Hierarchy Process
MCDM	-	Multi-Criteria Decision-Making Approach
MC	-	Multi-Choice
SMC	-	Simple Multiple Choice
MMC	-	Modified Multiple Choice
JCT 98	-	Joint Contract Tribunal
SFBC (1990)		Standard Form of Building Contract
OC	-	Organizational Culture
PP	-	Payment Performance
GDP	-	Gross Domestic Product
EF	-	Extreme Favour
VSF	-	Very Strong Favour
STF	-	Strong Favour
SLF	-	Slight Favour
Q	-	Quarter

## LIST OF SYMBOLS

$V ar[i], V ar[j]$	-	Variable
$a_{i,j}$	-	Element of row and column
$S$	-	Solution matrix
$R$	-	Resultant matrix
$W$	-	Weight matrix,

## LIST OF APPENDICES

<b>APPENDIX</b>	<b>TITLE</b>	<b>PAGE</b>
Appendix A	Delphi Questionnaire First Round	247
Appendix B	Delphi Questionnaire Second Round	259
Appendix C	Delphi Questionnaire Third Round Public	269
Appendix D	Delphi Questionnaire Third Round Private Organization	275
Appendix E	Test of Consensus Result Between Round Two and Round Three	281
Appendix F	Nonparametric Correlations Regression and Correlations for Public Clients	282
Appendix G	AHP Questionnaire Third Round Private Organizations	284
Appendix H	AHP Questionnaire for Private Organization	292
Appendix I	Payment Performance Assessment Tool Observational Checklist for Public Organizations	300
Appendix J	Payment Performance Assessment Tool Observational Checklist for Private Organizations	303
Appendix K	Identification of Contractor's Paymasters Public Organizations	304
Appendix L	Identification of contractor's Client Private Organization	311
Appendix M	Response Score (Pairwise Comparison) for Criteria And Attributes of Organizational Culture and Payment Performance	317
Appendix N	Acknowledgment of Participating Organizations	331

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the Study

Late payment, short payment, and non-payment have been the major problems faced by the construction industry worldwide. The magnitude of the problem and its impact on the growth and development of the industry differs from one country to another. Nigeria, as a rapidly developing country, in the construction industry of the country has a fair share of the never-ending problems of late payment, short payment, and non-payment. Many studies have looked into these issues from many different perspectives – legal, and management interventions. However, literature search shows that very few studies look into the issue of the criteria and attributes for evaluating payment performance in the Nigerian construction industry from the perspective of organizational culture.

This chapter deliberated on the background of the research problem that focuses on payment performance in the Nigerian construction industry. It touches on the payment problem/issues and its effect on the Nigerian construction industry. This, it is followed by research questions and problem statement. It also defines the aim, objectives, and scope of the research. It further explains the significance of the study, outlines the research methodology, results and discussions, conclusion, recommendations and the organization of the thesis.

This section presents an overview of the Nigerian economy, its growth and development, and contribution of the construction industry to the economy. Nigeria as a country is explained in details in Chapter 2. Nigeria economy was classified into three main segments which include the primary sector (the agriculture and natural resources), secondary sector (processing and manufacturing) and tertiary sectors (services) and the three structure were split into six (6) key industries namely (1)



Agriculture, (2) Industry (crude petroleum and natural gas) (3) Manufacturing (4) Building and Construction, (5) Wholesale, Retail and Trade (6) Services (Canagarajah and Thomas, 2001). The contributions of the various industries the GDP of the Nigerian economic sectors are shown in Table 2.1 in Chapter 2.

The Nigerian construction industry contribution appears to be small when compared to other sectors. Moreover, on a broader scale, the construction industry includes design and engineering firms, plant, equipment, and material suppliers, equipment rental companies and construction insurance businesses. As pointed out by (English and Sommerville, 2004), the construction industry is the key engine of growth of a country. To a certain extent, all other sectors depend or rely on the products and services of the construction industry to carry out their activities or operate their business. Studies have shown that, based on the backward and forward calculation of the economy, the construction industry is actually contributing almost 10% to the GDP (Okoye, 2016).

The significant contribution of the Nigerian construction industry to the development of the country can be seen by a number of landmark projects that have been successfully completed from the year 2000 to 2016. The industry has built almost 2000km of roads and highways across the country, developed many housing projects, built a number of prominent high-rise buildings and completed much of the country's infrastructure facilities (Lemmens, 2011).

### **1.1.1 Payment Problems in Nigerian Construction Industry**

In spite of the success stories, the Nigerian construction industry has its drawbacks or problems. It is plagued by the age-long problems of late payment, short payment, and non-payment. They are part of the major problems that have adversely affected the output and overall performance of the industry. Many of the payment problems or issues are well documented (Emenike *et al.*, 2010). Payment has been the lifeblood of contractors and those who are involved in the construction industry. The problem of late, short and non-payment have some adverse effect on the industry in

particular and the country's economy in general. Studies have shown that the problems of late, short and non-payment have resulted in serious cost and time overrun, incomplete and abandoned projects (Elijah *et al.*, 2011 and kontagora, 1993) . It is reported by *Nigeria Tribune (newspaper)* of 17th November (1993) that there are about 4,000 unfinished or abandoned public projects in Nigeria worth more than N300 billion and as at 2011, there were 12,000 abandoned federal government projects nationwide worth N8 trillion (Chrejina, 2013). The main reasons for the abandonment of these projects were lack of funds and petty politics which eventually led to late and non-payment (Emenike *et al.*, 2010).

Furthermore, in some cases, the late and non-payment forced several construction companies out of business (Schwartz *et al.*, 2010). The problems also seemed to have pushed up tender prices and increased the number and value of claims for variations and loss and expense. (Mosk, 2012). Contractors are always the victim of late and non-payment in the construction industry. Therefore, there is a need for contractors to understand the late and non-paying organizations. This study seeks to develop payment performance assessment tools by interpreting the client's organizational culture and payment performance.

### **1.1.2 Organizational Culture and Performance in other Industry**

Many other industries such as financial, manufacturing and services seem to place organizational culture as an important component in improving organizational performance. Many frameworks, models and tools were used for organizational performance assessment and improvement in other industries. This is evidenced by the various studies on the importance of organizational culture and its relationship with the output and overall performance of business enterprises. For example, Ojo, (2014) and Salau *et al.*, (2014) and reported the impact of organizational culture on corporate performance with data from the Nigerian banking industry. Naranjo-Valencia, *et al.*, (2016) reported the links between organizational culture, innovation, and performance in Spanish companies, on the similar studies Zhu *et al.*, (2016) reported the impact of organizational culture on concurrent engineering, design-for-safety, and product safety

performance and their studies all suggested that organizational culture influences organizational performance and it enhances companies' productivity and overall performance. Emenike *et al.*, (2010) and Abdul-Rahman *et al.*, (2013) also pointed out that one of the causes of the problem of payment in Nigeria is local culture. This problem and many other related problems in the construction industry are deeply rooted in industrial culture or its organizational culture. Understanding the problem of late payment performance means addressing these related problems. Addressing these problems will, in turn, be helpful to the clients and contractor to understand payment performance for improvement purpose and investment decisions.

### **1.1.2.1 Organizational Culture Research Approaches**

The investigation of organizational culture has been going on for quite a while (Trice and Beyer, 1993). It can be traced as far back as 1930 to Hawthorne research at the Western Electric Company in Chicago, Illinois (Mohanty and Rath, 2012). Organizational culture has attracted numerous attention in the research since the 1980s, and the present consideration on the organizational culture arose because U.S. firms were experiencing issues in competing with their partners in other countries especially Japan (Schein, 1990 ; Trice and Beyer, 1993). Previous studies show that national culture alone could not clarify all the difference in performance between the U.S and foreign firms (Tayeb, 2013). Thus, researchers saw the need to recognize and differentiate between national culture and organizational culture within a country, especially with regards to organizational performance and organizational effectiveness (Wilkins and Ouchi, 1983).

There are two areas of research in the field of organizational culture which include, Measurement of the organizational culture. and the influence of organizational culture on the organization's performances (Cui and Hu, 2012). The culture within the organization represents the way employees perform tasks, set goals and manage the available resources to accomplish the objectives of the organizations and it also influences the way people make decisions (Thompson, 1999). The identification of the

criteria for assessing organizational culture and attributes of payment for evaluating client's payment performance is the focus of this study.

