Exploring the Qualities of a Good Leader Using Principal Component Analysis

Oludolapo Ibrahim Olanrewaju[1] and Victor Nnannaya Okorie[2]

[1]Data Analyst and Researcher, Dollahills Research Lab, Dollasoft Technologies, Lagos, Nigeria. E-mail: oludolapoolanrewaju2012@gmail.com (corresponding author).
[2]Senior Lecturer, Department of Quantity Surveying, University of Benin, Benin City, Edo State, Nigeria. E-mail: v.okorie@yahoo.com.

_____

Abstract: There is a unique link between leadership qualities and organizational success. Leadership is the problem of many organizations but little attention is given to leadership-related research. This paper aimed to examine the qualities of a good leader using principal component analysis (PCA). The study adopted a quantitative research approach by eliciting perceptions of respondents on the qualities of a good leader through structured questionnaire. One hundred and fifty (150) questionnaires were administered to top management of companies within the construction industry, banking industry, food industry, and information technology industry. One hundred and twenty-seven (127) were retrieved and considered for further analysis. The data obtained were analyzed using PCA. The findings revealed the principal qualities of a good leader to be: 1) accessibility and dedication, 2) neutrality and modesty, 3) aspiration and attentiveness, 4) believe and aptitude, 5) dignity and amiability, 6) insight and confidence, 7) vitality and concentration, 8) originality and honesty, 9) responsibility and team spirit, 10) decency and self-assurance, 11) charitable, 12) comical and maintenance culture, and 13) reliability. It is recommended that leaders should demonstrate these leadership qualities to enhance organizational effectiveness and efficiency.

Keywords: Leader, leadership, qualities, organizational success, principal component analysis.

_____

1. Introduction

Over the years, many studies have been carried out on the qualities of a good leader. These studies have indicated that presence of good leadership qualities does not guarantee leadership success (Ahmed and Bach, 2014). Burke and Barron (2007) stated that the dynamic characteristics of modern organizations have prompted leaders to embrace various leadership skills in order to improve productivity. The ability to stand alone without supervision, make critical decisions, and good listening ear are the crucial characteristics of a good leader. An individual does not just become a leader by mare wish but by impartiality of actions and veracity of intent (Anderson, 2015; Muteswa, 2016).

However, since early twentieth century, variety of studies has tried to answer the question "what makes a good leader?" answering this question has led to definitely exclusive theories on leadership. Hofmann and Morgeson (2004) and Northouse (2011) classified leadership theories into: trait theory; behavioural theory; contingency theory and power or influence theory. Before the Nineteen

Seventies (1970s), the essential leadership theories were trait, behavioural, and contingency approaches.

Trait theories concentrated on distinguishing personality characteristics associated to good leaders, unremarkably stated as "great man theory (Northouse, 2011)." The theory assumed that leaders have bound qualities distinguishing them from others. For example, Naoum (2011 cited Luthans, 1988) known such qualities as: empathy; integrity; assertiveness; good decision-making skills and likability which are related to good leaders. Northouse (2011 citing Glendon et al., 2006) contends that job-related knowledge, honesty, and want to lead are related to good leadership. These drawbacks led to behavioural theory.

Behavioural theories concentrated on recognizing the kind of leadership behaviour a good leader would exhibit. Consequently, unlike trait theory, behavioural theory centers on the leaders' actions and behaviours (Luthans, 1988 cited in Naoum, 2011). Nevertheless, by the early 1950s, an investigation was organized by Michigan University (MU) and Ohio State University (OSU) which revealed two types of leadership behaviour connected with

behavioural theory as: consideration and initiating structure (Glendon, 2006 cited in Northouse, 2011). The outcomes concluded that leaders who show sympathetic leadership behaviour tend to rely on building two-way communication and good relationships, are attentive and have good attitudes to juniors. On other hand, leaders who show initiating structure behaviour tend to concentrate on communicating, planning, and allocating tasks (Northouse, 2011). In finding answers to leadership behaviour that are suitable for effective management, Blake and Mouton (1964 cited in Northouse, 2010) developed the best known model of managerial behaviour called Managerial Grid. The model focused on two leadership behaviours: people-oriented and task-oriented behaviour. The people-oriented leaders are concerned with developing trust and ensuring good working conditions, while task-oriented leaders are concerned with production. On this note it can be contended that diverse leadership behaviour may be engaged at several situations and circumstances to achieve organizational goals.

