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# Integration of Economic, Educational and Socio-Cultural Capabilities for Rural Poverty Alleviation in Northern Ghana

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#### **ABSTRACT**

In recent times, capability approach has obtained more distinction as an effective tool for alleviating poverty in both developing and developed countries. This study's main objective is to use three types of community capabilities: Economic, Educational, and Socio-cultural, in solving rural poverty in the northern part of Ghana. Data were collected from 302 respondents from the five regions in the northern part of Ghana: Northern Region, Savannah Region, North East Region, Upper East, and Upper West Region through an online survey. However, 280 responses were used in the analysis due to partial responses and missing figures. The data collected were analyzed using partial least squared based on Structural Equation Modeling (SEM). The findings indicated that economic capability has the greatest influence on rural poverty alleviation and was statistically significant at p< 0.05. This finding provides useful insights and suggestions for Ghana's policymakers to implement more sustainable economic policies to boost the local economy/business sector. The result can serve as a justifiable tool for reducing poverty in rural communities.

KEYWORDS: Economic Capability, Educational Capability, Socio-Cultural Capability, Rural Poverty, Ghana

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## 1. INTRODUCTION

Ghana is one of the countries located in the sub-Sahara Africa, making major progress in reducing poverty [1]. Structural reform was introduced between 2001 and 2010 in response to the rising poverty rates along with Ghana Poverty Reduction and Growth Strategies (GPRS I & II). Later, the Presidential Special Initiatives (PSIs) and Social Protection Programs were implemented towards the efforts to combat poverty [2]. According to a report on Ghana's poverty trends by Ghana Statistical Service, 24.2 percent of the population was defined as poor in 2012/2013, with a poverty gap index of 7.8 percent (thus, the mean income of the poor falls below the poverty line by 7.8%). These percentages indicate that about 6.4 million people in Ghana are poor [3]. The Greater Accra Region (Ghana's capital city) recorded extreme poverty rate of 8.2% and 13.8% moderate poverty rates in 2013. In the northern part of Ghana where this research took place, extreme and moderate poverty rates stood at 81% and 90% respectively, (thus, percentages below the national poverty line) as at 2013 [3].

As against this backdrop, the northern part of Ghana has attracted several operational and advocacy groups in recent years. These groups seek to represent the vulnerable voices

by empowering, implementing and supporting poverty reduction strategies and policies [4]. Although, these advocacy groups have been operating for a good number of years, poverty rates continue to soar higher in these areas [5]. So, the question is, what other strategies can be adopted to better the lot of the rural poor living in the northern part of Ghana? This research adopts the community capability approach using three types: economic capability, educational capability, and socio-cultural capability to know the effect each has on rural poverty alleviation in northern Ghana.

# 2. Theories and Hypotheses development

#### The Concept of Rural Poverty

The term rural is characterized by a relatively small populace location and is usually separated from highly economically viable areas with the main occupation of the people being crop and animal farming. The people of this location attach great credence to their culture and values Willits and Bealer [6]. Globally, poverty has over 20 years now gained more exposure due to the global millennium development goal's number 1 target, which is "Ending poverty in all its forms everywhere." But poverty is a multidimensional concept and relative, so it is difficult for

theorists to come up with a single definition [7]. Chen and Ravallion [8] defined poverty as the inability of a person to acquire basic needs, including food, water, shelter, and clothing. They further explained that lack of basic education, inability to access primary healthcare, lack of security, and social protection are characteristics of poverty. Poverty can be termed as absolute and relative [9]. Others see it in the form of income levels and in a multi-dimensional way [10], and it is in a state of rural or urban [11]. It is therefore evident from the above literatures that, indeed, poverty indicators are numerous and not just the mere absence of income, and it is also a complex and ever-changing concept [12]. In this research, we base on Sen's capability approach to defining rural poverty as individuals' inability to build their economic, educational, and socio-cultural capabilities to meet their human and social needs [13].

While rural poverty in other parts of the world is linked to human skills and capabilities limitations, sub-Saharan developing African countries like Ghana's rural poverty are mostly related to food security and lack of primary education. Nonetheless, our research will employ Sen's capability approach in Ghana to develop the rural poor's economic, educational, and socio-cultural capabilities to see if this approach will work in sub-Saharan African countries.

## Community Capability

Many scholars have revealed that many communities address the social and economic crisis, with only a small percentage of their total capacity. Significant community capacity is unexploited and, in essential, poses the challenge of community engagement [14]. Kwong and Kan [15] believes communities can build capacities through the interaction of human capital, organizational resources, and social capital to solve collective problems and improve or maintain a given community's well-being. It may operate through informal social processes and organized effort Chaskin [16]. In Chaskin's work, the researcher focused on three components of community capacity theory: human, social organizational resources as local resources needed to achieve community development.

