

# Entrepreneurship Model for Sustainable Economic Development in Developing Countries

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**Abstract:** The pursuit of economic development and dominance by countries of the world is common to both advanced and third world countries. Economic theories and models propounded by Adams Smith in the 18th century and Ricardo in the 19th century among other scholars, have laid the cornerstone around which various economic strategies and approaches have been fashioned to reach this common goal. The result has been a wide gap that made some economies of the world to be known as “advanced, industrialised” and some others, “developing, third world” economies. While some past researches have attempted to pinpoint factors such as poor infrastructure, poor capital formation, weak institutional framework and so on as some factors responsible for back-lagging of these “developing”, economies, recent emphases through empirical and academic researches have shown that the much needed economic “miracle” for the third world countries is embedded in the factor of entrepreneurship. In fact, the unravelling of this factor has produced what is termed “emerging” economies such as Brazil, India, Indonesia, Mexico, etc. This paper therefore explores a mix of entrepreneurship theories and models believed to underlie the rapid and sustainable economic growth and development of countries such as Argentina, Brazil, Thailand and Mexico with a view of framing a unique and an adaptable entrepreneurship model for other developing economies like Nigeria. The resulting model, being founded on the works of Schumpeter, is necessity-driven; opportunity-based; resources-enabled; and result-focused. Characteristically, the model has five pillars: “window”, “network”, “corridor”, “product” and “outcome”. Though novel, the five-pillar-entrepreneurship model is hoped to be proven useful in the academia and policy-making parlance.

**Keywords:** entrepreneurship, entrepreneurship model, economic growth, economic development, developing economies, value-added

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## 1. Introduction

It is a known fact that developing countries, especially, pursue economic “prosperity”. This is particularly evident as governments of developing, non-industrialised nations of the world have repeatedly declared their intentions to propel their national economies to the status of being “developed” and “industrialised” with the expectation to reap economic “fortune” (Goh, 2005). This common goal, though not peculiar to developing countries, have been variously pursued on the basis formulated national policies and strategies which are hoped to deliver calculated economic “ends” (Goh, 2005). The results, vis-à-vis input in terms of financial resources used to run diverse government programmes and policies, time, efforts and political commitment have consistently left majority of the developing countries behind the goal; thus, a shift of focus in economic development research and theory (Naude, 2013; Gupta, 2012; Raghavan, n.d.). Recent researches in the field of economic development now strongly focus on Schumpeter’s old concept of “pioneering entrepreneur” who is regarded as key driver of economic development (Hagemann, 2013). The arguments of Cuervo, Ribeiro & Roig (2007), Dejardin (2000), Wennerkers & Thurik (1999), Holcombe (1998) and the United Nations Conference on Trade and Development (UNCTAD) (2005) all hinge the foundations of economic development of any sovereign economy within the 21<sup>st</sup> global context, on the individual “innovating” entrepreneur who, according to Schumpeter (1911), brings “new combinations” that include new processes, new products, sources of supply, new markets and new forms of organisation. Hagemann (2013), Dejardin (2000) and Wennerkers & Thurik (1999) had in their works reinforced this fact. While Pereto (1999) argued that economic development results from technological advancement and knowledge accumulation; Schmitz (1989) had already modelled that this economic development is founded on entrepreneurship citing “entrepreneurial activity” as a key determinant in the process. The UNCTAD (2005) therefore drew the following conclusion on the basis of Wennekens and Thurik’s model (1999) that:

*“Entrepreneurial activity hence expands and transforms productive potentials of the national economy by inducing higher productivity and an expansion of new niches and industries.”*

Here, “productive potentials” refers to the accumulation of both natural and human resources which are in abundant natural supply in most of developing countries. The developing world possesses great possibilities of economic development that is capable of dramatically changing global economic landscape. A condition that

would accelerate this economic upturn is deliberate entrepreneurial efforts that would transform these potentials into indigenously made wealth-creating products. Thus, developmental strategies of developing nations should, as advocated by the UNCTAD (2004), focus on boosting entrepreneurial capacity and broadening the base of individuals with entrepreneurial tendencies. Crafting an entrepreneurship model that would both aim at enlarging the base of such “pioneering entrepreneurs” and concentrate on growth potentials and innovations in order to accelerate sustainable economic development therefore becomes the major objective of this paper.

