The Role of Public Policy in Enhancing Entrepreneurial Skills – Training and Economic Development

Napoleon Kurantin

Abstract—This article surveys the potential impact of the role of public policy in the enhancement of skills-training as a conduit to higher productivity (growth) and economic development. It opens with a review of the literature assuming a positive correlation between education, vocational skills-training and higher productivity and therefore, economic development. The paper employs and applies noted aspects of quantitative (Coefficient of Contingency, ANOVA and K-Mean Cluster Analysis) and qualitative (Chi Square Test: x2) methodological techniques to determine whether there is a significant difference between the expected frequencies of higher productivity and economic development (dependent variable) and socio-economic indices (independent variables). Results obtained from a sample size of six hundred and fifty (650) respondents aged between eighteen and sixty-five (18 – 65) shows that unemployed with no skills (fifty-five / 55 percent) are the dominant category followed by those currently training in the acquisition of vocational skills (thirty-five / 35 percent) and self-employed with skills (ten / 10 percent). Important questions are raised on the type, level and relevance of entrepreneurial skills that might have the highest impact on productivity and hence economic development. In conclusion, the paper recommends and demands that public policy formulation should be localised with intended local participation by local government machinery and personnel that could result in higher economic performance.

Keywords—Economic development, higher productivity, public policy and skill-training.

I. INTRODUCTION

MEASURING the economic impact of Vocational Education and Skills-based Training (TVET) is an issue not only of academic interest but also of practical concern. This issue has significant implications not only for policy-makers but equally important for global investors and hence, a conduit to higher productivity (growth) and economic development. Using Ghana, as a laboratory this paper investigated the potential impact of public policy with emphasis on entrepreneurial skills training and development as a catalyst for higher productivity and economic development using income as a proxy for economic growth and development. In the next section, we bring forth the main research problem underpinning the study's topic. Section three summaries previous work and the theoretical framework

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on this topic. Section four describes the methodological design and construction of data-sets used. Section five report and analyse the empirical results of public policy on TVET and its potential impact for higher economic growth and development. The last section concludes the paper and discusses the public policy on TVET and its implications for higher economic growth and development.

II. THE PROBLEM STATEMENT

The role of public policy in enhancing entrepreneurial skills training and economic development is one of the most sophisticated challenges facing policy makers in the developing world particularly, in sub-Saharan Africa. Using Ghana as a laboratory for this study, it observed that relative weakness in technology and innovation as well as labour market inefficiencies has indeed adversely impacted the competitiveness and growth of the Ghanaian economy. It is estimated that only one percent of the country's educational budget is allocated to Technical and Vocational Education and Training (TVET). The apparent lack of competitiveness stems from an entrenched low and/or poor productivity exacerbated by limited supply of equitable and quality training programmes tailored to the needs of a rapidly growing youthful population and that of emerging key sectors of the economy [1]. It is against this background that this study hopes to find the potential impact of the role of public policy in the enhancement of skills-training as a conduit to higher productivity and economic development: [income] as a proxy for economic growth and development.

III. THEORETICAL BACKGROUND AND INFORMING LITERATURE REVIEW

This section of the paper reviews literature and theoretical framework relevant to the research problem as stated in the preceding section.

Although not impossible, it is difficult to precisely define public policy. This is why perhaps so many people claim to have little or no understanding of policy. Many would say that they don't "do policy." On the other hand, others maintain that it has only minor relevance to their work – or, for that matter, their lives [2]. Public policy is government-set objectives relating to the general health and well-being of the public, and actions taken to accomplish noted objectives [3].

Similarly, public policy is seen as a course of action that guides a range of related actions in a given field. They rarely

tackle one problem, but rather deal with clusters of entangled and long-term problems. Thus, it provides guidance to governments and accountability links to citizens. Decision making is clouded by values, rather than based purely on objective data. Most issues tend to involve deeply held values/ interests and large amounts of money, making the policy process very complex [4]. The rational-comprehensive model breaks the policy process down into four distinctive phases. These include problem identification; identification of policy option; selection and implementation; and evaluation [5]. The field and or discipline of entrepreneurship has a recognized scientific community that espouses itself through large numbers of conferences and a wide array of scientific journals. In an open economy, entrepreneurship is defined as a person who sees an opportunity in the market, gathers resources and starts and grows a business venture to satisfy these needs. S/he takes the risk of the venture and is rewarded with profit if it succeeds [6].