## 2.3. Capability Approach (CA)

The CA as proposed by Amartya Sen is used to evaluate the human welfare assessment [17]. Human capital development in education (formal and informal) is usually seen as a useful tool for every local business to excel, positively affecting rural poverty alleviation [18]. The capability approach considers poverty as a multi-dimensional concept and needs to develop human skills and abilities for sustainable development and poverty alleviation [19]. Thus, the capability technique is employed to asses human well-being with the notion that people should be given liberty for growth by building their skills and capabilities. The capability approach is a framework for evaluating individual welfare. It is established on the concept of functioning and abilities [20]. Amartya Sen defines functioning as what one decides to achieve, which entails the activities the person engages in and his/her state of existence, such as being healthy, having the freedom to move about freely, having somewhere to sleep, and gaining some form of education. Therefore, the capability approach is of the notion that a person can potentially achieve whatever he /she wants and to live freely in diverse ways [21]. Some scholars have criticized Amartya's theory of capability because they think

it lacks accurate indicators to measure poverty; others believe it is the right tool for human well-being measurement. The capability theory has four main dimensions: first, commodities, goods, and services rightfully belonging to households obtained by using available resources. The second is functioning; achievements one can get through his/her skills and capabilities. The third is utility; thus, the desired result one wants to achieve and the last but not the least; endowment; referring to the resources available for an individual to use for growth and development. From the above literature, one can say that indeed Sen's CA is probably a useful or effective tools to assess poverty, which is seen worldwide as a multidimensional issue. [20].

## **Building of Different Capabilities for Rural** Poverty Alleviation

Relationship between Economic Capability and Rural **Poverty Alleviation** 

The economic capabilities of a community can be seen form of the income levels of citizens or community members, their ability to access information from the established markets, and the ability to acquire knowledge and skills needed to transform resources available at one's disposal to goods and services for economic development [20]. A study conducted by Karnani [22] suggests that for any government to increase an economy's economic capability, they must first establish channels to serve as pipelines through which these developments can be made to reach the masses. The researcher mentioned that for the poor to escape from impoverishes, governments and other stakeholders need to generate employment avenues to increase the employability rate while systematically making the labor market highly resourceful [22]. Community's economic capacity can be developed by increasing employment rate, reducing corruption and dysfunctional systems, and equality in rural communities' service delivery [23]. Also business-like strategies must be employed by deprived communities for them to increase economic capabilities [24]. Ndaguba and Hanyane [25] found out that increasing employment rate, reducing poverty and equal service delivery for remote communities, and promoting local businesses can boost these areas' economies, thereby alleviating poverty on the whole. Based on the above literature, the researchers suggest that:

## H1: There is a positive relationship between economic capability and rural poverty alleviation.

Relationship between Educational Capability and Rural **Poverty Alleviation** 

Educational can never be swept under the carpet so far as poverty alleviation goal is concerned. Naminse and Zhuang [20], stated that people acquire knowledge through education and training [20]. Education provides the necessary intellectual skills individuals need to be able to access opportunities around them which has a potential of increasing productivity and efficiency, Becker, Spencer [26]; Nasir and Nazli [27]. Mihai, Ţiţan [28] conducted a research in Romania, Europe found that to acquire knowledge through education is surely the way to go so far as individual economic development is concerned. The researcher further revealed that high productivity is commonly associated with knowledge acquired through some form of education. Also, tons of research conducted in the educational field show a positive relationship between education (formal and informal) and economic development. Campbell [29] observed that persons with higher levels of education are likely to acquire the needed knowledge that will enable them achieve their goals of becoming entrepreneurs as well as fulfilling their desired goals in life. Another survey conducted by McMullan and Gillin [30], revealed that about 87% of students who graduated with entrepreneurship education background were able to start their own firms with little or no help from external sources. This is to affirm that education indeed has over centuries-built skills and capabilities needed by individuals to improve their wellbeing thereby alleviating poverty at large. Based on the above literatures, we suggest that:

## H2: There is a positive relationship between educational capability and rural poverty alleviation.

Relationship between Socio-Cultural Capability and Rural Poverty Alleviation.

Society and cultural values are interconnected because they form the basis of people's abilities to achieve higher entrepreneurial and economic aspirations [20]. Most rural communities employ the social capital theory for restructuring because the theory can easily help build other forms of capital [31]. Bourdieu 1986 defines social capital theory as "the aggregate of the actual or potential resources

which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" [32]. For every community to develop, the cultural heritage and values of the people must be inculcated into developmental plans in order for the citizens to be familiar with the processes and procedures of development and be fully incorporated in the decision making and implementation stages [33]. Now, culture is defined by belief systems, values, norms, behaviors, meanings, depository of knowledge and experience, hierarchies and religious affiliations, the concepts of creation, philosophies of time among others gained over time by a group of people and which are transferred to posterity [34]. Culture is dynamic and enables people to have bonds and relationship with each other on individual basis or community level at large. In the same manner, business relations within communities are also fostered by cultural values and norms people hold and share in common. These cultural values are not only experienced at individual or community level, it is equally experienced in business and trade among nations across the world to seek market information and resources to support their economic growth and development [33].

