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The Relationship Between Certain African Cultural Practices and Innovation Potential. A Case Study of Southwest Nigeria Cultural Practice

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ABSTRACT: Innovation is one of the key factors for growth and development in any society. However, there are many factors that can potentially impede innovation capacity. One of them is culture; this study has investigated how some African cultural practices can affect innovation potential. The author has taking into consideration such practices like prostrating, kneeling, bowing to show respect when greeting, and the perception that asking questions / been curious is impolite and disrespectful. Innovation can be triggered by curiosity and the desire to try new things; hence this research is an attempt to understand how intellectual curiosity and creativity can be stifled as a result of excessive adherence to certain cultural practices. The survey design used to collect primary data for the research featured 57 questions with total respondents of 502. Logistic regression was used to measure the predictive power and the degree to which the independent variables affected the target variable. 65% of respondents asserted that they grew up learning to be curious and had the cultural privilege to ask questions around older people. The study shows a positive relationship between growing up curious, asking questions around older people, and being potentially innovative while other cultural practices like showing respect by prostrating, kneeling, bowing, curiosity and not challenging traditional practices shows a negative relationship with innovation potential with the highest negative correlation value. However, this does not suggest that the continuous observance of these practices suppresses people's innovation potential because correlation does not imply causation. The findings in this study implies that for Africa and Nigeria to become more competitive with respect to innovation potential, it must embrace and prioritize an open culture that eliminates subjugation in any form, one that values curiosity, out of the box thinking and creativity.

KEYWORDS: Innovation, Cultural Practice, Development, Creativity, Society, Africa, Curiosity

Introduction

■ **Africa's ethnic and cultural variety complicates discussions. Africa comprises of 54 countries, each with its distinct demographics and physical regions. Most countries have populations exceeding 200 million, while the smallest have only a few hundred thousand. Nigeria particularly has over 200 million. Africa has a great innovation Potential,**

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additionally innovation is a necessity with the increase in Africa's population (Hlela, 2019; Sumberg & Hunt, 2019). Africa is undergoing significant transformation in information, communication and technology that will impact hundreds of millions of people. Therefore, Innovation contributes to the development of African countries and the capacity to innovate can be affected by prevalent cultures (Hooli & Jauhiainen, 2018; Sanga, 2017; Sanyang et al., 2016; Sumberg & Hunt, 2019).

Culture is known as a "shared-meaning system in which members of the same culture tend to perceive and evaluate situational events and behaviors similarly". These systems incorporate cultural components. In order words, incorporating innovation or technology in cultural practices possibly decreases the cultural practices due to its advancement (Georghiou, 2015; Lachney, 2017; Malele et al., 2019; Manyuchi, 2018; Swanson, 2019). Numerous research has been conducted on innovation, ascertaining its significant and determinants. However, there are limited studies on the effect of Africa cultural practice on innovation potential and capacity. This research paper focuses on two variables: *Cultural Practices and Innovation Potential* (Asaah et al., 2020; Christ et al., 2018; Nyssen Guillén & Deckert, 2021; Tomaselli, 2021). There are many triggers of innovation, however two of them stands out for the purpose of this study; Curiosity as one of the known traits of innovative people, inquisitiveness, and the drive to try new things or proffer solution. As a result, the objective of this study is to understand the effect and implications of the following:

I) What is the relationship between growing up inquisitive, curious, asking questions around older people, and the potential to be innovative?

II) What is the relationship between the cultural practices of not asking questions, not challenging traditional practices, greeting, or showing respect by prostrating, kneeling, or bowing down, and building innovation potential?

III) What is the relationship between been encouraged to be innovative and innovation potential.

Research Methodology

The survey design used to collect the primary data for this research featured 57 questions with total respondents of 502. Among the 57 questions in the survey instrument, 56 had missing values. The study removed questions with missing values from 100 and above, owing to many missing values. This reduced the number of survey questions to 37. Every missing response was replaced with the most occurring response in every question to deal with the missing data. After careful examination of survey questions and their effect on the reliability and validity of the survey, only five questions were considered for further analysis. These five questions (one being the target variable and four being the independent variables) were chosen because they showcased several cultural practices common among Nigerians ethnic groups.

The study used Pearson Correlation to evaluate the relationships between the dependent and independent variables. Logistic regression was used to measure the predictive power and the degree to which the independent variables affect the target variable. In evaluating the integrity of the analysis, metrics such as accuracy, precision, recall and f1 scores were used.