Contingency theories concentrated on comprehending the contexts where leaders' behaviour will be operational (Northouse, 2011). The fundamental norm of contingency theories is that the proficiency of leader is context-specific (Yukl, 2010). Contingency theories settled on the perceptive that there is no one superlative leadership style, and that the best leader hinge on the contexts and conditions.

Hofman and Morgeson (2004) expressed that transformational and transactional leadership could be reflected as behavioural styles to leadership. Transformational/transactional is involved with leaders' supremacy over subordinates' manners to integrate them with the organization's goals and strategies. Transformational leadership was first instituted into political literature by Burns (1978 cited in Bass and Bass, 2008). It was defined as the capability of leaders to motivate people to meet organizational goals outside their self-interest. Nevertheless, subsequent work of Bass (1985 cited in Northouse, 2011) developed the model to incorporate transformational/transactional leadership.

Fin and Yule (2004) and Yukl (2010) described transformational leaders as leaders that act as role models, mentor and encourage subordinates and confront workers to reason beyond their confinement. This will give employees more flexibility while thinking and the ability to make creative innovations. Particularly, the research of Inness et al. (2010) on transformational leadership and employee safety performance established that transformational leadership have lots of advantages which include, lower absenteeism, higher productivity, creates trust and peace in the work atmosphere. On other hand, Northouse (2011) described transactional leaders as leaders that are anxious with inspiring workers to reach performance benchmarks and meet task goals, in trade for compensations. These type of leaders are less worried about the individual needs of workers as in case of transformational leaders.

In totality, leadership can be described as a system of individual impact on a group of people aimed at the accomplishment of individual or organizational goals (Benscotter and Rothwell, 2012). Similarly, Muteswa (2016) stated the determining factors of leadership success in an organization as "the qualities of a good leader, the difference of a boss and a leader, emotional intelligence, objectives of leadership and the advantages of good leadership". Consequently, Shah and Pathak (2015) explored the important leadership qualities and characteristics among adolescent students. Their study was centered on students majorly in Mumbai and checklist of forty-seven (47) characteristics were provided to students to list any five qualities they consider while selecting a class leader. Confidence and honesty were the top qualities considered as the most important qualities of a class leader. Khan and Ahmad (2012) studied leader's interpersonal skills and its effectiveness at different levels of management. Different departments Kohat University of science and technology were considered. The results revealed team building skill is more important at the top management level while motivational skill is required at the low management level.

Despite the importance of leadership to improving organizational productivity and efficiency, studies on good leader qualities remain few especially in Nigeria. This paper therefore, aimed at filling this gap by exploring the qualities of a good leader using principal component analysis (PCA), and developing a model that highlights the qualities of a good leader.

2. Qualities of a Good Leader

There are diverse qualities that make-up a good leader and it varies from one organization/environment to another. The style of leadership may also differ. A leader may adopt transformational or transactional leadership style as the case maybe (Hossain, 2015). In same vein, Hossain (2015) identified twenty-four important qualities of a good leader in the 21st century. Lencioni (2008) also revealed some common qualities of successful leaders. Similarly, Sprous (2011) identified five principal qualities of this century leader. Clark (2010) also identified five important qualities of 21st century leader.

Similarly, Shah and Pathak (2015) identified confidence and honesty to be the most important qualities of a class leader. Archer, Verster, and Zulch (2010) identified the top most qualities of a good project manager. Toor and Ofori (2008) identified the key qualities of leaders. The identified qualities in past studies were summarized in Table 1.

3. Research Methods

As indicated in Fig. 1, the research process for this study is divided into four distinctive processes namely, literature survey, questionnaire design and distribution, questionnaire collection and data analysis, and presentation of result as done in a recent research by Olanrewaju and Okorie (2019). This approach was adopted to simplify the entire research processes. The study employed quantitative research method with the use of open-ended questionnaires to obtain appropriate information from respondents in different sectors of Nigerian economy. This method was articulated as a useful tool for creating and managing quantifiable significant pointers that can be conveyed in numbers and components (Glatte, 2015; Anifowose et al., 2018). To achieve the aim of this study, a literature survey was conducted on leadership qualities both internationally and locally. Furthermore, the review of relevant literature resulted in formulation of a structured questionnaire based on 5-point Likert-scale measurement. Questionnaire survey is easy to be conducted, inexpensive, and suitable

for measuring unobservable constructs (Tharenou et al., 2007). Fig. 2 shows the conceptual research model for this study. This indicates that good leadership qualities will lead to organizational success.