## H3: There is a positive relationship between sociocultural capability and rural poverty alleviation.

## 2.5. The Conceptual Framework

Based on the literature review and theory review, the conceptual framework for this study is presented below.

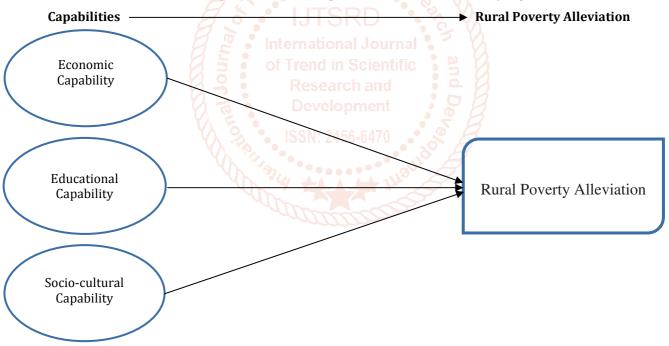


Figure 1: Conceptual framework

## 3. Methodology

#### 3.1. Study Area

Ghana was chosen for the research because of the readily available data on poverty trends over the years [35]. The five administrative areas of the northern part of Ghana, namely: Northern Region, Upper East Region, Upper West Region, North East Region, and Savannah Region, were selected because over decades now, these regions have consistently reported high poverty rates [1]. About two decades, these regions have experienced continuous increase in poverty rates, thus, values below the national poverty line [3].

#### **Survey Instrument**

Between the months of July and August 2020, the data were collected. Opinions about the introduction of capability approach for rural poverty alleviation were gathered from 302 respondents using a structured questionnaire with all the selected items evaluated on a 5-point Likert scale with scale poles starting from one (1), being "strongly disagree" and five (5), being "strongly agree" Dolnicar, Grün [36].

#### **Questionnaire Design and Data Collection**

An online survey tool was used creates the questionnaire. English language was used for the research because all the participants had attained some formal educational level and had access to the internet. Data from respondents in the Northern, Upper East, Upper West, North-east, and Savannah regions of Ghana were collected. The beginning of the questionnaire had a statement that sought the respondents' consent and permission to participate in the survey. Moreover, respondents were assured of the confidentiality of their responses and that all personal information would be treated strictly confidential. Respondents were also made aware that their involvement was entirely voluntary, and they were not under any legal obligations to answer the questions. Therefore, they could leave the questionnaire half-filled or even cancel the process if they wished to. Contact details of the researchers were also available for easy access, and clarifications concerning the questionnaire developed.

Two hundred eighty (280) accurate responses were retrieved out of 302 overall survey responses. The remaining 22 were considered invalid and therefore excluded as they were either substantially incomplete responses or missing values. In analyzing data with structural equation modeling (SEM), a sample size of 200 is considered fair and 300 is considered good statistically [37-39]. Therefore, the sample size of 280 satisfies these criteria and it is consequently, sufficiently relevant to obtain robust test results. Table 1 indicates the structure of the questionnaires that have been adapted from literature sources.

**Table 1 Measurement Instruments** 

| Constructs                | Number of Items | Notations  | <b>Literature Sources</b> |
|---------------------------|-----------------|------------|---------------------------|
| Economic Capability       | 4               | ECC1- ECC4 | [20], [22], [24], [25]    |
| Educational Capability    | 4               | EDC1- EDC4 | [27], [29], [28]          |
| Rural Poverty Alleviation | 4               | RPA1- RPA4 | [6], [12], [13]           |
| Socio-cultural Capability | 4               | SCC1-SCC4  | [31], [32], [34]          |

#### 3.4. Data Analysis

Data were exported from the online survey questionnaire portal into Microsoft Excel format for easy accessibility and transfers to the various analysis tools. The analyzes contained both exploratory and confirmatory studies to check the model's validity [40], [41]. SPSS software was used to perform the descriptive/exploratory analysis. The data set was analyzed using SmartPLS3 software [42] because it is able to provide good outcomes for all variable types including binary coded data [43]. A structural model was developed to describe the relationships between the structures in the research model. In testing how closely related the dependent and the independent variables were, both path coefficient (β) and *t-statistics* were used. The path coefficients must be closer to positive 1 to get a stronger relationship between the variables. However, when the path coefficient values are more relative to 0, they are considered to have a weaker relationship whereas the less than 0 are statistically insignificant. Also, the *P-value* must be smaller than 0.05 to say that the relationship between the variable in question is significant at 5% level or a significant level of 1% [43].