The following questions were considered for this study:

Table 1

Numbers	Questions
11	Did you grow up learning to be curious and asking questions around older people?
12	Is it perceived to be wrong to ask questions around older people or challenge traditional practice in your culture?
13	Do you greet, show respect to older people by prostrating, kneeling, or bowing in your culture?
14	Do you think there are elements of your culture that limits you from being creative & Innovative?
10	As a child, were you encouraged to be innovative? (Target question)

Analysis, Results and Findings

As shown in the plot in Fig 1 above, 65% (*266 + 59*) of the respondents asserted that they grew up learning to be curious and had the cultural privilege to ask questions around older people. In other words, their culture did not inhibit them from being inquisitive, particularly around their elders. The plot further shows that 82% of these respondents who could ask questions were encouraged to be innovative. Interestingly, 68% of those who could not ask questions were not encouraged to be innovative, which is a more significant percentage when compared to the 18% who were not encouraged to be innovative among the category of respondents who could ask questions while growing up.

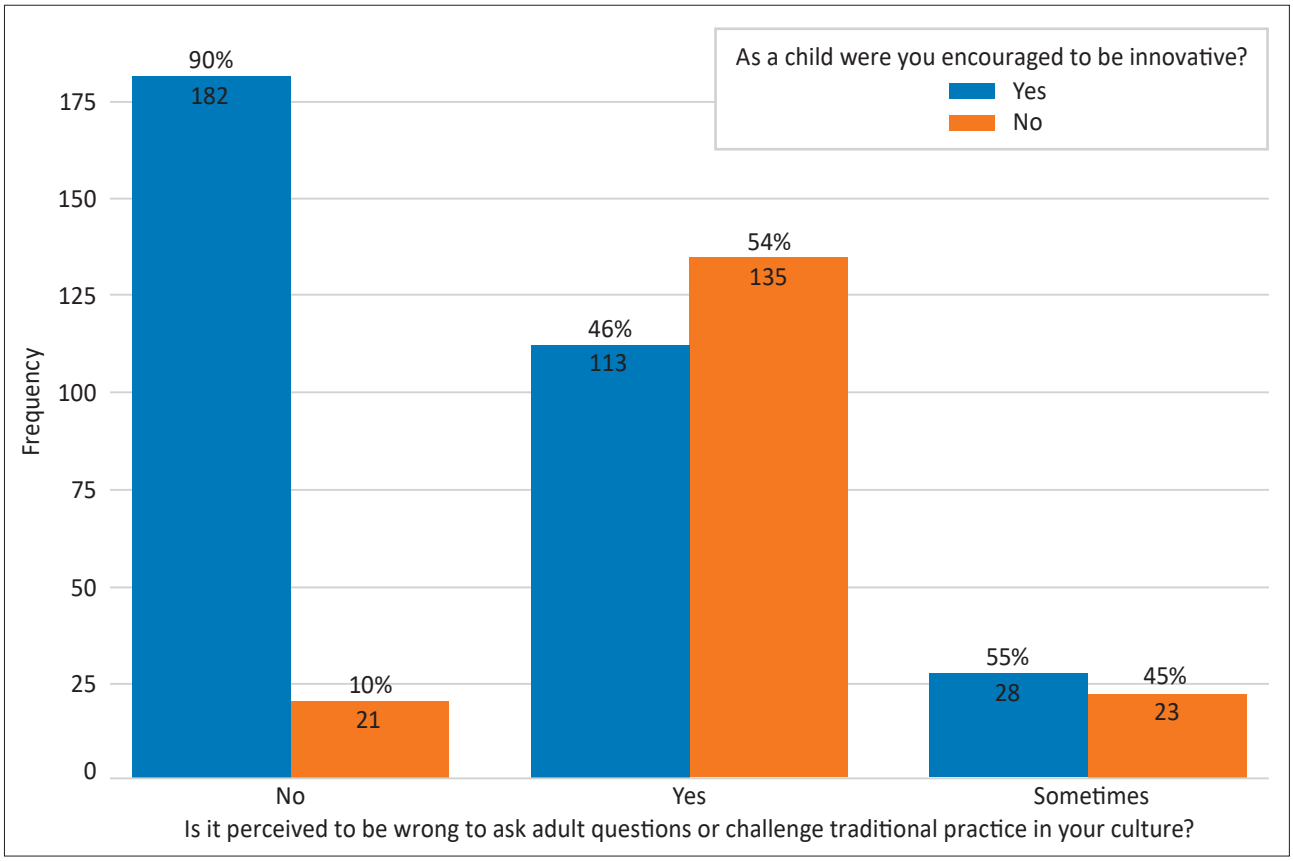
The interest categories here are those who answered No and Yes to the question "Is it perceived wrong to ask adult questions?". As shown in the plot Fig 2,90% of those who did not perceive it wrong to ask adult questions were encouraged to be innovative. Compared to the 46% who were only encouraged to be innovative among those whose culture perceived it wrong to ask adult questions, the plot clearly shows that those whose culture has nothing against children asking older people questions were more encouraged to be innovative as children.