Table 1. Important qualities identified in past studies

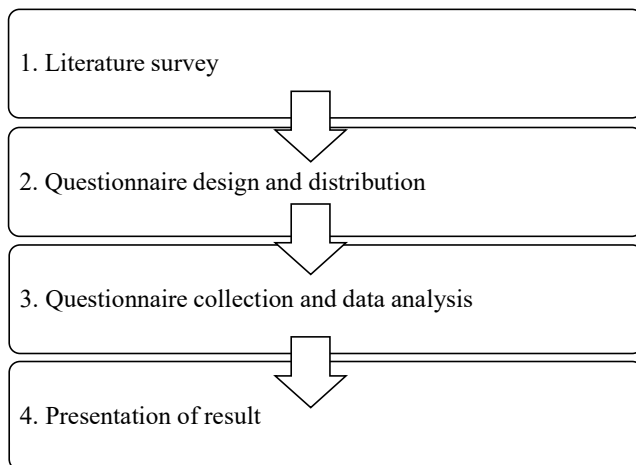| Author	Qualities Identified
Toor and Ofori (2008)	Hopeful, confident, optimistic, transparent, resilient, ethical and future oriented
Lencioni (2008)	Honesty, ability to delegate, communication, sense of humor, confidence and commitment
Clark (2010)	Genuine, self-awareness, leverage, transition, and supportive
Archer et al. (2010)	Communication, people skills and decision making skills, self-discipline, influence, integrity and reputation, and attitude
Sprous (2011)	Humility, empowering, collaborative, and communicative and fearlessness
Hossain (2015)	Honesty, vision, inspiration, communication, delegation, decision, courage, fairness, kindness, magnanimity, forward-looking, knowledge, competency, confidence, commitment, gentle, accountability, creativity, sense of humour, intuition, focus, assertiveness, optimism, and balance
Shah and Pathak (2015)	Confidence and honesty

1. Literature survey

2. Questionnaire design and distribution

3. Questionnaire collection and data analysis

4. Presentation of result

Fig. 1. Research process

Source: Okorie and Olanrewaju (2019)

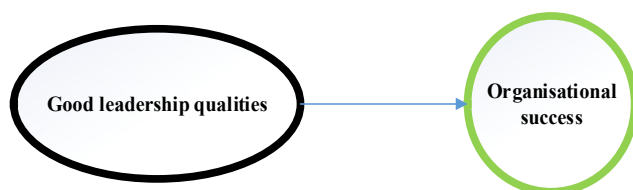Good leadership qualities → Organisational success

Fig. 2. Conceptual research model

Questionnaires were administered to top managements of companies within the construction industry, banking industry, food industry, and information technology industry in Lagos State, Nigeria. Lagos was selected as the desired location due to its speedy rate of development and large number of industries in the State. The main purpose of the open-ended questionnaire was to generate data for PCA. One hundred and fifty (150) questionnaires were distributed, one hundred and twenty-seven (127) were perfected and reverted, and this resulted in a response rate of 85%. Thus, the 85% response rate achieved in this paper provides reasonable data for analysis.

IBM SPSS version 23 and Microsoft Excel were used for data analysis. The study adopted inferential statistics PCA to analyze data obtained from the respondents. Table 2 shows the coding of the identified qualities of a good leader from literature survey and open-ended questionnaire distributed to respondents. The thirty-four qualities were identified after removing some similar and irrelevant qualities based on respondents' responses. Also, the respondents were given the opportunity to add any qualities they deem necessary.

Table 2. Coding of identified qualities of a good leader

Code	Qualities	Code	Qualities
QU1	Kindness	QU18	Good maintenance culture
QU2	Transparency	QU19	Selflessness
QU3	Vision	QU20	Courageous
QU4	Inspiration	QU21	Approachable
QU5	Forward-Looking	QU22	Energy
QU6	Motivation	QU23	Magnanimity
QU7	Honesty	QU24	Creativity
QU8	Training / Empowerment	QU25	Humility
QU9	Delegation	QU26	Optimism
QU10	Accountability	QU27	Sense of Humour
QU11	Open communication	QU28	Intuition
QU12	Commitment	QU29	Decision
QU13	Assertiveness	QU30	Focus
QU14	Confidence	QU31	Gentle
QU15	Good listening ear	QU32	Fairness
QU16	Trust worthy	QU33	Balance
QU17	Team building capacity	QU34	Competency