Moreover, an entrepreneur is said to be an individual with the ability to realise a specific vision of virtually anything – a definite human creative action. A differentiating factor defining the true entrepreneur is the entrepreneurial skills of creativity and innovation. The fundamental skill to "create", thus generating an idea, and the action of transforming it into a viable growth-orientated business, forms an unconditional and integrated prerequisite for entrepreneurship training programmes [7].

It is now an established fact that there exists a relationship between entrepreneurship, economic growth and development. Such relationship is multifaceted and complex, entrepreneurial capability in terms of skills acquisition and enhancement is a necessary variable in a country's capacity to sustain economic growth [8]. Not only is entrepreneurship an essential ingredient in a country for the generation of new ideas, creating new enterprises and nurturing the economy, it is particularly important in areas where there is high unemployment such as in sub-Saharan Africa [9]. It is agreed that entrepreneurs contribute to the processes of industrialization as well as to economic growth and development by improving living standards, while tax revenues from their enterprises contribute to a nation's treasury [10]. Such a notion is supported on the grounds that skills and knowledge, as developed through training and education, are one of the peculiar areas in which a country can engineer a competitive advantage [11]. This view is buttressed by [12], who espouses that the importance and relevance of entrepreneurial education is derived from the importance of the entrepreneur throughout the economic system.

It is well documented feature within the literature of entrepreneurship of the relevance of education and training within economic development [13]. For instance, education has been identified as a critical factor in preventing future high levels of long-term unemployment, and there is evidence of a strong correlation between education level achieved and high income over a lifetime. There is also evidence of a positive relationship between education and training programmes and the number of business start-ups. Out of those who took an entrepreneurship education training programme, twenty-one percent had started a business as fulltime employment compared with only fourteen percent of the control group members who did not enroll in such a programmes [14]. Accordingly, the key factor that significantly influenced entrepreneur progress is education and skills acquisition and development.

A model that captures the essences of education as a key factor in entrepreneurial development is the E/E model. The formula for the E/E model is illustrated as:

$$EE = f[aF(bA \times cBP) \times (dES \times eBS)]$$

Where, **EE** = Entrepreneurial education for start-ups; **F** = Facilitator skills, knowledge and motivation; **A** = Approaches used by facilitator(s); **BP** = Business Plan utilization; **ES** = Entrepreneurial success themes and knowledge; **BS** = Business Skills and knowledge; **a** to **e** = Constants [8].
An integrated model can be formulated as the E for E/P model. The formula for the E for E/P model is illustrated as:

$$E \text{ for } EP = f[aF \times bM (cES \times dB/S) \times (eA + fBP)]$$

Where: **E for E/P** = Education for improved Entrepreneurial Performance; **F** = Facilitator's ability, skills, and experience; **M** = Motivation **ES** = Entrepreneurial Skills; **BS** = Business Skills; **A** = Approaches of learning used by facilitator(s); **BP** = Business Plan utilization **a** to **f** = Constants [16].

One of the best models and statistical techniques applied for establishing the significance of categorical variables is the Chi square test (X^2). The X^2 is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories [17]. In an assessment of the prospects and problems of entrepreneurship development in Nigeria, it was revealed that since the Pearson Chi-Square computed X^2 c= 94.438 is greater than Chi-Square table value X^2 t =5.99, the null hypothesis is rejected and alternate hypothesis is accepted: multiple taxes and levies, lack of knowledge of technology and unfair competition are the challenges of entrepreneurship development in Nigeria [18].

The t-test results of independent samples relative to an analysis of barriers to entrepreneurship in Serbia and Montenegro revealed no significant differences between groups (gender), and the differences between the mean values of the characteristics of the groups were not statistically significant. Within the same vein a *p-value* greater than 0.05 and, therefore, the difference between the two mean is not statistically significant different from zero at the 5% level of significance. The results of one-way analysis of variance (ANOVA) in the Montenegrin sample revealed that there are differences among the participants in terms of levels of education. Henceforth, statistically significant differences can be seen in case of labour legislation (F[2,95] = 3,567, $p < 0$, 032). Entrepreneurs without university education view labour legislation as smaller barriers than those entrepreneurs with high school education [19].