For those who answered yes, it is almost difficult to say how this cultural practice affected their innovation potential because of the small margin between those who were encouraged to be innovative and those who were not. However, what makes the difference here is the margin between those who were not encouraged to be innovative in the two categories, i.e., those (54%) who were not encouraged to be innovative among those who answered "Yes" greatly surpassed those (10%) who answered No. This shows consistency with the result obtained from the question about learning to be curious while growing up and how it affects innovation potential.

Here is another dimension of cultural practices and how they affect innovation potential. Also, the categories of interest here are those who answered Yes and No. Nigeria is an African country diverse in culture and ethnicity, where failure to observe certain practices like prostrating (for a male child) and kneeling (for a female child) is believed to be a lack of respect.

The plot in Fig 3 shows a minimal margin between those (51%) who were encouraged to be innovative and those (49%) who were not among the category of respondents who answered "Yes". Although, Nigeria is diverse in culture, hence this research work has considered mostly the southwestern part

Fig 1



of Nigeria. It's important to note that not all cultures in Nigeria observe prostrating and kneeling. However, there are similar forms of physical expressions of respects and greetings (like bowing the head or shaking hands with heads bowed) this also portrays. The notable difference in this case is in the respondents who do not observe the cultural practice of prostrating and kneeling which shows that 91% were encouraged to be innovative.