### **1.1.2.2 Client's Organizational Culture and Payment Performance**

The client is the financier of the construction projects; he/she is the employer of contractors. Clients in the Nigerian construction industry are subdivided into two: public and private clients. Public clients comprise the federal, state, and local governments, while private clients are private companies or individuals involved in construction projects. Therefore, the client's organization of either (public or private) is an important entity in achieving project success (Omole 1986). The client's organization may have a culture that enhances the payment performance within the organization.

The culture that exists within an organization is important for some reasons. According to Cui and Hu, (2012), Kotter and Heskett (1992) and Thompson (1999), for an organization to be effective, the comparison must exist between the organization's values, its resources, and the environment. Schein (1990) defines culture as the shared set of attitudes, beliefs, and values. Hofstede's (2001) onion model of organizational culture submits that values are the core of organizational culture and that "practices" are the manifestation of those values.

Payment performance attributes are the elements that affect the process and procedure of making payment to the contractors. However, the attributes are also the drivers of the payment performance outcomes and the link the various payment processes that lead to prompt payment performance or late payment performance. The payment performance of an organization may be related to the culture of that organization. Consequently, in the construction industry different organizations have their distinct cultures, and therefore, their performances usually are conducted in relation to their perceived culture. In relation to this, payment performance could be improved by identifying the client's organizational cultures and their payment performance attributes. Late and non-payment performance and their negative effect

on the Nigerian construction industry are alarming. Lack of clear criteria and attributes for evaluating client payment performance motivated this study.

## 1.2 Problem Statement

The preceding discussions brought to light the gravity of the payment problems in the Nigerian construction industry (NCI) and its adverse effect on the industry, and the nation, as a whole as shown in Table 2.4. The issue of payment has been studied from numerous points of view, including technical/managerial perspective (Emenike *et al* 2010; Ansah, 2011), administrative interventions approach (Wu -Kumaraswamy and Soo, 2008) and legislative interventions approach (Cheng *et al.*, 2010) , However, it appears that only a few studies considered the criteria and attributes of evaluating payment performance in the Nigerian construction industry from a socio-cultural perspective (organizational culture). The situation is unlike in many other industries such as financial, manufacturing and services industries. There are many researches on the organizational culture and organizational performance and a lot of frameworks, models, and tools for improvement/ assessment of corporate performance in the non-construction industries.

Nonetheless, numerous studies for example (Hofstede *et al.*, 1990 ; Awadh and Saad, 2013; Nukic and Huemann, 2016; Naranjo-Valencia *et al.*, 2016 ; Thompson 1993; Kotter and Heskett 1992). affirmed that organizational culture plays an important part in determining the success or failure of an organization, and its influence on personal and organizational performance. This suggests that apart from the technical, administrative and legal elements, work culture within the clients' organizations is also one of the major factors that contribute to the problems of late and non-payment performance in the Nigerian construction industry.

Yet, there are very few studies that look into the criteria and attributes of evaluating payment performance from the perspective of organizational culture, behaviour, and attitude. In this context, it is most apt to emulate the financial, manufacturing and services industries where many studies have been carried out, that

developed different frameworks, models and tools from the perspective of organizational culture, behaviour, and attitude toward organizational performance. Most of these studies indicate that organizational culture is a major element influencing the way people think, make decisions, perform tasks, set goals and administer the necessary resources to achieve organizational objectives that affect output, productivity, and efficiency.

### **1.3 Research Gap**

Despite the poor image of the Nigerian construction industry resulting from the effect of late and non-payment performance. there is no criteria and attributes that can be used to evaluate the payment performance in the construction industry. As reported in the newspaper, seminars, and conferences. there are incomplete public projects in Nigeria worth more than N300 billion (Chrejina, 2013) and as at 2011, worth N8 trillion. The principal reasons behind this problem were late and non-payment. and the payment performance of clients in Nigeria is traced from the report of abundant projects, complained by the contractors affected and worries from the clients about projects been abundant were in form of reports (Emenike *et al*, 2010: kontagora, 1993).

Based on these, this study identifies the following research gap to kick-start the process of developing payment performances assessment tools for the Nigerian construction industry. Currently, there are no assessment tools for measuring the payment performance in the construction industry.

Based on this identified gap, this research will contribute to the body of knowledge by identifying the client's organizational culture, organizational payment performance attributes and establish the correlations between these variables with a view to developing payment performance assessment tools for the Nigerian construction industry. In pursuance of these, the following research questions were raised.

## 1.4 Research Questions

1. *What are the criteria of organizational cultures of both public and private clients in the Nigerian construction industry?* This question seeks to generate information from the literature on organizational culture that will be used to determine the organizational culture of the client in the construction industry in Nigeria.
2. *What are the attributes of the payment performance of the clients in the Construction Industry?* This question is aimed at exploring the information from the literature to generate a survey questionnaire using expert consensus to established payment performance attributes in the Nigerian construction industry.
3. *Does organizational culture correlate with attributes of payment performance?* This question is aimed at identifying whether the organizational culture has a relationship with payment performance attributes

Currently is there any tool that can be used to assess the payment performance in the construction industry? This question is aimed at developing payment performance assessment tools and validation of the tools

To answer these questions, and pursuant to the main aim of the research the following objectives were developed

## 1.5 Objectives

- (a) The aim of this study is to develop payment performance assessment tools with a view to assessing the client's payment performance in the construction industry. The objectives of this research are:
- (b) To identify the public and private client's organizational culture in the construction industry (components of the tools).

- (c) To identify the public and private client's attributes of payment performance in the construction industry (components of the tools).
- (d) To determine the relationship between organizational cultures and the attributes of payment performance.
- (e) To develop and validate payment performance assessment tools for the Nigerian construction industry.

## **1.6 The Significance of the Study**

The study provides a new area in studying the payment problems in the construction industry in different approaches by highlighting the payment issues from the organizational culture perspective down to the attributes that control the payment performance in either positive or negative directions. Also, the study develops the payment performance assessment tools, that can be used by clients or contractors. This would benefit client 's organizations by computing their payment performance level, for improvement purpose. Furthermore, the contractors can also use the outcome of the study to know the prompt payment performance organizations and late payment performance organization for investment decision purposes.

## **1.7 Scope of the Research**

The Nigerian construction industry is very wide, therefore, the scope of this study is to establish the organizational culture and payment performance attributes of 24 organizations in the Nigerian construction industry (Details process explained in Chapter 4). The study focused on 12 public organizations and 12 private organizations. This involved the organizations retired staff, contractors and current client's payment staffs as respondents.

The process of data collection consists of three rounds Delphi survey for establishment of organizational culture and payment performance attribute for clients



in the construction industry. The study adopted the analytical hierarchy process (AHP) and established the weight of organizational culture and payment performance attributes and used in payment performance assessment tools development. The study is limited to construction industry organizations. Subsequently, the issue established is generalized to issues of payment performance in the construction industry

## **1.8 Contribution to knowledge**

By looking at the economic role the construction industry played in Nigeria and its horrible status in terms of late and non-payment performance to the contractors. this study contributes to the body of knowledge by through the following:

- i. Identifying the culture of clients in the construction industry and payment performance attributes.
- ii. The relationship between the organizational culture and the attributes of payment performance
- iii. Developing the payment performance assessment tools for the Nigerian construction industry. And validating the tools using some selected public and private organizations.

## **1.9 Organization of the Thesis**

This thesis is organized into six chapters as described below:

Chapter 1 highlights the introduction of the research and describes the context within which the research is undertaken; The research problems, aim, and objectives are also reported in this chapter, which was further broken down into research questions. Moreover, the chapter presents the scope, study gap and the contributions to the knowledge of the research are also enumerated in this chapter.

Chapter 2 presents the review of the literature on payment related issues/problems in the construction industry in order to provide some contextual information, which is considered important to understanding the background of the research. The problems and challenges of the Nigerian construction industry and the strategies that different countries used to address payment problems.

Chapter 3 discusses the theory of culture, organizational culture, organizational culture and performance and different frameworks and models used for identifying organizational culture,

Chapter 4 highlights the research methodologies, the research paradigm and where this research is situated. The chapter further explains the research design and data collection strategies used in this study.

Chapter 5 presents the data analysis and discussions of the results. The findings in this study were used in developing the payment performance assessment tool and the chapter concludes with the validity and reliability of this research.