## 4. Modelling Results and Discussions

Smart PLS algorithm, bootstrapping, and blindfolding were used to establish the relationship between the dependent and independent variables. The descriptive statistics results for the sample demography are presented in table 2.

The respondents consisted of 176 males, 62.9 percent, and 104 females, which takes the remaining percentage of 37.1. The respondents' ages were grouped into four (4) ranges, under twenty-one (21) years to more than sixty-five (65) years. Majority of the study's respondents were between the age range; 21-34 years which made a total of 134 out of the 280 respondents constituting the highest percentage of 46.4 on the list. Whereas the least number of respondents representing 0.7 percent were from the age range; more than 65 years. The percentage distribution of educational level of respondents were 1.8, 16.4, 20.4, 41.1, and 20.4 for Primary School, High/Secondary, Training/ Certificate/Diploma, HND/Bachelor and Postgraduate respectively as presented in Table 2

**Table 2: Demographic distribution of respondents** 

| N = 280            |                               |           |            |  |  |  |  |
|--------------------|-------------------------------|-----------|------------|--|--|--|--|
| Item               | Description                   | Frequency | Percentage |  |  |  |  |
| Age                | Under 21                      | 28        | 10.0       |  |  |  |  |
|                    | 21 -34                        | 130       | 46.4       |  |  |  |  |
|                    | 35-44                         | 70        | 25.0       |  |  |  |  |
|                    | 45-54                         | 31        | 11.1       |  |  |  |  |
|                    | 55-65                         | 19        | 6.8        |  |  |  |  |
|                    | More than 65                  | 2         | 0.7        |  |  |  |  |
| Gender             | Male                          | 176       | 62.9       |  |  |  |  |
|                    | Female                        | 104       | 37.1       |  |  |  |  |
| Level of Education | Primary School                | 5         | 1.8        |  |  |  |  |
|                    | High/Secondary                | 46        | 16.4       |  |  |  |  |
|                    | Training/ Certificate/Diploma | 57        | 20.4       |  |  |  |  |
|                    | HND/Bachelor                  | 115       | 41.1       |  |  |  |  |
|                    | Postgraduate                  | 57        | 20.4       |  |  |  |  |

| Marital Status | Single   | 143 | 51.1 |
|----------------|----------|-----|------|
|                | Married  | 122 | 43.6 |
|                | Divorced | 12  | 4.3  |
|                | Widowed  | 3   | 1.1  |

#### **Evaluation of the Measurement Model**

Data obtained were analyzed for internal consistency reliability, convergent, and discriminant validity. The outer loadings, average variance extracted (AVE), composite reliability, and Cronbach α were based on Hair, Black [44] criterion shown in Table 3.

Table 3

| Tuble 3                   |           |          |       |             |                          |   |  |
|---------------------------|-----------|----------|-------|-------------|--------------------------|---|--|
| Constructs                | Notations | Loadings | AVE   | Cronbach α  | Composite<br>Reliability | HTMT Confidence interval does not include 1 |  |
|                           | ECC1      | 0.817    |       |             |                          |   |  |
| Economic Capability       | ECC2      | 0.842    | 0.698 | 0.856       | 0.902                    | Voc   |  |
| Economic Capability       | ECC3      | 0.852    | 0.090 |             |                          | Yes   |  |
|                           | ECC4      | 0.830    |       |             |                          |   |  |
|                           | EDC1      | 0.806    |       |             |                          |   |  |
| Educational Capability    | EDC2      | 0.804    | 0.683 | 0.845       | 0.896                    | Vac   |  |
|                           | EDC3      | 0.860    |       |             |                          | Yes   |  |
|                           | EDC4      | 0.834    |       |             |                          |   |  |
|                           | RPA1      | 0.846    |       |             |                          |   |  |
| Rural Poverty Alleviation | RPA3      | 0.851    | 0.724 | 0.810       | 0.887                    | Yes   |  |
|                           | RPA4      | 0.856    |       |             |                          |   |  |
|                           | SCC1      | 0.866    | n Sci | entie       | h                        |   |  |
| Socio-Cultural Capability | SCC2      | 0.863    | 111   | MI STATE OF | 0.924                    | Vac   |  |
|                           | SCC3      | 0.889    | 0.751 | 0.890       |                          | Yes   |  |
|                           | SCC4      | 0.849    | IITC  | DD .        | 8. V)                    |   |  |

Note: ECC, (Economic Capability); EDC, (Educational capability); RPA, Rural Poverty Alleviation

Table 3 revealed that the factor loadings of all the indicators were more significant than the threshold value of 0.7 [45] except RPA2, which had a value of 0.622 and was removed because of its low factor loading, thereby confirming the reliability of the measurement model. The model's overall reliability was evaluated using the measurement model [46] in Table 3.