Fig 2

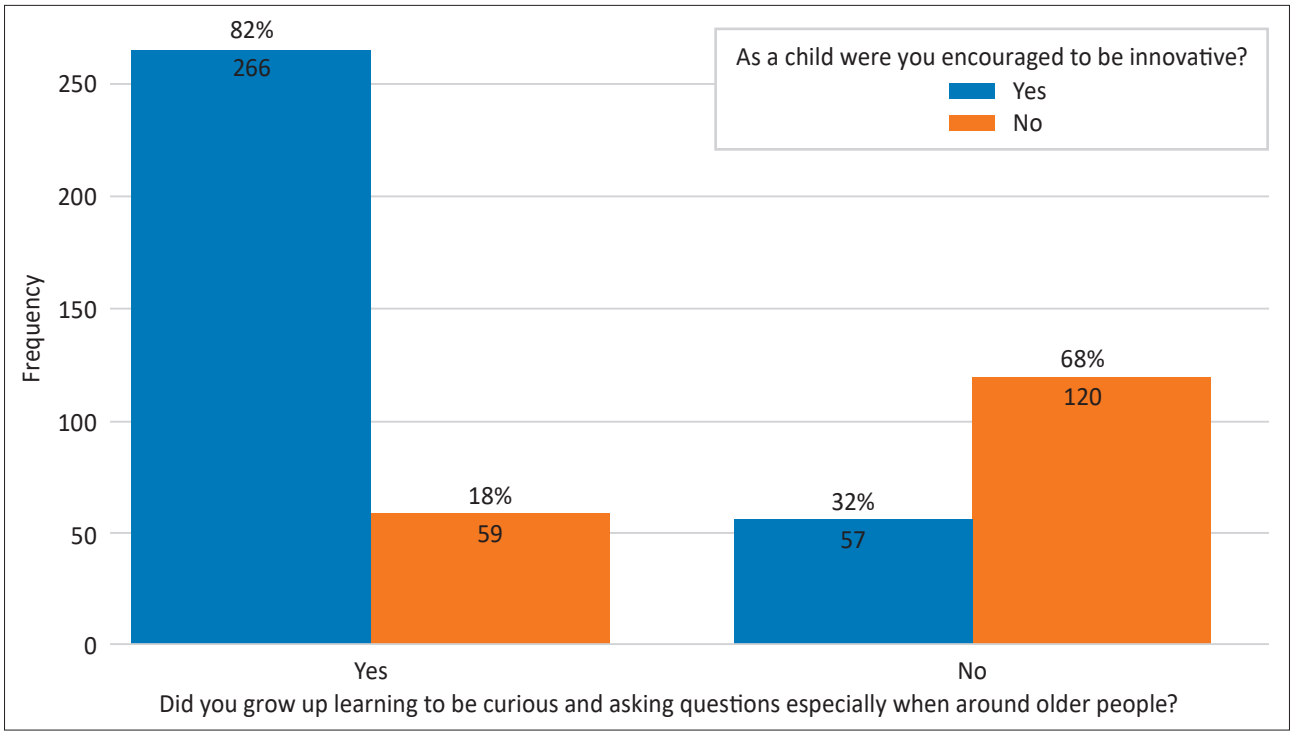


Fig 3