Another model and statistical technique employed in the study of entrepreneurial development is that involving hierarchical cluster analysis, using Ward's method and the Euclidian distance in order to determine the number of clusters.

K-means cluster analysis is a commonly used procedure to identify relatively homogeneous groups of cases based on selected characteristics of the population and/or sample under study [20].

An application of K-means cluster analysis of Small and Medium Enterprises (SME) within the European Union (EU) shows that within the Northern Cluster, are the countries with the best performance in the EU. They are related to the considered indicators, and being ranked in the first places. These countries are the most innovative and competitive, with the highest density of large enterprises, high quality of institutions and a high number of innovative SMEs. Thus, within this cluster, the United Kingdom is at the furthest distance from the centre. This can be explained by the low level of innovative SMEs from the total SMEs. In the United Kingdom, the necessity driven entrepreneurship is the highest compared to its peer countries and the entrepreneurial aspiration is not sufficiently developed. Longitudinal data show that self-employment is increasing. The density of SMEs and large enterprises is the lowest in the cluster [21].

The above concepts and statistical techniques espoused could be suited within the theoretical frameworks of resource-based theory of entrepreneurship; anthropological entrepreneurship theory; the neo-classical entrepreneurship and the innovative theory of entrepreneurship. The resource-based theory of entrepreneurship argues that access to resources by a would-be entrepreneur is an important factor that influence new venture development [22]. Therefore, the theory highlights the significance of financial, social and human resources towards enhancing the entrepreneurial ability to detect and act upon discovered opportunities. Financial, social and human capital represents three classes of theories under the resource based entrepreneurship theories [23]. The anthropological entrepreneurship theory argues that for someone to successfully initiate a venture the social and cultural contexts should be examined or considered. This means that cultural heritage of the society influences the way such people carry out their business [24]. The neo-classical theory of entrepreneurship maintains that there is no exploitation on the business platform. The theory is of the view that the effort an entrepreneur put in a particular business will determine the profit margin that will be returned on the business. On the other hand the theory also views the level of knowledge as well as the business information acquired by an entrepreneur as an important factor that will determine the level of profit and success accrued to an entrepreneur, in the course of carrying out business activities [25]. The author of small is beautiful [26] notes that creativity as well as innovation is the key factor in any entrepreneur's effectiveness and efficiency. However, innovation along with knowledge is seen as the main catalyst of successful entrepreneurship. It is believed that creativity is necessary if an entrepreneur is determined to break-even in a stiff competitive market.

IV. DESIGN, RESEARCH METHODOLOGY AND DATA ACQUISITION

In the pursuit of obtaining a comparative view of the impact of the role of public policy in the enhancement of skills-training as a conduit to higher productivity (growth) and economic development [income] the study used both quantitative and qualitative (descriptive) research design and approaches' respectively. Descriptive (correlational or observational) inquiries by nature emphasis interpretation of attitudes or characteristics of a particular group. It could involve a one-time interaction with group/s of people (cross-sectional study) and/or a study of respondents over time (longitudinal study) [27]. The quantitative aspects included Coefficient of Contingency, ANOVA and K-Mean Cluster Analysis) and qualitative (Chi Square Test: x^2) methodological techniques to determine whether there is a significant difference between the expected frequencies of higher productivity and economic development (dependent variable) and socio-economic indices (independent variables: Gender, Age, Marital Status, Education, Experience, Income, Skill based training and Entrepreneurship _ formal Economic Development Programmes). These selected variables were based on findings of earlier studies [28].

The sample population was six hundred and fifty (650) respondents aged between eighteen and sixty-five (18 – 65) years selected out of a sample frame of five thousand (5,000) obtained from the Ministry of Manpower, Youth & Employment, Ministry of Trade and Industry and, the Ghana Education Service in Accra Ghana, based on stratified random sampling technique. The stratified random sampling was also used by the researcher to bring each sector within Accra metropolis under a stratum _ see Table 1.

TABLE 1: SAMPLE-SIZE ACCORDING TO SUB-SECTORS

Sub sector	n	Percentage
Electronics,	50	7
Automotive	200	31
Tailoring & Dressmaking	50	7
Hair and Beauty	150	24
Welding	200	31
Total	650	100

Source: Results of Field Work (2014/2015).