4. Analysis and Discussion of Results

4.1. Demographic Characteristics

Table 3 shows the demographic characteristics of the respondents. Majority of the respondents have bachelor degree (41%), while 28% have higher national diploma. Next were respondents with higher national Diploma (19%), master degree (9%), and national certificate of education (2%) with least number of respondents. This inferred that the respondents were knowledgeable enough to give reliable response. For age, majority of the respondents were between the age ranges of 26 – 30 years (38%), followed by the age ranges of 31 – 35 years (26%), next were respondents in age range of 36 – 40 years and 19 – 25 years with 17% and 15% respectively. Very few of the respondents are above 40 years (4%). This indicates that every age group was represented and the most

functional age group (26 – 30 years) dominated. For marital status, majority of the respondents were married (51%) while 30% were single, 12% were divorced, and 7% were widowed. For years of experience, 57% of the respondents have between 5 – 10 years' experience, followed by 25% with years of experience between 11 – 15 years, next were respondents with experience between 16 – 20 years (11%) while 7% of the respondents have less than 5 years' work experience.

Table 3. Demographic characteristics

Academic Qualification	F	%	Age	F	%
National certificate of education	3	2	19-25	19	15
National diploma	24	19	26-30	48	38
Higher national diploma	36	28	31-35	33	26
Bachelor degree	52	41	36-40	22	17
Master degree	12	9	Above 40	5	4
Total	127	100	Total	127	100
Marital Status	F	%	Years of Experience	F	%
Single	38	30	Less than 5 years	9	7
Married	65	51	5-10 years	72	57
Divorced	15	12	11-15 years	32	25
Widowed	9	7	16-20 years	14	11
Total	127	100	Total	127	100

F = Frequency; % = Percentage

4.2. Principal Component Analysis of the Qualities of a Good Leader

To test the appropriateness of the data on qualities of a good leader for further analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) and Bartlett test of sphericity (BTS) was conducted for the data on qualities of a good leader as shown in Table 4. The KMO value was 0.437 which is below 0.50 and BTS value was found to be significant at $p = 0.000$. The KMO value of 0.437 is less than the recommended value of 0.6 (Kaiser 1970, 1974; Okorie and Olanrewaju, 2019) and Bartlett's Test of Sphericity (Bartlett, 1954; Okorie and Olanrewaju, 2019) reached statistical significance, supporting the factorability of the data.

Table 4. KMO and Bartlett's Test for qualities of a good leader

Method		Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.437
Bartlett's Test of Sphericity	Approx. Chi-Square	1965.982
	df	561
	Sig.	0.000

Table 5 shows the summary of rotated factor matrix for the qualities of a good leader while Fig. 3 shows the developed model. Factor analysis was performed following Principal Component Solution with a Varimax Rotation with Kaiser Normalization (Kaiser, 1958; Okorie and Olanrewaju, 2019). The data fed into Factor analysis consisted of the data obtained from respondents (127). Thirteen components were extracted which accounted for 73.680% of the total variance from the 34 variables. These component factors were further rotated by Varimax solution. PCA was the method of extraction used and rotation converged in 12 iterations. The discussion of the result was based on the Varimax rotated factor matrix. For the purpose of discussing the result of factor matrix the factor loading of 0.50 or above are considered to be significant.

Component 1: Accessibility and dedication

This principal component accounts for 7.900% of the total variance of the qualities of a good leader. This component is composed of four factors; approachable, decision, commitment, and delegation. Thus, it is essential that leaders are approachable (0.822) and show reasonable level of decision making (0.797), commitment (0.702), and delegation (0.686). Hence, this component may be renamed as *"Accessibility and dedication"*. This component corroborates the findings of Hossain (2015) where it was revealed that leaders need to show some level of commitments for their team members to be committed to them as well.

Component 2: Neutrality and modesty

This principal component accounts for 6.976% of the total variance of the qualities of a good leader. This component is composed of two factors; balance and humility. Thus, leaders must know how to balance (0.901) up their work life and treat people with high level of humility (0.891). Hence, this component may be renamed as *"Neutrality and modesty"*. This component aligns with the findings of Hossain (2015) which reflected the importance of the ability of a leader to draw balance between different aspirations of life.

Component 3: Aspiration and attentiveness

This principal component accounts for 6.384% of the total variance of the qualities of a good leader. This component is composed of three factors; vision, good listening ear, and motivation. Thus, a good leader should have the ability to visualise (0.730), listen to people (0.681), and motivate (0.514) them towards the actualization of organizational goals. Hence, this component may be renamed as *"Aspiration and attentiveness"*.