## **2. Panoramic view of economic status of some selected developing countries**

The economies of the world are categorised as developed, developing or least developed. The United Nations Development Programme (UNDP), the International Monetary Fund (IMF) and the World Bank independently do this categorisation on the bases of Gross National Income per capita per year (GNI per capita); Human Assets Indices such as nutrition, health, education, and adult literacy; and Economic Indices such as production, exports of goods and services, the economic importance of non-traditional activities (i.e. share of manufacturing and modern services in GDP), merchandise export-concentration; and the size of the economy (Neilson, 2011). As the case always is, any economic development drive focuses on the “qualitative change and restructuring in a country's economy in connection with technological and social progress” with Gross national Income per capita as a main indicator. Successfully implemented economic development strategy should lead to higher economic output (measured in terms of Gross Domestic Product, GDP), decline in unemployment, increased industrialisation, higher exports of value-added products, better spread of wealth among citizenry, favourable balance of trade, amongst others.

In general, developing countries as defined by World Bank (2004), are countries with low or middle levels of GNI per capita characterised with low industrialisation (see Tables 1a and 1b); low-income status reflected by the average earning per day (as more than 50% citizens of most developing countries live on less than US\$ 1 per day and more than 60% live on less than US\$ 2 per day) (World Bank, 2008 & 2009); and high poverty rates (as more than 40% live below poverty line in some developing countries like Nigeria) (World Bank, 2013).

Tables 1a and 1b both exhibits the gross domestic products, gross national income per capita and Manufactures exports (% of merchandise exports), a pointer to industrialisation level of the economy. While table 1b shows these variables for sixteen developing countries from Asia (China, Indonesia, Malaysia and Thailand); Africa (Egypt, Nigeria, Kenya and South Africa); Europe (Turkey, Ukraine, Hungary and Bulgaria) and the Latin America (Cuba, Mexico, Brazil and Argentina); table 1a shows the same sets of variables for seven of the most developed, industrialised countries which includes United States and Japan. From table 1a, it is evident that developed states are highly industrialised given the high rate of manufactures' contribution to their exports, ranging from 58.03 to 91.97. These products (some of which include motor vehicles, machinery, chemicals, computer and electronics) are by no means exogenous either in design or production, except for later shift of plants to countries with relatively cheap labour. This implies that both the product idea (innovation) and production (entrepreneurial activity) are indigenously mobilised, giving room for the countries' nationals to create and own wealth. Such wealth can be described as “real” because there would be no repatriation.

Table 1b however shows that most developing countries have relatively small economic size (except for China given the heavy shift of American firms to China, fast technology transfer and its trillion-population); low industrial base (again, except for some developing countries like China, Mexico, Thailand, Turkey and Malaysia making a forward leap through entrepreneurial manufacturing) and weak economic wealth for their citizens. The case of Nigeria in particular paints a vivid picture of this. Though very rich in diverse solid minerals, fossil fuels and natural gas and agriculture, the country, like most developing countries can only boast of light manufacturing base. For instance, its manufacture-based exports accounts for only 7% at its peak in 2010 and could be as low as 1% (see table 1c). So, more than 98% of export earnings and about 83% of federal government revenue would normally come from primary products, which could have been multiplied in two or three fold if these resources indigenously gained value-addition by way of entrepreneurial innovations before they are exported. This makes most developing economies dependent on industrialised nations for not only industrial products to meet their slim industrial sector but also for consumer products. Over 90% of manufactured goods are said to be imported. The attendant consequences include: less resilience to global economic oscillations and inability to translate drivers of economic growth into qualitative change.

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The United Nations Development Programme’s report (2013) nevertheless exuded the exceptionality of some developing countries like *China, India, Brazil* and the “Rise of the South” which include *Indonesia* (Southeast Asia), *Mexico* (South of North America), *South Africa* (Southernmost Africa), *Thailand* (Southeast Asia) and *Turkey* (Southeast Europe) in the area of fast paced industrialisation process. According to the report, the various national economic programmes pursued by these countries being modelled on the cornerstones of entrepreneurial creativity and innovation have consequently improved their economic development status, altogether lifting hundreds of millions out of poverty. The clue here is: developing countries have a high chance of realising their economic dream if they model their national strategic plan on entrepreneurship given the economic dynamics of this 21<sup>st</sup> century.