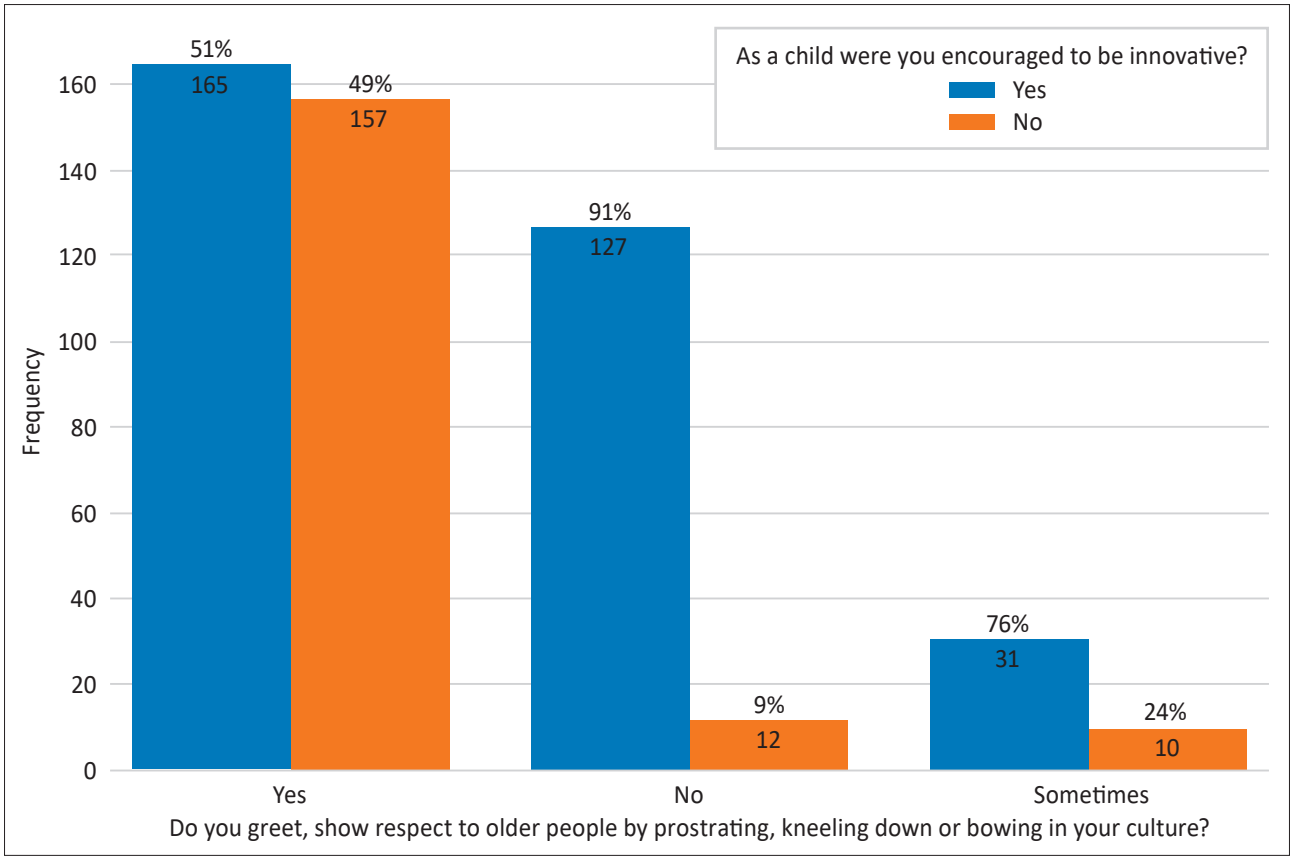
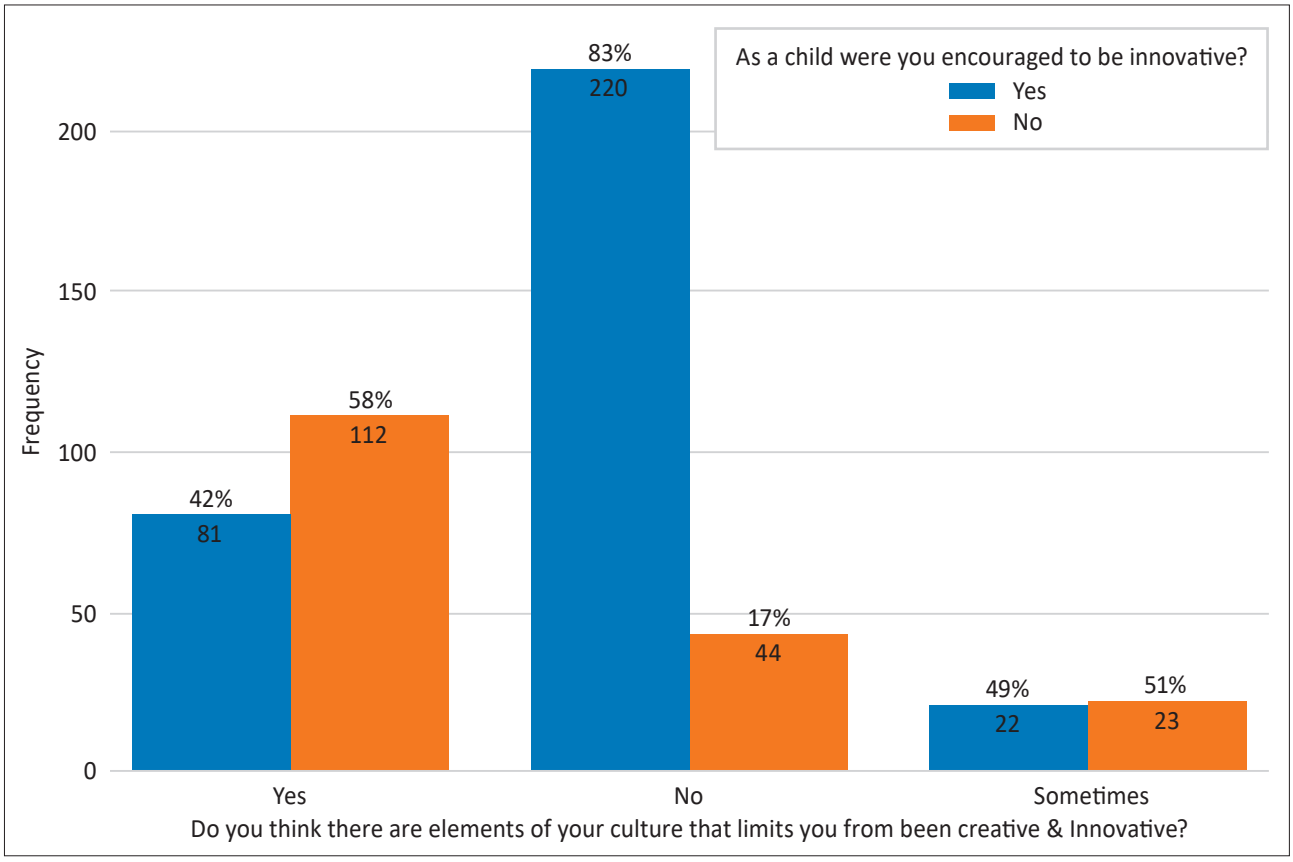