Component 4: Believe and aptitude

This principal component accounts for 6.365% of the total variance of the qualities of a good leader. This component is composed of two factors; optimism and competency. It is important that leaders should demonstrate high level of optimism (0.932) and competency (0.912) in carrying out their duties. Hence, this component may be renamed as *"Believe and aptitude"*.

Component 5: Dignity and amiability

This principal component accounts for 6.358% of the total variance of the qualities of a good leader. This component is composed of two factors; magnanimity and gentle. Thus, leaders should embrace magnanimity (0.835) and gentleness (0.826) in their day to day work with

people as it facilitates good relationship with workers. Hence, this component may be renamed as *"Dignity and amiability"*.

Component 6: Insight and confidence

This principal component accounts for 5.935% of the total variance of the qualities of a good leader. This component is composed of two factors; intuition and courageous. Thus, leaders should have high level of intuition (0.905) to bring forth innovations and be courageous (0.879) to face challenges in any circumstance. Hence, this component may be renamed as *"Insight and confidence"*.

Component 7: Vitality and concentration

This principal component accounts for 5.804% of the total variance of the qualities of a good leader. This component is composed of two factors; energy and focus. Thus, leaders should have high level of energy (0.938) to focus (0.932) on the organizational goals. Hence, this component may be renamed as *"Vitality and concentration"*.

Component 8: Originality and honesty

This principal component accounts for 5.569% of the total variance of the qualities of a good leader. This component is composed of two factors; creativity and fairness. Thus, leaders should be creative (0.888) and fair (0.857) to their followers. Hence, this component may be renamed as *"Originality and honesty"*. This finding was found to be in line with Shah and Pathak (2015) where honesty was identified to be one of the most ranked qualities of a class leader.

Component 9: Responsibility and team spirit

This principal component accounts for 4.866% of the total variance of the qualities of a good leader. This component is composed of three factors; accountability, team building capacity, and training / empowerment. Thus, leaders should be accountable (0.659) for their actions, possess perfect team building capacity (0.618), and empower (0.564) followers to enable them be master

of their own. Hence, this component may be renamed as *"Responsibility and team spirit"*.

Component 10: Decency and self-assurance

This principal component accounts for 4.656% of the total variance of the qualities of a good leader. This component is composed of two factors; honesty and confidence. Leaders should exhibit traits of honesty (0.741) and confidence (0.575) to confront any challenge that may arise in the course of their tenure. Hence, this component may be renamed as *"Decency and self-assurance"*.

Component 11: Charitable

This principal component accounts for 4.558% of the total variance of the qualities of a good leader. This component is composed of two factors; kindness (0.734) and inspiration (0.692). Leaders should show reasonable level of kindness and inspiration so as to command respect from followers. Hence, this component may be renamed as *"Charitable"*.

Component 12: Comical and maintenance culture

This principal component accounts for 4.171% of the total variance of the qualities of a good leader. This component is composed of two factors; sense of humour and good maintenance culture. Leaders should have reasonable sense of humour (-0.738) to enable good relationship with followers. Also, they should have good maintenance culture (0.652) so as to maintain the facilities of the organization. Hence, this component may be renamed as *"Comical and maintenance culture"*.

Component 13: Reliability

This principal component accounts for 4.139% of the total variance of the qualities of a good leader. This component is composed of one factor; trustworthy. It is important for leaders to be trustworthy (0.813) as this improves the quality of relationship between leaders and followers. Hence, this component may be renamed as *"Reliability"*.
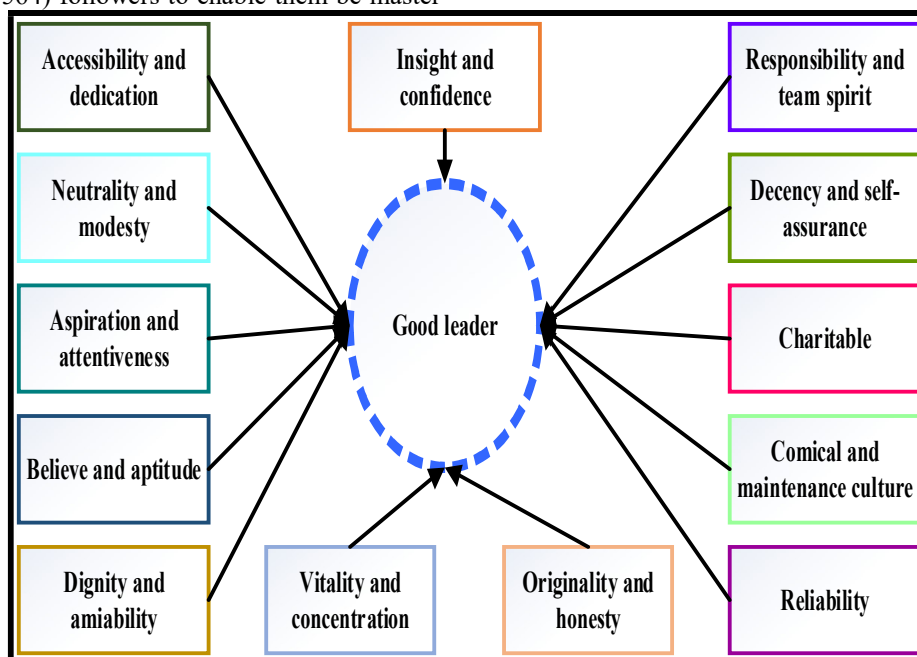