A study of the informal sector in Ghana focused on the urban component which provides a hub for the working poor. They include aged, young and women workers who are essentially low-skilled and are involved mainly in sectors elaborated in table 1, and only to a lesser degree in the construction and manufacturing sectors. However, within the last couple of years, interest has also grown in the rural informal sub-sector [29]. The sub –sectors is an amalgamation of individuals of working age of un-employed with no skills; training in the acquisition of vocational skills; and self – employed with skills.

V. RESEARCH FINDINGS AND DISCUSSIONS

This section of the study identified and examined the goal and objectives formulated in relation to the findings obtained. In addition, conclusions and recommendations were

consequently given based on the information generated from the analysis of the questionnaire administered.

Responses to quantitative questionnaire were electronically analysed with Statistical Package for the Social Sciences (SPSS version 23) to reveal relationship between the dependent and independent variables.

Results obtained from a sample size of six hundred and fifty (650) respondents aged between eighteen and sixty-five (18 – 65) shows that unemployed with no skills (fifty-five / 55 percent) are the dominant category followed by those currently training in the acquisition of vocational skills (thirty-five / 55 percent) and self-employed with skills (ten / 10

percent). Important questions are raised on the type, level and relevance of entrepreneurial skills that might have the highest impact on productivity and hence economic development.

Table 2 below presents results in testing the hypothesis on the relationship and relevance of age and entrepreneurship development:

H_1: Age and Entrepreneurship Development are not independent within the study area.

H_0: Age and Entrepreneurship Development are independent in the study area.

TABLE 2: RELATIONSHIP BETWEEN AGE AND ENTREPRENEURSHIP DEVELOPMENT

Age	Entrepreneur	Non-Entrepreneur	Total	Percentage Chi Square (X^2)
18 - 29	80	60	140	22%
30 - 39	78	140	218	34%
40 - 49	75	144	219	34% *42.44*
50- 59	30	18	48	7%
60 - 65	15	10	25	3%
Total	278	372	650	100

Source: Results of Field Work (2014 – 2015).

Table 2 above reveals a significant relationship between entrepreneurship and age of the respondents within the survey. A X^2 value of 42.44 is more than its corresponding table value of 9.488 at P ≤ 0.05 with a df = 5. Henceforth, the study rejects the null hypothesis (H_0) and rather accepts the alternative (H_1) hypothesis. The coefficient of contingency is calculated to determine the magnitude and strength of relationship unlike X^2 which only indicates statistical significance.

The calculated Coefficient of contingency is C = 0.25; implying age as significant role in respondents appreciation of

entrepreneurial development. Table 2 shows that the highest percentage of representation comes from average age group of 30 – 39 and 40 – 49 respectively. This observation confirms empirical studies that shows that an individual's age is an important variable underpinning the decision to start-up business and usually such business owners' fall within the 25 – 45 age group [30].

Table 3 below presents the consolidation and hence, a summary of hypothesis test results on selected variables.

TABLE 3: SUMMARY OF HYPOTHESIS TEST RESULTS ON SELECTED VARIABLES

Variables	Observed/Calculated X^2	X^2 Value - Distribution Table	Coefficient of Contingency	Results of Hypothesis Test
Gender	9.482	3.841	0.12	H_1 √*
Age	42.44	9.488	0.25	H_1 √*
Marital Status	7.781	5.991	0.11	H_1 √*
Education	33.05	9.488	0.22	H_1 √*
EDP*	89.70	3.841	0.36	H_1 √*
Experience	2.824	3.841	0.06	H_1 √*
Income*	126.7	7.815	0.50	H_1 √*

Income = Proxy for Economic Growth and Development H_1 √ = Accept Alternative Hypothesis

* EDP = Entrepreneurship Development Programme

Source: Results of Field Work (2014 – 2015).

Table 3 above depicts the outcome hypothesis test results with *INCOME* recording the highest value of coefficient of contingency within all the independent variables. Thus, the main rational behind the development of entrepreneurship is to earn income. To further test the relationship between *the processes of economic growth and development [INCOME]* and the other selected independent variables ANOVA is computed. The multiple regression analysis showed that EDP if well instituted and/or implemented by government records the highest coefficient vale of β = 0.773; Age has the second

highest value of β = 0.192; Education comes third with a value of 0.171.