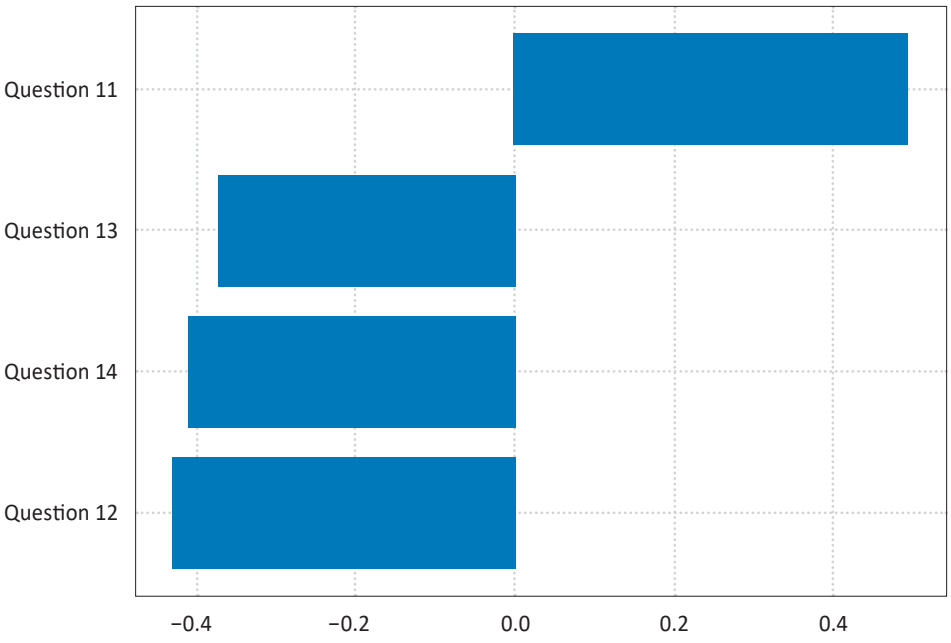
Fig 4



With a ratio of 5 to 1, the plot in Fig 4 clearly shows how those who asserted that no elements of their culture limit their innovation capacity. In other words, those whose culture does not limit their innovation capacity were mainly encouraged to be innovative while growing up. One could infer that the analysis in fig 4 is the summary of the first three (3) questions.

As shown in the plot in Fig 5, the features in the Pearson Correlation Were Questions 11, 12, 13, and 14. (independent variables questions) They were correlated with Question 10(target question) as considered earlier in the four (4) plots. (Fig 1, Fig 2, Fig 3 and Fig 4)

Fig 5



The plot in Fig 5 shows a positive relationship between growing up curious, asking questions around older people, and been encouraged to be innovative. This means that all things been equal, given proper circumstances, and if other factors do not come to play, people who grow up, unlimited by these cultural practices and are encouraged to be innovative would likely develop more innovation potential and are likely to innovate.

The plot in Fig 5 also shows a negative relationship between the cultural practices of not asking older people questions, not challenging traditional practices, greeting by prostrating, kneeling, or bowing down, and been encouraged to be innovative. This implies that, the more these practices are observed, the less likely people will develop and build innovation potential. It's important to note that these cultural practices, i.e., showing respect by prostrating, kneeling, bowing, not asking older people question and not challenging traditional practices are all considered together as elements of cultural practices that could limit peoples curiosity, inquisitiveness and the ability to want to try new things. However, this does not suggest that the continuous observance of these practices suppresses people's innovation potential. This is because correlation does not always imply causation.

To test the predictive power of the features on the target, Logistic Regression was used to classify these two classes, i.e., those who were encouraged to be innovative while growing up and those who were not encouraged to be innovative while growing up. In evaluating the performance of classification models, metrics such as accuracy, precision, recall and f1 scores are used. While the accuracy score of the model shows 81%, it is not enough to conclude that the model performed well. After further investigation, using the precision score (the number of optimistic class predictions that belong to the positive class), recall score (how good the model was at predicting the positive class), and f1 score (a balance between precision and recall), it was evident that the model performed well at predicting the positive class which is the class of interest. Therefore, the features can be relied upon as good target predictors.

Fig 6

Classification Report

	precision	recall	f1-score	support
0	0.740741	0.625000	0.677966	32.000000
1	0.837838	0.898551	0.867133	69.000000
accuracy	0.811881	0.811881	0.811881	0.811881
macro avg	0.789289	0.761775	0.772549	101.000000
weighted avg	0.807074	0.811881	0.807199	101.000000

Confusion Matrix

	Predicted: YES	Predicted: NO
Actual: YES	20	12
Actual: NO	7	62

Discussion

The effects of some Africa cultural practices on innovation capacity were examined in this study. The data were categorized using a process that considered both innovation potential and cultural practice characteristics. Numerous studies and scholars have opined that innovation can assist in growing and prospering economies (Asaah et al., 2020; Dowling & Grier, 2015; Gad David et al., 2021; Malele et al., 2019; Merolla, 2020; Sanga, 2017; Sumberg & Hunt, 2019). Additionally, it is critical for maintaining competitiveness and maximizing future potential. African cultural practice such as not being able to ask questions especially when around older people, not being able to challenge traditional practice, prostrating, kneeling, or bowing to show respect are referred to as elements of culture that potentially can impact creative & Innovation. (Fennell, 2017; Georghiou, 2015; Habiyaremye, 2020; Merolla, 2020; Nwosimiri, 2021; Tomaselli, 2021).

Geerts Hofstede is the scientist proponent of the most comprehensive studies on how much the attitudes, behaviors, policies and strategies in the business world are affected by social culture. The sub-dimension of social culture is based on his study. (Hofstede Insights, 2019). Hofstede's (1980)

value dimensions offer a measure of one component of culture (cultural values) and are a means of gaining greater understanding of the role culture plays in national innovation success. Hofstede's Cultural measures of individualism, uncertainty avoidance, and power distance, for example, have been shown to be correlated to the number (per capita) of trademarks (Shane, 1993). Power distance is defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. Nigeria especially scores 80 which is high on this dimension (Hofstede Insights, 2019) which means that people accept a hierarchical order in which everybody has a place, and which needs no further justification. Hierarchy in an organization is seen as reflecting inherent inequalities.