Fig. 3. Model for qualities of a good leader

Table 5. Rotated component matrix for qualities of a good leader

Category	Qualities	Code	Component 1	2	3	4	5	6	7	8	9	10	11	12	13
Accessibility and dedication	Approachable	**QU21**	0.822												
	Decision	**QU29**	0.797												
	Commitment	**QU12**	0.702												
	Delegation	**QU9**	0.686												
Neutrality and modesty	Balance	**QU33**		0.901											
	Humility	**QU25**		0.891											
Aspiration and attentiveness	Vision	**QU3**			0.730										
	Good listening ear	**QU15**			0.681										
	Motivation	**QU6**			0.514										
Believe and aptitude	Optimism	**QU26**				0.932									
	Competency	**QU34**				0.912									
Dignity and amiability	Magnanimity	**QU23**					0.835								
	Gentle	**QU31**					0.826								
Insight and confidence	Intuition	**QU28**						0.905							
	Courageous	**QU20**						0.879							
Vitality and concentration	Energy	**QU22**							0.938						
	Focus	**QU30**							0.932						
Originality and honesty	Creativity	**QU24**								0.888					
	Fairness	**QU32**								0.857					
Responsibility and team spirit	Accountability	**QU10**									0.659				
	Team building capacity	**QU17**									0.618				
	Training / Empowerment	**QU8**									0.564				
Decency and self-assurance	Honesty	**QU7**										0.741			
	Confidence	**QU14**										0.575			
Charitable	Kindness	**QU1**											0.734		
	Inspiration	**QU4**											0.692		
Comical and maintenance culture	Sense of Humour	**QU27**												-0.738	
	Good maintenance culture	**QU18**												0.652	
Reliability	Trustworthy	**QU16**													0.813

5. Conclusions and Recommendations

The qualities of a leader affect the operational efficiency of an organization and at the long run determine the overall success of such organization. The outcomes of this paper add to a better understanding of the qualities of a good leader in Nigeria context. This comprises both the theoretical description of the qualities of a good leader and categorization into groups. This study therefore presents the key thirteen (13) qualities of a good leader to be; 1) accessibility and dedication, 2) neutrality and modesty, 3) aspiration and attentiveness, 4) believe and aptitude, 5) dignity and amiability, 6) insight and confidence, 7) vitality and concentration, 8) originality and honesty, 9) responsibility and team spirit, 10) decency and self-assurance, 11) charitable, 12) comical and maintenance culture, and 13) reliability. Hence, it is recommended that leaders should put up these qualities so as to improve productivity and operational efficiency within the construction industry, banking industry, food industry, and information technology industry.

6. Research Limitations

Although this study has generated important findings on leadership qualities in organizations, its design is not without flaws. Based on the limitation of not being able to sample other important sectors of the economy such manufacturing industry, aviation industry and automobile industry and limited to only one State out of 36 States in Nigeria, future research should cover more sectors and States. In addition, to quantitative research approach used, a qualitative study of qualities of a good leader analysis should be conducted using qualitative means such as Delphi technique and focus group to evaluate the qualities first before subjecting it to rigorous analysis. This could help to maximize the strength and minimize the limitation of each method (Flick, 2014). Moreover, discussion of other known leadership theories is beyond the scope of this study.

Acknowledgements

References

Ahmed, A. and Bach, C. (2014). Major Traits/Qualities of Leadership. *International Journal of Innovation and Scientific Research*, 3(1), 47-53.