Overall, the correlation coefficient R = 0.904 of 90% depicts a strong explanatory relationship between the independent variables and the dependent variable *INCOME* as a proxy for economic growth and development. The coefficient of determination or the coefficient of multiple determination R^2 = 0.628 for multiple regression is a good fit. Sixty –two percent (62%) of the variation in *INCOME* is explained by the independent variables. Thus, the R^2 is

depicting how much change in the dependent variable [*INCOME*] is explained by associated independent variables.

This section of the study focuses on hierarchical agglomerative cluster analysis, a statistical technique where groups are sequentially created by systematically merging similar clusters together, as dictated by the distance and linkage measures chosen by the researcher [31]. Henceforth, the entire sample was divided into four meaningful sub-groups: (i) Cluster A – Automotive; (ii) Cluster B – Electronics; (iii) Cluster C – Hair and Beauty; and (iv) Cluster D – Tailoring and Dressmaking. Table 4 below presents the results of hierarchical clustering. The sample was further randomly split into two sub-samples (Education and EDP: Education and Entrepreneurship) that were used for comparison regarding the number of clusters and each of the cluster profiles [32].

TABLE 4: K – MEAN CLUSTER ANALYSIS ON INCOME SCORES RELATIVE TO EDUCATION AND ENTREPRENEURSHIP DEVELOPMENT PROGRAMME BY CLUSTER GROUP

Cluster	*n*	Income	Education	EDP
A	250	99.1 (2.5)	193.2 (4.2)	180.2 (19.1)
B	50	65.3 (5.5)	168.6 (7.4)	170.5 (4.2)
C	150	97.1 (5.0)	167.7 (9.0)	172.5 (10.1)
D	50	59.6 (7.5)	192.6 (4.5)	140.1 (17.5)

Source: Results of Field Work (2014 – 2015).

The result revealed 180 out of the 650 by cluster A (Automotive) with a mean value of 19.1 reported EDP as contributing to their income earnings and hence, economic growth and development. Cluster C (Hair and Beauty) had a mean value of 9.0 as contributing to income earnings.

TABLE 5: CROSS TABULATION OF CLUSTERS ON GOVERNMENT POLICY ENTREPRENEURSHIP DEVELOPMENT

Clusters	Strongly Disagree	Disagree	No Opinion	Agree	Strongly	Total
Automotive Count % within Cluster	40 28.6%	30 21.4%	40 28.6%	25 17.9%	5 3.6%	140 100%
Electronics Count % within Cluster	20 15.9%	25 19.8%	38 30.2%	33 26.2%	10 7.9%	126 100%
Hair and Beauty Count % within Cluster	20 9.1%	60 27.5%	90 41.2%	32 14.7%	16 7.3%	218 100%
Tailoring and Dressmaking Count % within Cluster	54 32.5%	39 23.5%	43 25.9%	20 12.0%	10 6.0%	166 100%
Total Count % within Cluster	134 20.6%	154 23.7%	211 32.5%	110 16.9%	41 6.3%	650 100

Source: Results of Field Work (2014 – 2015).

The analysis of cross tabulation as displayed in Table 5 shows that 211 count out of 650 (32.5%) has the highest value of those who has no opinion relative to the impact of government policy on entrepreneurship development. This is followed by 154 (23.7%) disagreeing on the impact of government policy on the development of entrepreneurship. Furthermore, 134 (20.6%) strongly disagreed that the government policy had any impact on entrepreneurship development.

VI. SUMMARY AND CONCLUSION

The collection and collation of the data-sets used in this study was obtained through the administration of questionnaire. Henceforth, the data-sets were analysed through the application of quantitative techniques including Coefficient of Contingency, ANOVA and K-Mean Cluster Analysis) and qualitative (Chi Square Test: x2) methodological techniques to determine whether there is a significant difference between the expected frequencies of higher productivity and economic development (dependent variable) and socio-economic indices (independent variables: Gender, Age, Marital Status, Education, Experience, Income,

Skill based training and Entrepreneurship _ formal Economic Development Programmes). Similar to previous studies that captures the essences of education (EE model) as a key factor in entrepreneurial development the results indicate statistically significant positive relationship between public policy on TVET and higher economic growth [income] and development. The paper recommends that public policy formulation on TVET should be localized with intended local participation by local government machinery and personnel that could result in higher and quality economic performance.

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