**Table 1a:** Some selected developed countries from Asia, Europe and North America with some key economic indicators

S/N	COUNTRY	GDP (US\$ billions)		GNI per capita (US\$)		Manufactures exports (% of merchandise exports)	
		2005	2012	2005	2012	2005	2012
1	United States	12,564.30	15,684.80	44,670	50,120	79.89	63.35
2	Japan	4,571.88	5,959.72	39,140	47,870	91.97	89.56
3	Germany	2,766.25	3,399.59	34,780	44,010	86.06	82.49
4	United Kingdom	2,295.84	2,435.17	39,030	38,250	76.93	66.37
5	France	2,136.56	2,612.88	34,850	41,750	80.15	76.99
6	Italy	1,786.28	2,013.26	30,880	33,840	85.15	NA
7	Canada	1,133.76	1,821.42	33,110	50,970	58.03	47.32
8	Spain	1,130.80	1,349.35	25,450	30,110	76.6	67.79

Source: World Bank, 2013

**Table 1b:** Some selected developing countries from Asia, Europe, Africa and the Americas with some key economic indicators

S/N	COUNTRY	GDP (US\$ billions)		GNI per capita (US\$)		Manufactures exports (% of merchandise exports)	
		2005	2012	2005	2012	2005	2012
1	China	2,256.90	8,358.36	1,740	5,680	91.88	93.93
2	Brazil	882.19	2,252.66	3,960	11,630	52.96	35.04
3	Mexico	848.95	1,177.96	7,520	9,600	77.15	74.3
4	Turkey	482.98	789.26	6,520	10,830	81.57	77.73
5	Indonesia	285.87	878.19	1,230	3,420	47.18	36.18
6	South Africa	247.05	384.31	4,850	7,610	56.66	45.38
7	Argentina	183.19	470.53	4,480	N/A	30.8	32.14
8	Thailand	176.35	365.97	2,600	5,210	76.8	73.77
9	Malaysia	143.53	303.53	5,240	9,800	74.66	61.78
10	Nigeria	112.25	262.61	630	1,430	NA	NA
11	Hungary	110.32	125.51	10,220	12,370	85.16	79.99
12	Egypt, Arab Rep.	89.69	257.29	1,290	3,000	23.65	45.49
13	Ukraine	86.14	176.31	1,540	3,500	69.43	60.7
14	Cuba	42.64	NA	3,950	NA	26.84	NA
15	Bulgaria	28.9	51.03	3,640	6,870	59.25	47.59
16	Kenya	18.74	37.34	520	850	31.91	NA

Source: World Bank, 2013; Wikipedia.org, 2013

**Table 1c:** Nigeria’s manufactures exports (% of merchandise exports) between 2005 and 2012

Manufactures exports (% of merchandise exports)							
2005	2006	2007	2008	2009	2010	2011	2012
N/A	1	2	5	4	7	3	NA

Source: World Bank, 2013

### 3. Providing an entrepreneurship model for sustainable economic development

The prime objective of this paper is to provide an adaptable entrepreneurship-based economic development model. The model is founded on the Schumpeterian economic development theory which argues that the entrepreneur is a key driver of economic growth and development. Specifically, the model is: necessity-driven (i.e. necessity to improve income-earning and wealth-creating capacity of individuals, firms and the economy); opportunity-based (opportunity to create globally marketable value-added products); resources-enabled (possession of ample natural resources that serve as basis for innovating entrepreneurship), and result-oriented (targeted towards economic development of the nation).