Chapter 6 presents the conclusion drawn from the findings of the study. The chapter also discussed the organizational culture and payment performance attributes of the organizations assessed which is an indication of the level of payment performance in the Nigerian construction industry. Moreover, the chapter suggested some recommendations, especially to the public and private clients on the culture change to improve their payment performance. Finally, the chapter recommends improvement and concludes with some suggestions for further research

## REFERENCES

- Abdul-Rahman, H., Kho, M. and Wang, C. (2014). Late Payment and Nonpayment Encountered by Contracting Firms in a Fast-Developing Economy. *Journal of Professional Issues in Engineering Education and Practice*. 140(2), 04013013.
- Abidin, A.B. (2007). *The Profile of Construction Disputes*. University Technology Malaysia.
- Adamu, A. (2009). The Effects of Global Financial Crisis on Nigerian Economy. *Ssrn*. 1((1&2)), 11 – 21.
- Adamu, M. (2015). Assessing the Characteristics of Nigerian Construction Industry in Infrastructure Development. *International Journal of Engineering Research & Technology*. 4(11), 546–555.
- Adenuga, O.A. (2013). Comparison of the Performance of Traditional and Direct Labour Methods of Project Procurement: a Case Study of Some Selected Projects of the Nigerian Army. *Ethiopian Journal of Environmental Studies and Management*. 6(1), 21–30.
- Ahmadi, S., Salamzadeh, Y., Daraei, M. and Akbari, J. (2012). Relationship between Organizational Culture and Strategy Implementation: Typologies and Dimensions. *Global Business and Management Research: An International Journal*. 4(4), 286–299.
- Aibinu, A.A. and Jagboro, G.O. (2002). The effects of construction delays on project delivery in Nigerian construction industry. *International Journal of Project Management*. 20(8), 593–599.
- Aje, A.O.O.I.O. and Abiola-Falemu, J.O. (2014). Effects of Organisational Culture on the Performance of Quantity Surveying Firms in. *International Journal of Humanities and Social Science*. 3(December), 206–215.
- Al-Harbi, K.M.A.S. (2001). Application of the AHP in project management. *International Journal of Project Management*. 19(1), 19–27.
- Alinaitwe, H., Mwakali, J.A. and Hansson, B. (2009). Organizational effectiveness of Ugandan building firms as viewed by craftsmen. *Journal of Civil Engineering and Management*. 15(3), 281–288.

- Allaire, Y. and Firsirotu, M.E. (1984). Theories of Organizational Culture. *Organization Studies*. 5(3), 193–226.
- Aluko, M.A.O. (2003). The Impact of Culture on Organizational Performance in Selected Textile Firms in Nigeria. *Nordic Journal of African Studies*. 12(2), 164–179.
- Amel Dakhil (2013). *The Contribution of the Construction Industry to Economic Development in Libya*. Liverpool John Moores University.
- Amr, E. and Helw, M.A. (2017). *Proposed Force Majeure Clause for Construction Contracts Under Prevailing Laws*,
- Ang, T. (2006). *Payment issues-the present dilemmas of Malaysian construction industry*,
- Ankrah, N. and Proverbs, D. (2004). Treading the softer areas of construction management: A critical review of culture Review of the 14 NERC-funded Green Infrastructure Innovation Projects View project Black Country LSC View project. In *20th Annual ARCOM Conference*. 1–3.
- Ankrah, N.A. (2007). *An investigation into the impact of culture on construction project performance, PhD Thesis, University of Wolverhampton*.
- Ankrah, N.A. and Proverbs, D. (2004). Treading the Softer Areas of Construction Management: a Critical Review of Culture. *Association of Researchers in Construction Management*. 1(1), 551–8.
- Ansah, S.K. (2011). Causes and Effects of Delayed Payments By Clients on Construction Projects in Ghana. *Journal of Construction Project Management and Innovation*. 1(1), 27–45.
- Anthony, B., Mbina, A. and Ephraim, E. (2015). Effects of Flood on Infrastructural Development. *Global Journal of Science Frontier Research: H Environment & Earth Science*. 15(2).
- Arditi, D. and Chotibhongs, R. (2005). Issues in Subcontracting Practice. *Journal of Construction Engineering and Management*. 131(8), 866–876.
- Aro, O.I. (2013). Boko Haram Insurgency in Nigeria: Its Implication and Way Forwards toward Avoidance of Future Insurgency. *International Journal of Scientific and Research Publications*. 3(11), 2250–3153.
- Askew, A.J. (1997). Water in the International Decade for Natural Disaster Reduction. *Destructive Water: Water-Caused Natural Disasters, their Abatement and Control*. (239), 3–11.

- Astme833 (1993). *Building economics* fourth edi., London: Macmillan Press Ltd.
- Awadh, A.M. and Saad, A. (2013). Impact of Organizational Culture on Employee Performance. *Iternational Review of Management and Business Research*. 2(1), 168–175.
- Awodele, O.A. (2012). *Framework for Managing Risk in Privately Financed Market Projects in Nigeria*,
- Ayedun, C.A., Durodola, O.D. and Akinjare, O.A. (2012). An Empirical Ascertainment of the Causes of Building Failure and Collapse in Nigeria. *ISSN 2039- 2117 Mediterranean Journal of Social Sciences*. 3(1), 313–322.
- Babatunde, S.O.), Opawole, A. , Ujaddughe, I.C.) (2010). An Appraisal of Project Procurement Methods in the Nigerian Construction Industry Babatunde,., *Journal of Contemporary China*. 12(1), 1–7.
- Bajere, P. A., Galadima, U. N. and Durodola, O.D. (2017). Impact of Selected Project Characteristics on Construction Claims in Niger State , Nigeria. *Covenant Journal of Research in the Built Environment (CJRBE)*. 5(1), 11–31.
- Bodley, J.H. (2011). *Cultural anthropology: Tribes, states, and the global system*, Rowman Altamira.
- Boneau, C.A. (1960). The Effects of Violations of Assumptions Underlying the t-Test. *Psychological Bulletin*. 57(1), 49–64.
- Bonnemaizon, A., Cova, B. and Louyot, M.C. (2007). Relationship Marketing in 2015:. A Delphi Approach. *European Management Journal*. 25(1), 50–59.
- Brightman, H.J. (1994). *Statistics for business problem solving*, South-Western Pub.
- Brooks, K.W. (1979)(a). Crisp et.al., (1997). *North Central Association Quarterly*. 53(3), 377–385.
- Brooks, K.W. (1979)(b). Delphi technique: Expanding applications. *North Central Association Quarterly*. 53(3), 377–385.
- Bryman Alan (2008). *Social Research Method 4th ed Oxford, Oxford University Press*,
- C Lévi-Strauss (1973). {{}}Jean-Jacques{{}} Rousseau, fondateur des sciences de l’homme. *Anthropologie structurale deux*.
- Cakmak, P.I. and Cakmak, E. (2013). An Analysis of Causes of Disputes in the Construction Industry Using Analytical Hierarchy Process (AHP). In *Aei 2013*. 94–102.

- Cameron, K.S. and Freeman, S.J. (1991). Cultural Congruence Strength an Type: Relationship to effectiveness. *Research in Organizational Change And Development*. 5, 23–57.
- Cameron, K.S. and Quinn, R.E. (1999). 2. An Introduction to changing organisational culture: Based on the competing values framework. In *Diagnosing and chaning organisational culture*, 1–12.
- Canagarajah, S. and Thomas, S. (2001). Growth Prospects for the Nigerian economy. In *Journal of African Economies*, 143–143.
- Carifio, J. and Perla, R. (2008). Resolving the 50-year debate around using and misusing Likert scales. *Medical Education*. 42(12), 1150–1152.
- Carson, K.A., Boire, T.C. and Lee, K. (2008). Microfluidic gradient chamber for two-dimensional mapping of hepatocyte drug-response. In *AIChE Annual Meeting, Conference Proceedings*.
- Carter, C., Hassan, T., Merz, M. and White, E. (2001). The elegal project: Specifying legal terms of contract in ICT environment. *Electronic Journal of Information Technology in Construction*. 6, 163–174.
- Chan, A.P.C., Scott, D. and Lam, E.W.M. (2002). Framework of Success Criteria for Design Õ Build Projects. *Journal of Management in Engineering*. 18(3), 120–128.
- Chan, Y.-C.L. (2009). An Analytic Hierarchy Framework for Evaluating Balanced Scorecards of Healthcare Organizations. *Canadian Journal of Administrative Sciences / Revue Canadienne des Sciences de l'Administration*. 23(2), 85–104.
- Charan, J., Saxena, D., Mulla, S. and Yadav, P. (2013). Antibiotics for the treatment of leptospirosis: Systematic review and meta-analysis of controlled trials. In *International Journal of Preventive Medicine*, 501–510.
- Cheng, E.W.L. and Li, H. (2002). Construction Partnering Process and Associated Critical Success Factors: Quantitative Investigation. *Journal of Management in Engineering*. 18(4), 194–202.
- Cheng, T., Soo, G., Kumaraswamy, M. and Jin, W. (2010)(a). Security of payment for Hong Kong construction industry. *Proceedings of the Institution of Civil Engineers - Management, Procurement and Law*. 163(1), 17–28.
- Cheng, T., Soo, G., Kumaraswamy, M. and Jin, W. (2010)(b). Security of payment for Hong Kong construction industry. *Proceedings of the Institution of Civil Engineers - Management, Procurement and Law*. 163(1), 17–28.