Anderson, A. R. (2013). Good Leaders Are Invaluable to A Company. Bad Leaders Will Destroy It. Retrieved from www.forbes.com/sites/amyanderson/2013/01/14/good-leaders-are-invaluable-to-a-company-badleaders-will-destroy-it/ on November 18, 2018.

Anifowose, O. M., Ilias, S., and Radzi, I. (2016). Factors affecting building security cost sustainability using PCA. *Journal of Financial Management of Property and Construction*, 21(1), 21-38.

Anifowose, O. M., Babarinde, S. A., and Olanrewaju, O. I. (2018). Adoption Level of Building Information Modelling by Selected Professionals in Nigeria. *Environmental Technology and Science Journal*, 9 (2), 35-44.

Archer, M., Verster, J., and Zulch, B. (2010). Leadership in Construction Project Management: Ignorance and

Challenges. *Proceedings of 5th Built Environment Conference*, Durban, South Africa, 18-20 July 2010.

Bartlett, M. S. (1954). A Note on the Multiplying Factors for Various Chi Square Approximations. *Journal of the Royal Statistical Society*, 16 (Series B), 296-8.

Bartlett, M. S. (1954). A Note on the Multiplying Factors for Various Chi Square Approximations. *Journal of the Royal Statistical Society*, 16 (Series B), 296-8.

Benscotter, G. M. and Rothwell, W. (2012). *The Encyclopedia of Human Resources Management: Thematic Essays*. United States of America: Pfeiffer.

Burke, R. and Barron, S. (2007). *Project Management Leadership*. United Kingdom: Burke Publishing.

Clark, N. L. (2010). *18 Holes for Leadership - How a Round of Golf Can Make You a Better Leader! A Business Tale for Leaders*, 2nd Paperback edition. USA: 3L Publishing, 79.

Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics*, 4th ed. Thousand Oaks, CA: Sage.

Flin, R. and Yule, S. (2004) Leading for Safety; Industrial Experience. *Quality and Safety Health Care*, 3(20), 45-51.

Glatte, T. (2015). Location strategies: methods and their methodological limitations. *Journal of Engineering, Design and Technology*, 13(3), 435-462.

Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective,* 7th ed. Upper Saddle River, N.J., London: Pearson Education.

Hofmann, D. and Morgeson, F. P. (2004). *The Role of Leadership in Safety*. In Baring, J. and Frone, M. R. (Eds.), The Psychology of Workplace Safety. Washington, DC American: Psychological Association.

Hossain, K. A. (2015). Leadership qualities for 21st century leaders. *Pearl Journal of Management, Social Science and Humanities*, 1, (1), 18-29.

Inness, M., Turner, N., Barling, J. and Stride, C.B. (2010). Transformational Leadership and Employee Safety Performance within-person, between-jobs design. *Journal of Occupational Health Psychology,* 15(3), 279-290.

Kaiser, H. F. (1958). The Varimax Criterion for Analytic Rotation in Factor Analysis. *Psychometrika*, 23(3), 187-200.

Kaiser, H. F. (1970). A second generation Little Jiffy. *Psychometrika*, 35, 401-15.

Kaiser, H. F. (1974) An index of factorial simplicity. *Psychometrika*, 39, 31-6.

Khan, A. and Ahmad, W. (2012). Leader's Interpersonal Skills and Its Effectiveness at different Levels of Management. *International Journal of Business and Social Science*, 3 (4), 296-305.

Kouzes, J. and Posner, B. Z. (2002). *The Five Exemplary Leadership. The Leadership Challenge: How to Get Extraordinary Things Done in Organizations*. San Francisco: Jossey-Bass, 85.

Lencioni, P. (2008). The Five Temptations of a CEO, Anniversary edition, Jossey-Bass, New York, USA, http://www.amazon.com/FiveTemptations-CEO-10th-Ann . Retrieved from June 23, 2018.

Muteswa, R. T. P. (2016). Qualities of a Good Leader and the Benefits of Good Leadership to an Organization: A Conceptual Study. *European Journal of Business and Management*, 8(24), 135-140.

Naoum, S. (2011). *People and Organisational Management in Construction*: 2nd ed: United

Kingdom: ICE Publishing, 40 Marsh Wall, London E14 9TP.

Northouse, P. G. (2011). *Leadership: Theory and Practice,* 5th ed. London: Thousand Oaks Sage.

Okorie, V. N. and Olanrewaju, O. I. (2019). Improving Environmental Health Hazards Emanating from Indiscriminate Dumping of Solid Waste Through Leadership Approach: A Case of Benin City, Nigeria. *PM World Journal*, 7(2) (February). doi: https://doi.org/10.13140/RG.2.2.18474.06088.