The result of this research suggests that African cultural practice such as not being able to ask questions especially when around older people, not being able to challenge traditional practice, prostrating, kneeling, or bowing to show respect are all characteristics embedded in power distance. This research contributes to academic knowledge by expanding innovation and African culture (Fennell, 2017; Forson, 2020). An examination of studies on culture and performance indicated a direct correlation between culture and innovation. (Rinne, Steel and Fairweather, 2011) found a strong negative relationship between Hofstede's dimensions of power distance and General Innovation Index (GII) scores as well as a strong positive relationship between individualism and GII innovation scores. No relationship was found for Hofstede's measure of uncertainty avoidance. Similarly, Malele et al. (2019) assert that an internally closed culture may be detrimental than an outward-focused culture.

The findings in this study corroborate past studies indicating that formal structure, policies, and procedures inhibit innovation because innovation significantly depends on the spread of information. In cultures that exhibit high power distance, communication across functional or hierarchy boundaries is more difficult, making it impossible possible to connect different creative ideas and thoughts, which can then lead to lack of curiosity, creativity, and innovation. (K Williams & SJJ McGuire, 2005). Consequently, our study indicated that an open culture promotes innovation potential, but a hierarchical culture with high power distances discourages it.

Conclusion and Recommendation

Conclusively, this study has investigated how certain African cultural practices affect innovation potential. Based on empirical evidence, we can therefore conjure that there is a positive relationship between growing up curious, asking questions around older people, challenging tradition / cultural practices and developing innovation potential. The research has also shown a negative relationship between the cultural practices of not asking questions around older people, not challenging traditional practices, greeting by prostrating, kneeling, or bowing down, and building innovation potential. Summarily cultural factors appear to have a significant impact on Africa's innovation performance. The findings in this research are beneficial for economically emerging African countries. It has a direct effect on practitioners and policy makers. Potential Innovators should consider their culture and understand what can aid or impede innovation capacity. African leaders therefore should prioritize fostering cultures that values curiosity, creativity, and openness. As a result, future research should elucidate on the relationship between the types of innovation and African cultures.

References

Asaah, J. A., Yunfei, S., Wadei, K. A., & Nkrumah, K. F. A. (2020). Cultural orientations and product innovation in the Ghanaian banking sector. *The Service Industries Journal*, *40*(7–8), pp. 518–541. DOI: 10.1080/02642069.2019.1569635.

Christ, T., Chiu, M. M., Rider, S., Kitson, D., Hanser, K., McConnell, E., Dipzinski, R., & Mayernik, H. (2018). Cultural relevance and informal reading inventory performance: African American primary and middle school students. *Literacy Research and Instruction*, *57*(2), pp. 117–134. DOI: 10.1080/19388071.2018.1424274.

Dowling, T., & Grier, L. (2015). "Mnandi-licious!" trends in African language usage in South African television advertising. *Social Dynamics*, *41*(3), pp. 555–575. DOI: 10.1080/02533952.2015.1107963.

Fennell, C. C. (2017). Innovation, Industry, and African American Heritage in Edgefield, South Carolina. *Journal of African Diaspora Archaeology and Heritage*, *6*(2), pp. 55––77. DOI: 10.1080/21619441.2017.1345105.

Forson, J. A. (2020). Innovation financing and public policy dilemmas in the Economic Community of West African States (ECOWAS). *African Journal of Science, Technology, Innovation and Development*, *12*(1), pp. 1–11. DOI: 10.1080/20421338.2019.1599575.

Gad David, K., Yang, W., Pei, C., & Moosa, A. (2021). Effect of transformational leadership on open innovation through innovation culture: Exploring the moderating role of absorptive capacity. *Technology Analysis & Strategic Management*, *0*(0), pp. 1–16. DOI: 10.1080/09537325.2021.1979214.

Georghiou, C. A. (2015). Cultural diplomacy: Should South Africa give it a try? *South African Journal of International Affairs*, *22*(4), pp. 497–511. DOI: 10.1080/10220461.2015.1126197.

Habiyaremye, A. (2020). Knowledge exchange and innovation co-creation in living labs projects in South Africa. *Innovation and Development*, *10*(2), pp. 207–222. DOI: 10.1080/2157930X.2019.1580940.