- Christine, D. (1993). The Delphi technique: a comparison of results obtained using two expert panels. *International Journal of Nursing Studies*. 30(3), 227–237.
- Clarke, S. (2000). Safety culture: under-specified and overrated? *International Journal of Management Reviews*. 2(1), 65–90.
- CLP (1994). *New English Dictionary and Thesaurus*, Finland.
- Cooke, R.A., Szumal, J.L., Ashkanasy, N.M., Wilderom, C.P. and Peterson, M.F. (2013). *Using the Organizational Culture Inventory ® to Understand the Operating Cultures of Organizations Reprinted with permission from Handbook of Organizational Culture & Climate*,
- Coulson, A.S., Kopec, S.E., Irwin, R.S. and Conlan, A.A. (1999). *Temporary pacing after pneumonectomy [1] (multiple letters)*,
- Cramer, C.K., Klasser, G.D., Epstein, J.B. and Sheps, S.B. (2008). The Delphi Process in Dental Research. *Journal of Evidence-Based Dental Practice*. 8(4), 211–220.
- Creswell, J.W. (2013). *Qualitative Inquiry and Research: Choosing Among Five Approaches. 3rd editions*, Los Angeles: SAGE.
- Creswell, J.W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: SAGE Publications. *Thousand Oaks, CA: SAGE Publications*.
- Creswell, J.W., Luketić Sveučilište U Zadru, D. and Za Pedagogiju, O. (2011). *Research Desing: Qualitative, Quantitative and Mixed Methods Approaches (3 rd Edition) (Nacrt istraživanja: kvalitativni, kvantitativni i mješoviti pristupi)*,
- Creswell, J.W. and Zhang, W. (2009). The application of mixed methods designs to trauma research. *Journal of Traumatic Stress*. 22(6), 612–621.
- Crisp, J., Pelletier, D., Duffield, C., Adams, A. and Nagy, S. (1997). The Delphi method? *Nursing Research*. 46(2), 116-118.
- Cui, X. and Hu, J. (2012). A Literature Review on Organization Culture and Corporate Performance. *International Journal of Business Administration*. 3(2), 28–37.
- Cunningham, T. (2017). Dublin Institute of Technology ARROW@DIT Other Resources School of Surveying and Construction Management What Causes Cost Overruns on Building Projects?-An Overview. In *Review* .23.
- Cwalina, A.M. (2013). *Organizational Practices Leading to a Positive Safety Culture : A Delphi Approach*. Nova Southeastern University in.

- Dada, M.O., Akpadiaha, B. and Ologunagba, M.M. (2012). Disposition to organizational learning: A survey of selected construction industry organisations in Lagos State, Nigeria. *Mediterranean Journal of Social Sciences*. 3(2), 487–496.
- Dajani, J.S., Sincoff, M.Z. and Talley, W.K. (1979). Stability and agreement criteria for the termination of Delphi studies. *Technological Forecasting and Social Change*. 13(1), 83–90.
- Dalkey, N. and Helmer, O. (1963). An Experimental Application of the DELPHI Method to the Use of Experts. *Management Science*. 9(3), 458–467.
- Damen, L. (1987). *Culture learning : the fifth dimension in the language classroom*, Addison Wesley Publishing Company.
- Van de, A.H. and Delbecq, A.L. (1974). The Effectiveness of Nominal, Delphi, and Interacting Group Decision Making Processes. *Academy of Management Journal*. 17(4), 605–621.
- Deal, T.E. and Kennedy, A.A. (1982). Corporate cultures: The rites and rituals of organizational life. *Reading/T. Deal, A. Kennedy.–Mass: Addison-Wesley*. 2, 98–103.
- Deal, T.E. and Kennedy, A.L. (2000). *Corporate Culture: The Rites and Rituals of Corporate Life*,
- Deanship, H.E. and Agha, O.I. El (2013). *Factors Affecting the Selection of Procurement Methods in the*. The Islamic University – Gaza.
- Deji Rufus, O. (2015). Value for Money in Construction Projects: The Quantity Surveyor's Quest. *QS (Ife); Ph.D QS (Akure)*.
- Delbecq, A., Ven, A. Van de and Guftafson, D. (1976). Group Techniques for Program Planning: A Guide to Nominal Group and Delphi Processes. *The Journal of Applied Behavioral Science*. 12(4), 581–581.
- Delbecq, A.L., Van de Ven, A.H. and Gustafson, D.H. (1976). *Group Techniques for Program Planning: A Guide to Nominal Group and Delphi Processes*, Scott, Foresman Glenview, IL.
- Denscombe, M. (2014). *The good research guide: for small-scale social research projects*, McGraw-Hill Education (UK).
- Denscombe, M. (2010). *The Good Research Guide For small-scale social research projects Summary of contents*, Open University Press.



- Deshpande, R., Farley, J.U. and Webster, F.E. (1993). Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: A Quadrant Analysis. *Journal of Marketing*. 57(1), 23.
- Dess, G.G. (2018). Dimensions of Organizational Task Environments Author ( s ): Gregory G . Dess and Donald W . Beard Source : Administrative Science Quarterly , Vol . 29 , No . 1 ( Mar . , 1984 ), pp . 52-73 Published by : Sage Publications , Inc . on behalf of the Johnson . *Administrative Science Quarterly*. 29(1), 52–73.
- Dlamini, S. (2012). Relationship of construction sector to economic growth. In *In International Congress on Construction Management, Canada*.1–11.
- Dolan, B., Holt, L. and Marsden, J. (2003). Nurse practitioner practice and deployment: electronic mail Delphi study. *Journal of Advanced Nursing*. 43(6), 595–605.
- Ekong, P.S., Ducheyne, E., Carpenter, T.E., Owolodun, O.A., Oladokun, A.T., Lombin, L.H. and Berkvens, D. (2012). Spatio-temporal epidemiology of highly pathogenic avian influenza (H5N1) outbreaks in Nigeria, 2006-2008. *Preventive Veterinary Medicine*. 103(2–3), 170–177.
- Eldridge, J.E.T. and Crombie, A.D. (1974). *A Sociology of Organisations*, Routledge.
- Elijah Olusegun, A. and Olumuyiwa Michael, A. (2011). Abandonment of Construction Projects in Nigeria: Causes and Effects. *Journal of Emerging Trends in Economics and Management Sciences*. 2(2), 2141–7024.
- Emenike, O.F., Sciences, O.F.E., Partial, I.N., Of, F., Requirement, T.H.E. and The, F.O.R. (2010). *Construction Industry-Contractors ' Perspective in Enugu State Construction Management*. NNamdi Azikiwe University Awka.
- Emilios, A. (2008). *Financial Regulation, Behavioural Finance, and the Global Credit Crisis: In Search of a New Regulatory Model*,
- English, J. and Sommerville, J. (2004). *Enhancing the Employment of Skilled Women in the South African Construction Industry Jane*,
- Erbasi, A. and Parlakkaya, R. (2012). The Use of Analytic Hierarchy Process in the Balanced Scorecard: An Approach in a Hotel Firm. *Business and Management Review*. 2(2)(2), 23–37.
- Etuonovbe, A.K. (2011). The Devastating Effect of Flooding in Nigeria The Devastating Effect of Flooding in Nigeria. *FIG Working week 2011: Bridging the Gap between Cultures*. (May), 18–22.