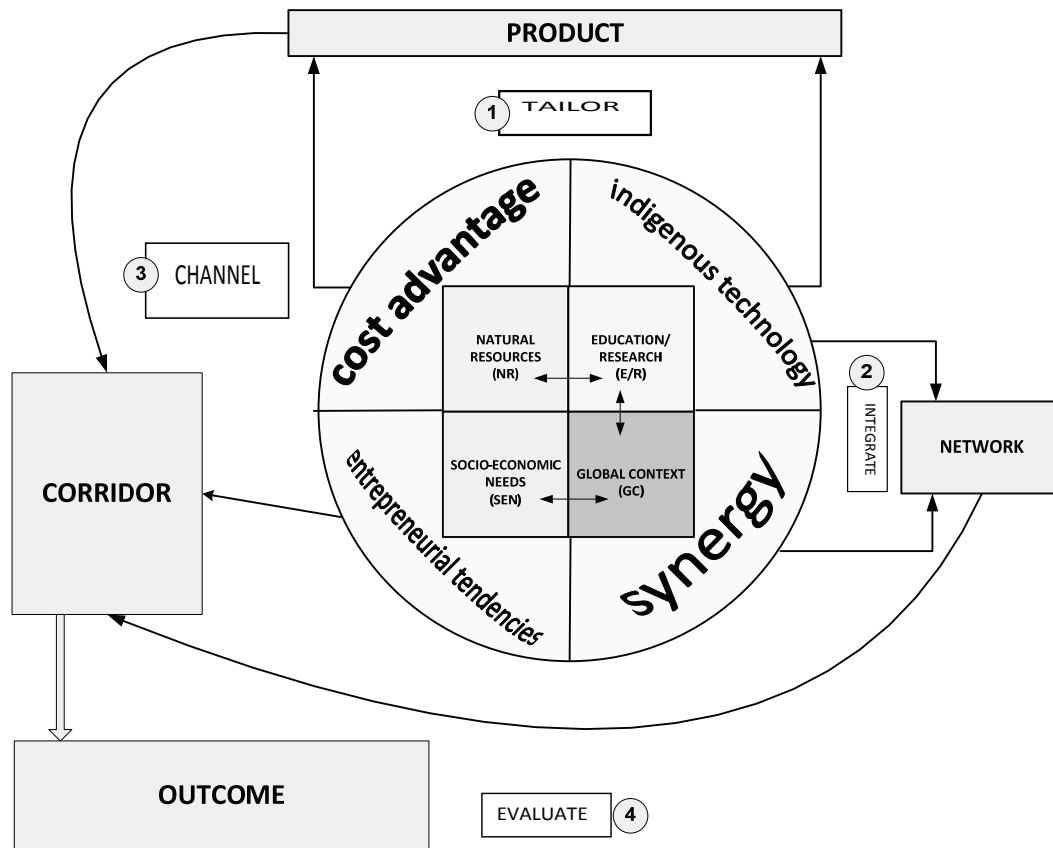


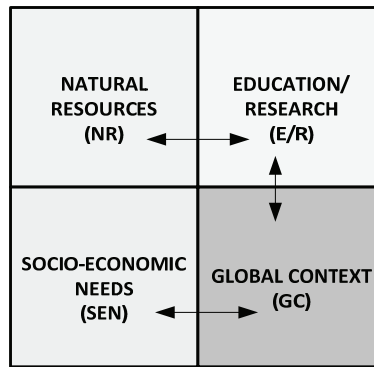
Figure 1: The “TICE” entrepreneurship-based economic development model, *field work, 2013*

#### 3.1 Pillars of the “TICE” model

The model, which is entrepreneurship-based, is expected to drive the overall thrust of economic development strategy of any developing country like Nigeria. The model is also called “TICE” model because of four major facilitating functions or role expected of the state machinery (this will be discussed shortly after now). Characteristically, the “TICE” model features five key pillars which are: “window”, “network”, “corridor”, “product” and “outcome”.

##### 3.1.1 The Window

This defines the spectrum of economic advantages and opportunities available to be exploited by any economy in order realise preset economic “ends” such as higher living standard, rapid industrialisation process, etc. Just as in literal sense, economic window in this context also refers to the openings which require further and thorough investigations in order to be fully exploited. One of the key assumptions that underlie the “TICE” model is that most developing countries are richly endowed with vast range of natural resources within which are embedded, economic opportunities largely untapped hitherto. While this model considers natural resources as the bedrock of economic window, education and research, global dynamics and socio-economic needs are other quadrants that complete the window. This is exhibited in the TICE model and shown in figure 2.



**Figure 2:** Economic windows that underlie the “TICE” model

Natural Resources - Developing countries especially are so richly endowed with varied base of natural resources ranging from solid minerals, agriculture, and petroleum to even virile and largely enterprising teeming population. It is no doubt that over 70% of world’s richest mineral resources abound underneath the soil of developing countries. For instance, the proven reserve of oil as at end of 2012 indicates that over 80% are endowed in developing Asian and African countries (OPEC, 2012). These resources afford one vital opportunity to the countries that own them: COST ADVANTAGE. Assume that country A is a developed, industrialised country and that countries B, C, D, E, F and G are developing countries located in different regions of the globe. Furthermore, country A imports cocoa, rubber, iron ore and uranium from country B and C that are richly endowed with these natural resources at \$ US 1/ton respectively. Country A in turn will add value to these imported resources in their own country thereby creating job opportunities for their citizens, meet local demands, and create income-generating and earning avenues within the local economy and will in turn export the finished products as coffee, plastic products, automobiles, cooking or industrial gas to developing countries B, C, D, E, F and G at prices in multiples of US\$1. Thus developing countries remain underdeveloped. Entrepreneurship provides the impetus for rapid economic growth, propelled by strong industrial base. Recognising the importance of this, Thailand disbursed almost 40% of the public funds to Research and Development expenditure in 2003, concentrating on adding value to its primary commodity (Doner, 2010).