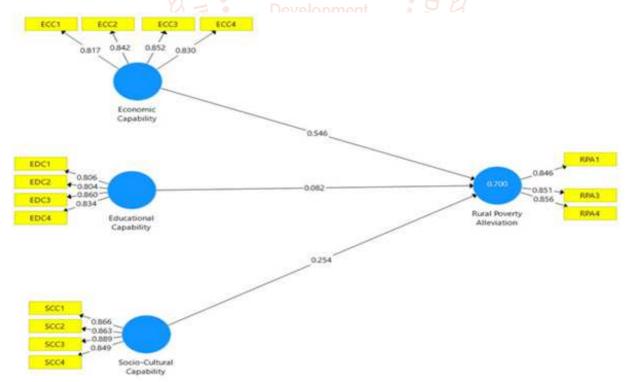


Figure 2: Outer loadings and the effect size of the various constructs

In the table 3, all the constructs of the average variance extracted (AVE) have values between 0.683 - 0.751, which are greater than the threshold of 0.5 [47]. The composite reliability, which estimated the constructs' internal consistency, greatly demonstrated values ranging from 0.887 to 0.924, which are far higher than the 0.7 recommended by [48]. Also, the Cronbach  $\alpha$ indicators of the model in ECC = 0.856, EDC = 0.845, RPA = 0.810 and SCC = 0.890. These values are within the threshold proposed by Hair, Ringle [49], therefore served as a good basis for robust results.

Table 4: Collinearity Value assessed by VIF

| i. Comm | earity value assesset |
|---------|-----------------------|
| Item    | Collinearity Value    |
| ECC1    | 1.785                 |
| ECC2    | 2.012                 |
| ECC3    | 2.194                 |
| ECC4    | 1.942                 |
| EDC1    | 1.827                 |
| EDC2    | 1.774                 |
| EDC3    | 2.094                 |
| EDC4    | 1.948                 |
| RPA1    | 1.813                 |
| RPA3    | 1.761                 |
| RPA4    | 1.737                 |
| SCC1    | 2.400                 |
| SCC2    | 2.257                 |
| SCC3    | 2.773                 |
| SCC4    | 2.143                 |

Table 4 above shows the collinearity values of the various constructs assessed using VIF. The VIF values for all the constructs are all lower than the threshold of 5, suggesting no collinearity problems in the model [50]. According to Hair et al., the AVE of a construct's square root should be greater than its correlation with other constructs for satisfactory discriminant validity. In order to satisfy the discriminant validity, the diagonal elements must be larger than the entries in corresponding columns. The validity test revealed the square root of the AVE values in diagonal (bolded), confirming the discriminant fact based on Fornell-Larcker's widespread criterion.

Table 5: Fornell-Larcker criterion for square roots of AVE

| Constructs | ECC   | EDC     | RPA   | SCC           |
|------------|-------|---------|-------|---------------|
| ECC        | 0.835 |         | 0     | Ne            |
| EDC        | 0.804 | 0.826   |       | \<br>\{\c^2\} |
| RPA I      | 0.817 | 0.730   | 0.851 | 7             |
| SCC        | 0.808 | 0.823   | 0.763 | 0.867         |
| 7 3 • 0    | Trend | in Scie | HUHC  | 9 5           |

## 4.2. Evaluation of the Structural Model and Hypotheses Testing

Table 6 illustrates the structural model used to test the nexus between both the dependent and independent variables in the study:

🖊 🔍 Table 6- The Structural Model 🍳 🥖

| Hypotheses           | Pa                       | th        | Path Coef | ficient (β)             | t-statistics | p-value | f <sup>2</sup> | Remarks       |
|----------------------|--------------------------|-----------|-----------|-------------------------|--------------|---------|----------------|---------------|
| H1                   | ECC >                    | RPA       | 0.2       | 85                      | 7.543        | 0.000   | 0.285          | Supported     |
| H2                   | EDC >                    | RPA 0.0   |           | 06                      | 0.994        | 0.321   | 0.006          | Not supported |
| Н3                   | SCC »                    | » RPA 0.0 |           | 56                      | 3.258        | 0.001   | 0.056          | Supported     |
| Predictive Relevance |                          |           |           |                         |              |         |                |               |
| Construc             | Construct R <sup>2</sup> |           | Ad        | Adjusted R <sup>2</sup> |              | $Q^2$   |                |               |
| RPA                  |                          |           | 0.525     |                         | 0.519        |         | 0.497          |               |

The study used path coefficient, *t-statistics* and the *p-values* to provide empirical support for the proposed hypotheses of RPA, ECC, EDC, and SCC constructs. ECC and SCC were consistent with previous studies on the employment of Sen's Capability approach for community development and poverty alleviation. Ndaguba and Hanyane [25] observed that ECC has a significant influence on RPA by promoting the community's local businesses, thereby increasing employment rate, leading to alleviate community poverty in South Africa, which is consistent with one of our findings.