- Fehrenbacher, K.L., Davis, D., Wu, M., Boldogh, I.R. and Pon, L. a (2002). Cytoskeletal Interactions in Budding Yeast. *Molecular Biology of the Cell*. 13(March), 854–865.
- Financial-Regulations (2009). Fedral Reblic of Nigeria official Gazatte.
- Garba Aloomo, A. and Isa Kida, M. (2011). Effect of Global Financial Crisis on Loan Repayment in Selected Banks in Borno State, Nigeria. *Journal of Management Studies*.
- Gardner, H.J. and Martin, M.A. (2007). Analyzing ordinal scales in studies of virtual environments: Likert or lump it! *Presence: Teleoperators and Virtual Environments*. 16(4), 439–446.
- Geldenhuys, T. (2006). Organisational Culture As a Predictor of Performance : a Case Study in Liberty Life. *Business*. (November).
- Gephart, S.M., Wyles, C. and Canvasser, J. (2018). Expert consensus to weight an adherence score for audit and feedback of practices that prevent necrotizing enterocolitis in very low birth weight infants. *Applied Nursing Research*. 39, 182–188.
- Giorgi, S., Lockwood, C. and Glynn, M.A. (2015). The Many Faces of Culture: Making Sense of 30 Years of Research on Culture in Organization Studies. *Academy of Management Annals*. 9(1), 1–54.
- Guglyuvatyy, E. and Stoianoff, N.P. (2015). *Applying the Delphi method as a research technique in tax law and policy*,
- Habibi, A., Sarafrazi, A. and Izadyar, S. (2014). Delphi Technique Theoretical Framework in Qualitative. *International Journal Of Engineering And Science (IJES)*. 3(4), 8–13.
- Hakkak, M. and Ghodsi, M. (2014). *Investigation the influence of Organizational Culture on Job satisfaction : Case Study of Tax Administration Staffs , Lorestan , Iran*,
- Hallowell, M.R. and Gambatese, J.A. (2010). Qualitative Research: Application of the Delphi Method to CEM Research. *Journal of Construction Engineering and Management*. 136(1), 99–107.
- Hamzah, A. and Chen, W. (2014). Cause , Effect and Reaction for Late-payment and Non- payment Issues in Malaysian Building Sector. *Topless Journal of Bussiness Management and Innovations*. 1(1), 8–20.

- Hasson, F., Keeney, S. and McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*. 32(4), 1008–1015.
- Hatch, M.J. (1993). The Dynamics of Organizational Culture. *Academy of Management Review*. 18(4), 657–693.
- Henderson, R. (2011). *Doing qualitative research: a practical handbook*, SAGE Publications Limited.
- Ho, W. (2008). Integrated analytic hierarchy process and its applications - A literature review. *European Journal of Operational Research*. 186(1), 211–228.
- Hofstede, G. (1998). *Attitudes, Values and Organizational Culture: Disentangling the Concepts*,
- Hofstede, G. (1984). Cultural dimensions in management and planning. *Asia Pacific Journal of Management*. 1(2), 81–99.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*, London: Sage London; Thousand Oaks, California. Hood,.
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*. 2(1).
- Hofstede, G., Neuijen, B., Ohayv, D.D. and Sanders, G. (1990). Measuring Organizational Cultures: A Qualitative and Quantitative Study Across Twenty Cases. *Administrative Science Quarterly*. 35(2), 286.
- Hoseini, A., Andalib, R., Cand, P.D. and Gatmiri, B. (2015). Stochastic Framework for Cash Flow Forecasting Considering Owner ' s Delay in Payment by Use of Monte Carlo Simulation. In *51st ASC Annual International Conference Proceedings*. 323–333.
- Hou, W., Liu, X. and Chen, D. (2011). Payment Problems , Cash Flow and Profitability of Construction Project : A System Dynamics Model. *Engineering*. 5(10), 693–699.
- Hughes, W., Champion, R. and Murdoch, J. (2017). *Construction contracts: law and management*, Routledge.
- Hughes, W., Hillebrandt, P. and Murdoch, J. (2000). The impact of contract duration on the cost of cash retention. *Construction Management and Economics*. 18(1), 11–14.
- Hula, M.A. and Udoh, J.C. (2015). An assessment of the impact of flood events in Makurdi, Nigeria. *Civil and Environmental Research*. 7(10), 53–60.

- Ibrahim, M.N., Abdul-Hamid, K., Ibrahim, M.S., Mohd-Din, A., Yunus, R.M. and Yahya, M.R. (2011). The development of fire risk assessment method for heritage building. *Procedia Engineering*. 20, 317–324.
- Idiako, J.E. and Bala, K. (2012). Improving labour productivity in masonry work in Nigeria: the application of lean management techniques. In *Proceedings of the 4th West Africa Built Environment Research (WABER) Conference*. 677–686.
- Iñaki, H.S., Landín, G.A. and Fa, M.C. (2006)(a). A Delphi study on motivation for ISO 9000 and EFQM. *International Journal of Quality and Reliability Management*. 23(7), 807–827.
- Iñaki, H.S., Landín, G.A. and Fa, M.C. (2006)(b). A Delphi study on motivation for ISO 9000 and EFQM. *International Journal of Quality and Reliability Management*. 23(7), 807–827.
- Ingleby, E. (2012). *Research methods in education*,
- Instructions, C. (2010). *The Practice of Statistics for Business and Economics*,
- Jamieson, S. (2004). Likert scales: how to (ab)use them. *Medical Education*. 38(12), 1217–1218.
- Jerard, K. (1995). Writing multiple-choice test items Practical Assessment. *Research and Evaluation*. 4(9).
- Johnston, S. (1999). *Debts and Interest in the Construction Industry - A Guide to the Late Payment of Commercial Debts (Interest) Act 1998*, Thomas Telford Ltd.
- Jones, S.J., Johnson, R.D., Calkins, C.R. and Dikeman, M.E. (1991). *Effects of trenbolone acetate on carcass characteristics and serum testosterone and cortisol concentrations in bulls and steers on different management and implant schemes.*, Syracuse University Press.
- Judi, S.S. and Rashid, R.A. (2010). Contractor 's Right Of Action For Late Or Non-Payment By The Employer. *Journal of Surveying, Construction & Property*. 1(1), 65–95.
- Kabashima, I. (1998). Seiken Koutai to Yuken-shya no Taido Henyou.
- Kadiri, D.S. and Odusami, K.T. (2003). Taken To Execute Them,. *Nigerian Institute of Quantity Surveyors*,. 44(3).
- Kadushin, A. and Harkness, D. (2014). Supervision in social work (5th ed.). *Supervision in social work (5th ed.)*.

- Kaka, A., Wong, C., Fortune, C. and Langford, D. (2008). Culture change through the use of appropriate pricing systems. *Engineering, Construction and Architectural Management*. 15(1), 66–77.
- Kangari, R. (1995). Risk Management Perceptions and Trends of U.S. Construction. *Journal of Construction Engineering and Management*. 121(4), 422–429.
- Karpen, I.O., Bove, L.L., Lukas, B.A. and Zyphur, M.J. (2015). Service-dominant orientation: Measurement and impact on performance outcomes. *Journal of Retailing*. 91(1), 89–108.
- Katcher, M.L., Meister, A.N., Sorkness, C.A., Staresinic, A.G., Pierce, S.E., Goodman, B.M., Peterson, N.M., Hatfield, P.M. and Schirmer, J.A. (2006). Use of the modified Delphi technique to identify and rate home injury hazard risks and prevention methods for young children. *Injury Prevention*. 12(3), 189–194.
- Katoh, M. and Katoh, M. (2004). *Identification and characterization of human PDZRN4L gene and mouse Pdzn4l gene in silico.*,
- Keeney, R.L. (1982). Decision Analysis : An Overview *Operational Research*. 30(5), 803–838.
- Keesing, R.M. (1974). Theories of Culture. *Annual Review of Anthropology*. 3(1), 73–97.
- Ko, K.C. (2009). *Study of Important Factors Affecting Final Account Settlement Satisfaction of Hong Kong Civil Engineering Projects :Contractor ' s*. City University of Hong Kong.
- Kohnen, J. (2008). *Business Process Management and the Balanced Scorecard: Using Processes as Strategic Drivers*, John Wiley & Sons.
- kontagora O.O (1993). Project abandonment Nigerian Tribute. *Project abandonment Nigerian Conferences*.
- Kordi, M. and Brandt, A. (2008). *Comparison of fuzzy and crisp analytic hierarchy process (AHP) methods for spatial multicriteria decision analysis in GIS*,
- Laeven, L. and Valencia, F. (2013). Systemic banking crises database. *IMF Economic Review*. 61(2), 225–270.
- Leedy, P.D. and ORMROD, J.P. (2005). *Practical Research–Planning and Design 8th edn Pearson*,