Hlela, Z. (2019). "We Are Born Like That": Unpacking an Indigenous African Cultural Practice as a Community Learning Place. *Southern African Journal for Folklore Studies*, *29*. DOI: 10.25159/1016-8427/4826.

Hofstede Insights, (2019). The 6 dimensions of national culture. Retrieved from: https://www.hofstede-insights.com/models/national-culture/.

Hooli, L. J., & Jauhiainen, J. S. (2018). Building an innovation system and indigenous knowledge in Namibia. *African Journal of Science, Technology, Innovation and Development*, *10*(2), pp. 183–196. DOI: 10.1080/20421338.2018.1436737.

Jauhiainen, J., & Hooli, L. (2019). *Innovation for Development in Africa*. DOI: 10.4324/9780429328978.

Lachney, M. (2017). Computational communities: African-American cultural capital in computer science education. *Computer Science Education*, *27*(3–4), pp. 175–196. DOI: 10.1080/08993408.2018.1429062.

Malele, V., Mpofu, K., & Muchie, M. (2019). Bridging the innovation chasm: Measuring awareness of entrepreneurship and innovation policies and platforms at the universities of technology in South Africa. *African Journal of Science, Technology, Innovation and Development*, *11*(7), pp. 783–793. DOI: 10.1080/20421338.2019.1586110.

Manyuchi, A. E. (2018). Conceptualising and institutions facilitating 'use' of innovation indicators in South Africa's science, technology and innovation policymaking. *African Journal of Science, Technology, Innovation and Development*, *10*(4), pp. 483–492. DOI: 10.1080/20421338.2018.1475542.

Merolla, D. (2020). Cultural heritage, artistic innovation, and activism on Amazigh Berber websites. *Journal of African Cultural Studies, 32*(1), pp. 42–59. DOI: 10.1080/13696815.2019.1624153.

Nwosimiri, O. (2021). *African Cultural Values, Practices and Modern Technology* (pp. 89–102). DOI: 10.1007/978-3-030-70550-3_6.

Nyssen Guillén, V. I., & Deckert, C. (2021). Cultural influence on innovativeness—Links between "The Culture Map" and the "Global Innovation Index". *International Journal of Corporate Social Responsibility*, *6*(1), pp. 1–12. DOI: 10.1186/s40991-021-00061-x.

Rinne, T., Steel, G. and Fairweather, J. (2011). Hofstede and Shane Revisited. *Cross-Cultural Research*, 46(2), pp. 91–108.

Sanga, I. (2017). Antinomies of African aesthetics and the impulses of aesthetic relativism: Reading p'Bitek, Abiodun and Agawu. *African Identities*, *15*(3), pp. 310––323. DOI: 10.1080/14725843.2017.1291327.

Sanyang, S., Taonda, S. J.-B., Kuiseu, J., Coulibaly, N., & Konaté, L. (2016). A paradigm shift in African agricultural research for development: The role of innovation platforms. *International Journal of Agricultural Sustainability*, *14*(2), pp. 187–213. DOI: 10.1080/14735903.2015.1070065.

Shafi, A. A., Sirayi, M., & Abisuga-Oyekunle, O. A. (2020). Issues, challenges and contributions of cultural and creative industries (CCIs) in South African economy. *Creative Industries Journal*, *13*(3), pp. 259–275. DOI: 10.1080/17510694.2019.1710070.

Shanmuganathan, A. (2018). Product Innovation: Impact of Organizational Culture in Product Innovation. *International Journal of Advancements in Research and Technology*, *7*(7), 83. Retrieved from: https://www.academia.edu/37187617/Product_Innovation_Impact_of_Organizational Culture_in_Product_Innovation.

Shane, S. (1993). Cultural influences on national rates of innovation. *Journal of Business Venturing, 8*(1), pp. 59–73.

Sumberg, J., & Hunt, S. (2019). Are African rural youth innovative? Claims, evidence and implications. *Journal of Rural Studies*, *69*, pp. 130–136. DOI: 10.1016/j.jrurstud.2019.05.004.

Swanson, A. (2019). Codifying African dance: The Germaine Acogny technique and antinomies of postcolonial cultural production. *Critical African Studies*, *11*(1), pp. 48–62. DOI: 10.1080/21681392.2019.1651663.

Tomaselli, K. G. (2021). Australian cultural policy studies, South African exceptionalism. *Continuum*, *35*(3), pp. 414–426. DOI: 10.1080/10304312.2021.1902153.

Williams, K. & McGuire, S.J. (2005). Effects of national culture on economic creativity and innovation implementation. *The Institutions of Market Exchange, 3*(1), pp. 31–40.