Olanrewaju, O. I. (2018). *Indicators of Economic Recession and the Construction Industry*. Lativa: LAP Lambert Academic Publishing.

Shah, S. and Pathak, K. (2015). Exploring Important Leadership Qualities and Characteristics among Adolescent Students. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 20(9), 46-52.

Sprous, M. (2011). *The Greatness Gap: Personal Strategies to Boost Your Professional Potential*, 3rd paperback edition. USA: Advantage Media Group Publisher, 276.

Tharenou, P., Donohue, R., and Cooper, B. (2007). *Management Research Methods*. Melbourne: Cambridge University Press.

Toor, S. and Ofori, G. (2008). Leadership for future construction industry: Agenda for authentic leadership. *International Journal of Project Management*. 26(6), 620-630.

Yukl, G. (2010). *Leadership in Organization*, 7th edition, New Jersey: Upper Saddle River.

Oludolapo Ibrahim Olanrewaju is a young multitalented Quantity surveyor, researcher and programmer. He attended Federal University of Technology, Minna where he studied Bachelor of Technology in Quantity surveying and graduated in 2017. He graduated with a First Class and emerged the best graduating student in department of Quantity surveying for 2017 set. Oludolapo has a strong passion for ICT and he has been involved in series of software projects like DOLLAQUESS (Quantity surveying software he designed), decision support systems, inventory manager and others. He works with Dollasoft Technologies as a Freelance Software Developer, Data analyst and Researcher and Arbico Plc as a Graduate Trainee (Estimator). His research interests are on environmental health, building information modelling, construction informatics, construction health and safety (H&S), construction management, construction emissions, green construction, etc. Oludolapo can be contacted on oludolapoolanrewaju2012@gmail.com.

Dr. Victor Nnannaya Okorie is a Senior Lecturer and currently serving as the Assistant Dean of Faculty of Environmental Sciences, University of Benin. He holds a Doctor of Philosophy Degree in Construction Management from the Nelson Mandela Metropolitan University, Port Elizabeth, South Africa in 2014. He is an Incorporate Member of the Chartered Institute of Building (ICIOB), United Kingdom, Professional Member of the Nigerian Institute of Quantity Surveyors (MNIQS) and Registered Quantity Surveyor (RQS). His research interest is on construction health and safety (H&S) with focus on culture, behaviour and leadership in relation to construction health and safety performance. Dr Victor can be contacted on victor.okorie@uniben.edu, v.okorie@yahoo.com.

Appendix
Research Questionnaire
Section A: Personal Data
1. Name of organization and location………………...
2. Profession of respondent in organization…….……
3. Highest academic qualification (please tick as appropriate)
   a. National Certificate of Education ☐
   b. National Diploma ☐
   c. Higher National Diploma ☐
   d. Bachelor Degree ☐
   e. Post Graduate Diploma ☐
   f. Master Degree ☐
   g. Doctorate Degree ☐
4. Age group of respondent (please tick as appropriate)
   a. 19 – 25 ☐
   b. 26 – 30 ☐
   c. 31 – 35 ☐
   d. 36 – 40 ☐
   e. Above 40 ☐
5. Marital status (please tick as appropriate)
   a. Single ☐
   b. Married ☐
   c. Divorced ☐
   d. Widowed ☐
6. Years of experience (please tick as appropriate)
   a. Less than 5 years ☐
   b. 5-10 years ☐
   c. 11-15 years ☐
   d. 16-20 years ☐

Section B: Qualities of a Good Leader
R = Relevant, N = Not relevant, 5 = Very Important, 4 = Important, 3 = Not sure, 2 = Least Important, and 1 = Not Important

Please tick as appropriate and add any additional qualities you deem necessary.

S/N	Qualities	R	N	5	4	3	2	1
1	Kindness							
2	Transparency							
3	Vision							
4	Inspiration							
5	Motivation							
6	Honesty							
7	Delegation							
8	Accountability							
9	Open communication							
10	Commitment							
11	Assertiveness							
12	Confidence							
13	Trust worthy							

14	Team building capacity							
15	Selflessness							
16	Courageous							
17	Approachable							
18	Energy							
19	Magnanimity							
20	Creativity							
21	Humility							
22	Optimism							
23	Sense of Humor							
24	Intuition							
25	Decision							
26	Focus							
27	Gentle							
28	Fairness							
29	Balance							
30	Competency							