- Legendre, P. (2005). Species associations: The Kendall coefficient of concordance revisited. *Journal of Agricultural, Biological, and Environmental Statistics*. 10(2), 226–245.
- Lemmens, M. (2011). *Geo-Information. Technologies, applications and the environment*, Springer Science & Business Media.
- Lewis, A. (1994). Oppenheim, A. (1992). Questionnaire Design, Interviewing and Attitude Measurement, London, Pinter. Pp 303. £14.99 paperback, £39.50 hardback. ISBN 185567 0445 (pb), 185567 0437 (hb). *Journal of Community & Applied Social Psychology*. 4(5), 371–372.
- Liberatore, M.J. and Nydick, R.L. (2008). The analytic hierarchy process in medical and health care decision making: A literature review. *European Journal of Operational Research*. 189(1), 194–207.
- Lincoln, Y.S. and Guba, E.G. (1985). *Lincoln and Guba's Evaluative Criteria*,
- Ling, T. (2006). *Essentials of research design and methodology*,
- Linton, R. (1945). The cultural background of personality. *Linton III The Cultural Background of Personality 1945.*, 157.
- Liu, C.-C. and Chen, S.-Y. (2009). Prioritization of digital capital measures in recruiting website. *Expert Systems with Applications*. 36(5), 9415–9421.
- Lo, S.M. (1999). A fire safety assessment system for existing buildings. *Fire Technology*. 35(2), 131–152.
- Louis, M.. (1980). *Organizations as culture-bearing milieux*. Department of Administrative Sciences, Naval Postgraduate School.
- M Dlakwa, M. and F Culpin, M. (1990). Reasons for overrun in public sector construction projects in Nigeria. *International Journal of Project Management*. 8(4), 237–241.
- MacCarthy, B.L. and Atthirawong, W. (2003). Factors affecting location decisions in international operations - A Delphi study. *International Journal of Operations and Production Management*. 23(7–8), 794–818.
- Macuha, M., Tariq, M. and Sato, T. (2011). Data collection method for mobile sensor networks based on the theory of thermal fields. In *Sensors*. 7188–7203.
- Magrin, A., Peresan, A., Kronrod, T., Vaccari, F. and Panza, G.F. (2017). Neo-deterministic seismic hazard assessment and earthquake occurrence rate. *Engineering Geology*. 229, 95–109.

- Mahajan, V., Linstone, H.A. and Turoff, M. (1976). *The Delphi Method: Techniques and Applications*,
- Makkonen, M., Hujala, T. and Uusivuori, J. (2016). Policy experts' propensity to change their opinion along Delphi rounds. *Technological Forecasting and Social Change*. 109(109), 61–68.
- Marczyk, G., DeMatteo, D. and Festinger, D. (2006). *Essentials of research design and methodology*, John Wiley.
- Martin J and Siehl (1983). Organizational Culture and Counterculture:An Uneasy Symbiosis organizational Change management. 20(5), 721–739.
- Masetti, O., Lanzeni, M. L., AG, D. B., & Hoffmann, (2014). Nigeria: The No. 1 African economy. *Research Briefing Emerging markets. Deutsche Bank Research.*
- Mead, D. and Moseley, L. (2001). *The use of the Delphi as a research approach. Nurse Researcher*. 8(4), 4–23.
- Mei, X.I.E. (2004). The Use of Analytic Hierarchy Process in Balanced Scorecard [J]. *Finance and accounting communication*. 2, 39–42.
- Memon, A.H., Rahman, I.A., Zainun, N.Y. and Karim, A.T.A. (2014). Web-based Risk Assessment Technique for Time and Cost Overrun (WRATTCO) – A Framework. In *Procedia - Social and Behavioral Sciences*. 178–185.
- Ming lo, S. (1998). A building safety inspection system for fire safety issues in existing buildings. *Structural Survey*. 16(4), 209–217.
- Moavenzadeh, F., Program, D. and Veneziano, D. (2008). General Overview of the Nigerian Construction Industry Sanusi Dantata. (June 2007).
- Mohammed Abdul Hafeez Us Shan (2008). *A Risk Assessment Approach To Fire Safety*. Msc. Dhahran, Saudi Arabia: King Fahad University of Petroleum and Minerals, Dhahran, Saudi Arabia.
- Mohammed, K.A. (2012). I Nterdisciplinary J Ournal O F C Ontemporary R Esearch I N B Usiness Causes of Delay in Nigeria Construction Industry. *Interdisciplinary Journal of Contemporary Research in Business*. 4(2), 785–794.
- Mohammed, K.A. and Isah, A.D. (2012). Causes of Delay in Nigeria Construction Industry. *Interdisciplinary Journal of Contemporary Research In Business*. 4(2), 785–794.
- Mohanty, J. and Rath, B. (2012). Influence of Organizational Culture on. *Global Journal of Business Research*. 6(1), 65–77.

- Mohd Danuri, M.S., Munaaim, M.E.C., Rahman, H.A. and Hanid, M. (2006). Late and Non-Payment Issues in the Malaysian Construction Industry – Contractors' Perspective. In *International Conference on Construction, Culture, Innovation and Management (CCIM)*.
- Mor Barak, M.E., Travis, D.J., Pyun, H. and Xie, B. (2009). The Impact of Supervision on Worker Outcomes: A Meta- analysis. *Social Service Review*. 83(1), 3–32.
- Mosk, R.M., & Ginsburg, T. (2012). Becoming an International Arbitrator: Qualifications, Disclosures, Conduct, and Removal. *Practitioner's Handbook on International Arbitration and Mediation, 2nd edn (Huntington, NY: JurisNet, 2007)*, 357-360.
- Mullen, P.M. (2003). Delphi: myths and reality Penelope. *Journal of Health Organization and Management Policing: An International Journal Iss Health Education*. 17147772 60 (1), 37–52.
- Murray, J. (2013). Likert Data: What to Use, Parametric or Non-Parametric? *International Journal of Business and Social Science*. 4(11), 258–264.
- Naranjo-Valencia, J.C., Jiménez-Jiménez, D. and Sanz-Valle, R. (2016). Studying the links between organizational culture, innovation, and performance in Spanish companies. *Revista Latinoamericana de Psicología*. 48(1), 30–41.
- Naranjo-Valencia, J.C., Jiménez-Jiménez, D. and Sanz-Valle, R. (2016). Studying the links between organizational culture, innovation, and performance in Spanish companies. *Revista Latinoamericana de Psicología*. 48(1), 30–41.
- Neter, J., Kutner, M.H., Nachtsheim, C.J. and Wasserman, W. (1996). *Applied linear statistical models*, Irwin Chicago.
- Ngulube, P., Mathipa, E.R. and Gumbo, M.T. (2015). Theoretical and Conceptual Frameworks in the Social and Management Sciences. In *Addressing research challenges: Making headway in developing researchers*. 43–66.
- Nukic, I.S. and Huemann, M. (2016). Organizational culture of the Croatian construction industry. *Engineering, Construction and Architectural Management*. 23(2), 237–260.
- Obaju, B.N., Musa-haddary, Y.G. and Adama, B. (2013). an Assessment of Contractor ' S Risks Exposure Within Some Standard Forms of Building Contract in Nigeria. (August), 135–147.
- Odusote, O.O. and Fellows, R.F. (1992). An examination of the importance of resource considerations when contractors make project selection decisions. *Construction Management and Economics*. 10 (January 2015), 137–151.