To measure each construct's effect on another construct, Economic capability (ECC) and Socio-Cultural Capability (SCC), except the Educational Capability (EDC), had a positive and significant relationship with rural poverty alleviation. Using the Cohen 1999 standard of calculating for the f<sup>2</sup> values where the effect on each construct is large at a value of 0.35, medium at 0.15, and smaller at 0.02, it can be seen that the nexus between educational capability and rural poverty alleviation showed a negative phenomenon, even though its path coefficient was significant at ( $\beta = 0.006$ ). Further, economic capability had the most significant positive effect on rural poverty alleviation with a path coefficient value of ( $\beta$  = 0.285). The socio-cultural capability of rural poverty alleviation is relatively positive with path coefficient of ( $\beta$  =0.056). Economic and socio-cultural capabilities positively influence rural poverty alleviation; economic capability had a more significant effect on rural poverty alleviation. However, the *t* -statistics, and *p*- values for the path coefficient are as follows:

ECC --- RPA (t = 7.543, P = 0.000; P < 0.05); EDC --- RPA (t =0.994, P = 0.321; P > 0.05); SCC --- RPA (t = 3.258, P = 0.001; P < 0.05). Thus, supporting the hypothesis H1 and H3; however, the effect signs of H2 were below the threshold hence not supportive.  $R^2$  range of 0 to 1 is acceptable with higher values indicating higher levels of predictive accuracy. According to [41, 45, 49] when  $R^2$  value is 0.75, it represents substantial predictive ability of the variables, whereas 0.50 represents a moderate one but 0.25 represents a weak predictive ability. Chin and Marcoulides [51] articulates the values of 0.67, 0.33, and 0.19 as substantial, moderate, and weak, respectively. Therefore, an R<sup>2</sup> value of 0.525 for RPA with an adjusted R<sup>2</sup> value of 0.519 indicated that the model had substantial predictive accuracy. This study adopted [52, 53]  $Q^2$  of cross validity redundancy value to assess the model's relevance and predictive value on the dependent variable obtained from the PLS blindfolding.  $Q^2$  values larger than 0 suggest that the model has higher predictive relevance for the constructs. Therefore, our  $Q^2$  values of 0.497 and  $q^2$  value of 0.988 suggested that the model had higher predictive relevance for the internal constructs.

#### 5. Conclusion

#### **5.1**. **Main Findings**

This study assessed the relationship between economic, educational, and socio-cultural capacities in the northern part of Ghana and rural poverty alleviation. SmartPLS 3, combined with SPSS, was used to analyze the data collected from a survey sample size of 280. The SmartPLS3 tested the relationship between the three types of capability and rural poverty alleviation in Ghana. Economic capability (ECC), Educational Capability (EDC), and Socio-Cultural Capability (SCC) were used to assess 280 responses gathered at a 5point Likert scale, thus, (1= Strongly Disagree, 2= Disagree, 3= Neither Agree nor Disagree, 4 = Agree and 5 = Strongly Agree). The results show that amongst the three independent variables, the one with the highest impact on rural poverty alleviation is economic capacity with a path coefficient of ( $\beta$  = 0.285), and this results attests to that of Ndaguba and Hanyane [25]. The effects of socio-cultural capability on rural poverty alleviation was supported by the results of Chen et al. [8]. Then educational capability has the least effect and, therefore, does not support the hypotheses arc [7] that educational capability positively impacts rural poverty alleviation and is supported by a study conducted by [54].

#### 5.2. **Policy Implication**

In a nutshell, there is a significant relationship between economic capability and socio-cultural capability on rural poverty alleviation in Ghana's northern part. The government of Ghana and development partners and agencies in their new attempts to alleviate rural poverty should emphasize rural policies, such as promoting local businesses and entrepreneurship and creating local employment avenues, among other poverty alleviation programs in rural areas. Building on socio-cultural values should be promoted as it brings together people towards achieving a common goal of interest. Community capacity building is a grass-root and more sustainable way of alleviating rural poverty. In practice, such self-help initiatives can significantly reduce the financial burdens of governments and other development actors of poverty alleviation programs in resource distribution for targeted poverty alleviation programs.