- Ogbonna, E. and Harris, L.C. (2000). Leadership style, organizational culture and performance: Empirical evidence from UK companies. *International Journal of Human Resource Management*. 11(4), 766–788.
- Ojo, O. (2014). Organisational Culture and Corporate Performance: Empirical Evidence from Nigeria. *Journal of Law and Governance*. 5(2) , 1-12.
- Okafor, B.O. (2015). The impact of environmental laws and challenges on sustainable construction development in Nigeria. In *The Nigerian Institute of Quantity Surveyors*. 1–931.
- Okoye, P. (2016). Optimising the Capacity of Nigeria Construction Sector for Socio-economic Sustainability. *British Journal of Applied Science & Technology*. 16(6), 1–16.
- Okpaga, A., Chijioke, U.S. and Innocent, O. (2012). Activities of Boko Haram and Insecurity Question in Nigeria Theorising Insecurity Question in Nigeria. *Arabian Journal of Business and Management Review*. 1(9), 77–99.
- Oloyede, S.A., Omoogun, C.B. and Akinjare, O.A. (2010). Tackling Causes of Frequent Building Collapse in Nigeria. *Journal of Sustainable Development*. 3(3), 127.
- Omole A.O. (1986). Causes of the High Cost of Building and Civil Engineering Construction in Nigeria. *The Nigerian Quantity Surveyor*. 6, 1–2.
- Omotola, A.O. and Oladipupo, A.O. (2009). Concepts and measurement of culture in organisations. *Journal of Communication and Culture*. 1/2(1), 64–86.
- Palaneeswaran, E., Ng, T. and Kumaraswamy, M. (2006). Client satisfaction and quality management systems in contractor organizations. *Building and Environment*. 41(11), 1557–1570.
- Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N. and Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*. 42(5), 533–544.
- Parker, S.C. (2018). *The Economics of Entrepreneurship Ivey Spring 2015[1]*, Cambridge University Press.
- Pasukeviciute, I. and Roe, M. (2001). The politics of oil in Lithuania: *Energy Policy*. 29(5), 383–397.
- Pearson, E.S. (1931). The Analysis of Variance in Cases of Non-Normal Variation. *Biometrika*. 23(1), 114–133.

- Pell, G. (2005). Use and misuse of Likert scales. *Medical Education*. 39 (9), 970–970.
- Perner, A., Andresen, L., Normark, M., Fischer-Hansen, B., Sørensen, S., Eugen-Olsen, J. and Rask-Madsen, J. (2001). Expression of nitric oxide synthases and effects of L-arginine and L-NMMA on nitric oxide production and fluid transport in collagenous colitis. *Gut*. 49(3), 387–394.
- Pettigrew, R. (2005). *Payment Under Construction Contract Legislation*, Thomas Telford.
- Pill, J. (1971). The Delphi method: Substance, context, a critique and an annotated bibliography. *Socio-Economic Planning Sciences*.
- du Plessis SP, E.H. (2007). The Art of the Delphi technique : Highlighting its scientific merit . *Health SA Gesondheid*. 12(4), 13–24.
- Post, R.F. (2001). The “kinetic stabilizer”: A simpler tandem mirror configuration? *Fusion Technology*. 39(1T), 25–32.
- Powell, C. (2003). The Delphi technique: Myths and realities. *Journal of Advanced Nursing*. 41(4), 376–382.
- Quinn, R. (1988). *Beyond Rational Management: Mastering the paradoxes and competing demands of high performance*. Jossey-Bass.
- Ramanathan, R. (2001). A note on the use of the analytic hierarchy process for environmental impact assessment. *Journal of Environmental Management*. 63(1), 27–35.
- Reid, N. (1988). *The Delphi Technique: Its Contribution to the Evaluation of Professional Practice*,
- Richard Jimoh<sup>1</sup>, Suleiman Suleiman<sup>1</sup>, R.I. and L. and Oyewobi (2016). Stemming Quackery on Construction Sites in Abuja-Nigeria: Supervision and Productivity Nexus Richard. *Construction Project Management and Innovation*. 6(S1), 1583–1600.
- Robinson, S., Birta, G.A.L.G., Tolk, A. and Wagner, G. (2015). *Conceptual Modeling: Definition, Purpose and Benefits*,
- Rowe, G., Evaluations, G.R. and Wright, G. (2011). *The Delphi Technique: A Re-Evaluation of Research and Theory Salt project View project Scenario Thinking and Cognitive Biases View project*,
- Saaty, R.W. (1987). The analytic hierarchy process-what it is and how it is used. *Mathematical Modelling*. 9(3–5), 161–176.

- Saaty, T.L. (1999). Comment by Thomas L. Saaty. *Journal of Multi-Criteria Decision Analysis*. 8(1), 23–24.
- Saaty, T.L. (2008). Decision making with the analytic hierarchy process - International Journal of Services Sciences - Volume 1, Number 1/2008 - Inderscience Publishers. *International Journal of Services Sciences*. 1(1), 83–98.
- Saaty, T.L. (1990). How to make a decision: The analytic hierarchy process. *European Journal of Operational Research*. 48(1), 9–26.
- Saaty, T.L. (1992). *The Hierarchon: A Dictionary of Hierarchies (Analytic Hierarchy Process, Vol 5)*, RWS Pub.
- Saaty, T.L. and Vargas, L.G. (2006). The Analytic Hierarchy Process: wash criteria should not be ignored. *International Journal of Management and Decision Making*. 7(2/3), 180.
- Salau, C.O., Paul, O. and Olumuyiwa, F.O. (2014). Perceived Influence of Organizational Culture and Management Style on Employees Performance in Nigerian Banking Sectors. *European Journal of Business and Management*. 6(20), 62–71.
- Salman, R.T. and Adeseye, M.A. (2017). Treasury Single Account and Fund Management in Nigeria : A Perception of Accounting Practitioners in Ado-Ekiti Metropolis. *KIU Journal of Humanities*. 2(1), 19–32.
- Samant, D., Soffer, M., Hernandez, B., Adya, M., Akinpelu, O., Levy, J.M., Repoli, E., Kramer, M. and Blanck, P. (2009). Corporate culture and employment of people with disabilities: Role of social workers and service provider organizations, *Journal of social work in disability & rehabilitation*, 8(3-4), 171-188
- Sanni, A.O. and Hashim, M. (2013). Assessing the Challenges of Cost Control Practices in Nigerian Construction Industry. *Interdisciplinary Journal of Contemporary Research in Business*. 4(9), 366–374.
- Santos, A. and Powell, J.A. (2001). Assessing the level of teamwork in Brazilian and English construction sites. *Leadership & Organization Development Journal*. 22(4), 166–174.
- Sato, Y. (2004). Comparison between multiple-choice and analytic hierarchy process: Measuring human perception. *International Transactions in Operational Research*. 11(1), 77–86.

- Sato, Y. (2009). How to Measure Human Perception in Survey Questionnaires. *International Journal of the Analytic Hierarchy Process*. 1(2).
- Sato, Y. and Thermometer, F. (2005). Questionnaire Design for Survey Research : In *Proceedings of the Eighth International Symposium on the Analytic Hierarchy Process, ISSN 1556-830X*.
- Sawacha, E., Naoum, S. and Fong, D. (1999). Factors affecting safety performance on construction sites. *International Journal of Project Management*. 17(5), 309–315.
- Schein, E.H. (1989). Book Review. *Human Resource Management (1986-1998)*.
- Schein, E.H. (1990). *Organizational Culture*: American Psychological Association. 45(2),109.
- Schimmoeller, B., Jiang, Y., Pratsinis, S.E. and Baiker, A. (2010). Structure of flame-made vanadia/silica and catalytic behavior in the oxidative dehydrogenation of propane. *Journal of Catalysis*.
- Schwartz, A.E., McCabe, B.J., Ellen, I.G. and Chellman, C.C. (2010). Public Schools, Public Housing: The Education of Children Living in Public Housing. *Urban Affairs Review*. 46, 68–89.
- Sedan, A.H. and Suv, C. (2013). Analytic hierarchy process. *Multi-Criteria Decision Analysis: Methods and Software*. 5(3), 11–58.
- Shim, J.P. (1989). Bibliographical Research on the Analytic Hierarchy Process (AHP). *SocioEconomic Planning Science*. 23(3), 161–167.
- Sipahi, S. and Timor, M. (2010). The analytic hierarchy process and analytic network process: An overview of applications. *Management Decision*. 48(5), 775–808.
- Skulmoski, G.J. and Hartman, F.T. (2007). The Delphi Method for Graduate Research. *Journal of Information Technology Education*. 6(1), 1–21.
- Smircich, L. (1983). Concepts of Culture and Organizational Analysis. *Administrative Science Quarterly*. 28(3), 339.
- Sprang, G. (2018). Organizational Assessment of Secondary Traumatic Stress: Utilizing the Secondary Traumatic Stress Informed Organizational Assessment Tool to Facilitate Organizational Learning and Change. In *Trauma Responsive Child Welfare Systems*. Springer, 261–270.
- Suhaidah Sahab, S. and Ismail, Z. (2011). Construction industry payment and adjudication Act; Enhancing security of payment in the Malaysian construction

- industry. In *ICBEIA 2011 - 2011 International Conference on Business, Engineering and Industrial Applications*.153–159.
- Taleizadeh, A.A., Pentico, D.W., Saeed Jabalameli, M. and Aryanezhad, M. (2013). An EOQ model with partial delayed payment and partial backordering. *Omega (United Kingdom)*. 41(2), 354–368.
- Tanko, B.L., Abdullah, F. and Ramly, Z.M. (2017). Stakeholders Assessment of Constraints to Project Delivery in the Nigerian Construction Industry. *International Journal of Built Environment and Sustainability*. 4(1), 56–62.
- Tetfund (2014). *Guidelines for Accessing Tetfund Intervention Funds*,
- Thompson, C. (1999). “If you could just provide me with a sample.” *Evidence Based Nursing*. 2(3), 68–70.
- Thunberg, M., Rudberg, M. and Gustavsson, T.K. (2017). Categorising on-site problems: A supply chain management perspective on construction projects. *Construction Innovation Supply Chain Management An International Journal Iss Construction Innovation*. 17(1), 90–111.
- Tinio, O.D. (2009). Effect of the global financial crisis on the medical profession. *Japan Medical Association Journal*. 52(6), 450–453.
- Traugott, M.W. and Lavrakas, P.J. (2000). The voter’s guide to election polls. , 213.
- Trice, H.M. and Beyer, J.M. (1993). *The cultures of work organizations*. Prentice-Hall, Inc.
- Trompenaars, F. and Hampden-Turner, C. (1993). *Riding the waves of culture: Understanding cultural diversity in business*,
- Tseng, Y.F. and Lee, T.Z. (2009). Comparing appropriate decision support of human resource practices on organizational performance with DEA/AHP model. *Expert Systems with Applications*. 36(3 PART 2), 6548–6558.
- Turner, A. (1997). *Building Procurement: Palgrave Macmillian Ltd UK*,
- Turner, F.C., Lessler, T.J., George, J.B., Hubbard, L.M. and Witt, B.M. (1992). Effects of Mode of Administration and Wording on Data Quality. *Survey Measurement of Drug Use. Methodological Studies*. 27(3), 221–243.
- Turoff, M., Linstone, H.A. and Experiments, I.V.C. (2002). IV.C. Experiments in Delphi Methodology \*. (March 2014).
- Übius, Ü. and Alas, R. (2009). Organizational Culture Types as Predictors of Corporate Social Responsibility \*. *Engineering Economics*. 1(61), 90–99.

- Uduaki Inyang Udoh (2006). Assessment of Indigenours Contractor’s participation in Construction Project Delivery in Nigeria. *Journal of Nigerian Institute of Quantity Surveying.*, 4.
- Useem, J., Useem, R. and Donoghue, J. (1963). Men in the Middle of the Third Culture: The Roles of American and Non-Western People in Cross-Cultural Administration. *Human Organization.* 22(3), 169–179.
- Vagias, W.M. (2006). Likert-type Scale Response Anchors. Clemson International Institute for Tourism. & *Research Development, Department of Parks, Recreation and Tourism Management, Clemson University.*
- Vaidya, O.S. and Kumar, S. (2006). Analytic hierarchy process : An overview of applications. *European Journal of operational research.* 169(1), 1–29.
- Vanessa de Almeida Guimarães and Ilton Curty Leal Junior (2017). Performance assessment and evaluation method for passenger transportation: a step toward sustainability. *Journal of Cleaner Production.* 142(1), 297–307.
- de Villiers, M.R., de Villiers, P.J.T. and Kent, A.P. (2005). The Delphi technique in health sciences education research. *Medical Teacher.* 27(7), 639–643.
- Waggoner, D.B., Neely, A.D. and Kennerley, M.P. (1999). Forces that shape organisational performance measurement systems: an interdisciplinary review. *International Journal of Production Economics.* 60, 53–60.
- Wahab, A. and Lawal, A. (2011). An evaluation of waste control measures in construction industry in Nigeria. *African Journal of Environmental Science and Techniligy.* 5(3), 246–254.
- Wallach (1983). *Individual and Organizations: The cultural Match,*
- Wallach, E.J. (1983). “Individuals and organizations: The cultural. *Training and Development Journal,* vol. 37, 29–36.
- Webb, C. and Srn, B.A. (1994). The Delphi technique a methodological discussion \_ ReadCube Articles. *Journal of advanced nursing.* 19(Reid 1988), 180–186.
- Welty, G. (1972). Communications. Problems of Selecting Experts for Delphi Exercises. *Academy of Management Journal.* 15, 121–124.
- Wiener, Y. and Vardi, Y. (1990). Relationships between organizational culture and individual motivation—a conceptual integration. *Psychological Reports.* 67(1), 295–306.

- Wilkins, A.L. and Ouchi, W.G. (1983). Efficient Cultures: Exploring the Relationship Between Culture and Organizational Performance. *Administrative Science Quarterly*. 28(3), 468.
- Williams, P.L. and Webb, C. (1994). The Delphi technique: a methodological discussion. *Journal of Advanced Nursing*.
- Wong, J.K.W. and Li, H. (2008). Application of the analytic hierarchy process (AHP) in multi-criteria analysis of the selection of intelligent building systems. *Building and Environment*. 43(1), 108–125.
- Wu, J., Kumaraswamy, M. and Soo, G. (2008). Payment problems and regulatory responses in the construction industry: Mainland China perspective. *Journal of Professional Issues in Engineering Education & Practice*. 134(4), 399–407.
- Xiong, B., Skitmore, M., Xia, B., Masrom, M.A., Ye, K. and Bridge, A. (2014). Examining the influence of participant performance factors on contractor satisfaction: A structural equation model. *International Journal of Project Management*. 32(3), 482–491.
- Yaghoobi, T. and Haddadi, F. (2016). Organizational performance measurement by a framework integrating BSC and AHP. *International Journal of Productivity and Performance Management*. 65(7), 959–976.
- Ye, K.M. and Abdul Rahman, H. (2010). Risk of Late Payment in the Malaysian Construction Industry. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*. 4(5), 503–511.
- Yin, X., Zhang, J. and Wang, X. (2004). Sequential injection analysis system for the determination of arsenic by hydride generation atomic absorption spectrometry. In *Fenxi Huaxue*.1365–1367.
- Yusuf, M., Malarvizhi, C.A., Huda Mazumder, M.N. and Su, Z. (2014). *Corruption, Poverty, and Economic Growth Relationship in the Nigerian Economy*,
- Zakaria, Z., Ismail, S. and Yusof, A. (2013). Cause and Impact of Dispute and Delay the Closing of Final Account in Malaysia Construction Industry. *Journal of Southeast Asian Research*. 2012, 1–12.
- Zayed, T., Amer, M. and Pan, J. (2008). Assessing risk and uncertainty inherent in Chinese highway projects using AHP. *International Journal of Project Management*. 26(4), 408–419.

- Zhao, C.M., Lo, S.M., Lu, J.A. and Fang, Z. (2004). A simulation approach for ranking of fire safety attributes of existing buildings. *Fire Safety Journal*. 39(7), 557–579.
- Zhu, A.Y., Von Zedtwitz, M., Assimakopoulos, D. and Fernandes, K. (2016)(a). The impact of organizational culture on Concurrent Engineering, Design-for-Safety, and product safety performance. *International Journal of Production Economics*.
- Zhu, A.Y., Von Zedtwitz, M., Assimakopoulos, D. and Fernandes, K. (2016)(b). The impact of organizational culture on Concurrent Engineering, Design-for-Safety, and product safety performance. *International Journal of Production Economics*. 176, 69–81.
- Zientz, E., Janausch, I.G., Six, S. and Uden, G. (1999). Functioning of DcuC as the C4-dicarboxylate carrier during glucose fermentation by *Escherichia coli*. *Journal of Bacteriology*. 181(12), 3716–3720.