#### **Limitations and Future Studies**

This research has some limitations as well as future directions. The whole study was conducted using an online survey tool. Data was gathered based on self-reported answers from respondents who have access to the questionnaire through the internet. So, it is likely that some questions might not be properly answered due to difficulties in understanding the underlying concept of the topic under research. Other methods order than the SEM can be adopted

to ensure more robust results. Although the researchers have confidence in the study's findings, the data were only taken from the northern part of Ghana, where poverty is known to be consistent; meanwhile, other parts of the country also have extreme poverty cases. We recommend that future research should consider Ghana as a whole.

#### References

- Selase, A. E. and X. Lu, The Impact of Ghana [1] Government Poverty Alleviation Actions in the National Poverty Eradication Programme. Available at SSRN 3118226, 2018.
- [2] Ampofo, K. A., Growing apart: Ghana's growing regional inequality since the adoption of poverty reduction strategies and the HIPC initiative (2000-*2013*). 2017.
- Cooke, E., S. Hague, and A. McKay, *The Ghana poverty* and inequality report: Using the 6th Ghana living standards survey. University of Sussex, 2016.
- Adatuu, R. and A. Apusigah, Gender, Political Participation And Local Governance In The Builsa North District Of Ghana, Ghana. UDS International Journal of Development, 2018. 5(1): p. 181-196.
- Opoku, M. P., et al., Poverty alleviation among persons [5] with disabilities via United Nations' sustainable development goals in Ghana: Voices of stakeholders with disabilities. Sustainable Development, 2019. 27(1): p. 175-182.
- [6] Willits, F. K. and R. C. Bealer, An Evaluation of a nal Jou Composite Definition of" Rurality". Rural Sociology, Scien 1967. 32(2): p. 165.
  - Singh, P. K. and H. Chudasama, Evaluating poverty alleviation strategies in a developing country. PloS one, 2020. 15(1): p. e0227176.
  - Chen, S. and M. Ravallion, More relatively-poor people in a less absolutely-poor world. 2012: The World Bank.
  - [9] Ray, A., A class of decomposable poverty measures with public transfers. Available at SSRN 713762, 2006.
- Alkire, S., Choosing dimensions: The capability [10] approach and multidimensional poverty, in The many dimensions of poverty. 2013, Springer. p. 89-119.
- Dzanku, F. M., M. Jirström, and H. Marstorp, Yield gap-[11] based poverty gaps in rural Sub-Saharan Africa. World Development, 2015. 67: p. 336-362.
- Kotler, P. T. and N. R. Lee, *Up and out of poverty: The* [12] social marketing solution. 2009: Pearson Prentice Hall.
- Desai, M., Human development: concepts and [13] measurement. European Economic Review, 1991. 35(2-3): p. 350-357.
- [14] Van Alstine, J. and S. Afionis, *Community and company* capacity: the challenge of resource-led development in Zambia's 'New Copperbelt'. Community Development Journal, 2013. 48(3): p. 360-376.
- Kwong, M. T. S. and M. W. C. Kan, Applying Problem-[15] Solving Approach in Community Capacity Development: Strengths, Limitations, and Possibilities. 2017.
- [16] Chaskin, R. J., Building community capacity: A definitional framework and case studies from a comprehensive community initiative. Urban affairs review, 2001. 36(3): p. 291-323.

- [17] Alkire, S., Why the capability approach? Journal of human development, 2005. 6(1): p. 115-135.
- [18] Kabir, M. S., et al., Impact of small entrepreneurship on sustainable livelihood assets of rural poor women in Bangladesh. International Journal of Economics and Finance, 2012. 4(3): p. 265-280.
- [19] Robeyns, I., Three models of education: Rights, capabilities and human capital. Theory and research in education, 2006. 4(1): p. 69-84.
- Naminse, E. Y. and J. Zhuang, Does farmer [20] entrepreneurship alleviate rural poverty in China? Evidence from Guangxi Province. PloS one, 2018. 13(3).
- [21] Kuklys, W., Amartya Sen's capability approach: *Theoretical insights and empirical applications.* 2005: Springer Science & Business Media.
- Karnani, A., Reducing poverty through employment. [22] Innovations: Technology, Governance, Globalization, 2011.6(2): p. 73-97.
- [23] Voronkova, O.Y., et al., Sustainable development of territories based on the integrated use of industry, resource and environmental potential. 2019.
- [24] Cornelius, N. and J. Wallace, Cross-sector partnerships: City regeneration and social justice. Journal of Business Ethics, 2010. 94(1): p. 71-84.
- [25] Ndaguba, E. A. and B. Hanyane, Stakeholder model for community economic development in alleviating poverty in municipalities in South Africa. Journal of Public Affairs, 2019. 19(1): p. e1858.
- Becker, W. A., J. V. Spencer, and J. L. Swartwood, The [26] pre-incubation storage of turkey eggs in closed environments. Poultry Science, 1964. 43(6): p. 1526-
- Nasir, M. Z. and H. Nazli, Education and earnings in [27] Pakistan. Vol. 3. 2000: Pakistan Institute of Development Economics.
- Mihai, M., E. Țițan, and D. Manea, Education and [28] poverty. Procedia Economics and Finance, 2015. 32: p. 855-860.
- Campbell, C. A., A decision theory model for [29] entrepreneurial acts. Entrepreneurship theory and practice, 1992. 17(1): p. 21-27.
- [30] McMullan, W. and L. Gillin, Industrial viewpointentrepreneurship education. Technovation, 1998. 18(4): p. 275-286.
- [31] Wu, B., L. Liu, and C. J. Carter, Bridging social capital as a resource for rural revitalisation in China? A survey of community connection of university students with home villages. Journal of Rural Studies, 2019.
- [32] Carpiano, R. M., Toward a neighborhood resourcebased theory of social capital for health: Can Bourdieu and sociology help? Social science & medicine, 2006. 62(1): p. 165-175.
- Gonzalez, J.-F., et al., ALMA images of discs: are all gaps [33] carved by planets? Monthly Notices of the Royal Astronomical Society: Letters, 2015. 454(1): p. L36-L40.
- [34] Kumar, R., B. Anjum, and A. Sinha, Cross-cultural interactions and leadership behaviour. Researchers World, 2011. 2(3): p. 151.
- [35] Roser, M. and E. Ortiz-Ospina, *Global extreme poverty*. Our world in data, 2013.

- Dolnicar, S., B. Grün, and F. Leisch, *Increasing sample* [36] size compensates for data problems in segmentation studies. Journal of Business Research, 2016. 69(2): p. 992-999.
- [37] Kline, R. B., *Principles and practice of structural* equation modeling (3. Baskı). New York, NY: Guilford,
- [38] Roscoe, J. T., Fundamental research statistics for the behavioral sciences [by] John T. Roscoe. 1975.
- Hoelter, J. W., The analysis of covariance structures: [39] Goodness-of-fit indices. Sociological Methods & Research, 1983. 11(3): p. 325-344.
- Prasanna, R. and T. J. Huggins, Factors affecting the [40] acceptance of information systems supporting emergency operations centres. Computers in Human Behavior, 2016. 57: p. 168-181.
- Dai, B., et al., Factors Affecting Caregivers' Acceptance [41] of the Use of Wearable Devices by Patients With Dementia: An Extension of the Unified Theory of Acceptance and Use of Technology Model. American Journal of Alzheimer's Disease & Other Dementias®, 2020. 35: p. 1533317519883493.
- Ringle, C. M., S. Wende, and J.-M. Becker, SmartPLS 3. [42] Boenningstedt: SmartPLS GmbH, 2015.
- Hair, J. F., C. M. Ringle, and M. Sarstedt, Partial least [43] squares structural equation modeling: Rigorous applications, better results and higher acceptance. Long range planning, 2013. 46(1-2): p. 1-12.
- [44] Hair, J. F., et al., Multivariate data analysis. Vol. 5. 1998: Prentice hall Upper Saddle River, NJ.
- Henseler, J., C. M. Ringle, and R. R. Sinkovics, The use of [45] partial least squares path modeling in international arch andmarketing, in New challenges to international *marketing.* 2009, Emerald Group Publishing Limited. Bagozzi, R. P. and Y. Yi, Specification, evaluation, and [46] interpretation of structural equation models. Journal of the academy of marketing science, 2012. 40(1): p. 8-
  - [47] Hooper, D., J. Coughlan, and M. Mullen, Structural Equation Modelling: Guidelines for Determining Model Fit. Electronic Journal of Business Research Methods, 6 (1), 53-60. 2008.
  - [48] Bentler, P. M., On the fit of models to covariances and methodology to the Bulletin. Psychological bulletin, 1992. 112(3): p. 400.
  - Hair, J. F., C. M. Ringle, and M. Sarstedt, PLS-SEM: [49] Indeed a silver bullet. Journal of Marketing theory and Practice, 2011. 19(2): p. 139-152.
  - [50] Kim, J. H., Multicollinearity and misleading statistical results. Korean journal of anesthesiology, 2019. 72(6):
  - Chin, W. W., The partial least squares approach to [51] structural equation modeling. Modern methods for business research, 1998. 295(2): p. 295-336.
  - [52] Geisser, S., A predictive approach to the random effect model. Biometrika, 1974. 61(1): p. 101-107.
  - [53] Stone, M., Cross-validation and multinomial prediction. Biometrika, 1974. 61(3): p. 509-515.
  - Maiyo, J. and I.A. Ashioya, Poverty alleviation: The [54] educational planning perspective. International Journal of Educational Administration and Policy Studies, 2009. 1(2): p. 015-022.