Education and Research - Former President, John F. Kennedy, once asserted: *“Our progress as a nation can be no swifter than our progress in education. The human mind is our fundamental resource.”* This underscores the extreme importance of education in accelerating the development of any nation. One index that marks most developed states in high literacy rate and strong research base. The US Pennsylvania State University for instance, ran a budget in 2011 for research and expenditure alone that exceeded US\$ 794 million contrary to the total capital budgetary allocation in Nigerian education sector that amounted to only US\$ 230.3 million for 2011 (Pennsylvania State University, 2012; “ERC faults FG Budgetary Allocation to Education”, 2011). This model recognises E/R as a vital instrument for sustainable development. Given the over 50% population of developing nations as youth population, the second quadrant of the window identifies (E/R) as having the potential for developing indigenous technological know-how if the orientation of E/R is tailored towards natural resources. This however, would require a strategic and functional education system that is truly based on excellence, openness, local opportunities and support systems. The outcome of E/R oriented towards exploring developing country’s own natural resources will be a stream of viable product ideas that would require further development and eventual commercialisation. It was in recognition of this window that Thailand rapidly revolutionised its educational system at the close of the 20<sup>th</sup> century in order to encourage the development of core skills and learning requisite for successful entrepreneurial drive (Kantamara, Hallinger & Jatiket, 2006; “Higher Education: Policy and Issue”, n.d). This may have spurred its youth population to pursue learning and research activities that have led to the development of highly valued globally marketable products.

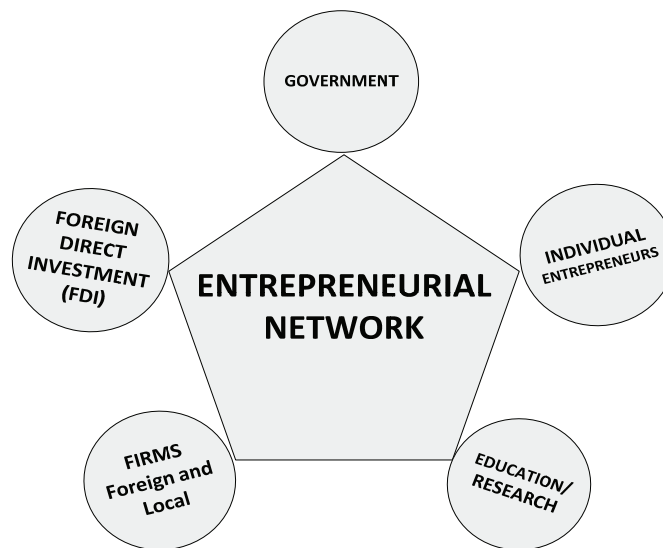
Global Context - Global context allows for regional, continental and even sub regional integration apart from maintaining bilateral relations. Vast opportunities could be tapped from the synergy resulting from this integration and diplomatic ties. Organisation of the Petroleum Exporting Countries (OPEC) for instance is a trading cartel that integrates countries like Venezuela, Saudi Arabia, Iran, Iraq, Kuwait, United Arab Emirates, Libya, Nigeria, Qatar, Algeria, Angola and Ecuador. While a country like Saudi Arabia has developed a

productive capacity in the area of oil refinery that parallels the West, Nigeria is still lagging behind. OPEC should be platform for exploring productive capabilities for Nigeria since they share similar resources.

Socio-economic Needs - Common with most developing nations' population is the quest for survival as significant populace live below US\$ 2 per day; the drive for improved living standard; search for means of livelihood as unemployment rates could be as high as 25% in some of the developing countries (World Bank, 2013). The prevalent economic conditions in any country would normally induce certain socio-economic factors/ needs. For instance, search for means of livelihood due to prevailing high rate of unemployment may lead a citizen to critical thinking as to what enterprise to undertake. The truth is that, great entrepreneurs have been born this way. The Brazilian experience on EMPRETEC (*the Spanish acronym for emprendedores i.e. entrepreneurs and tecnología i.e. technology*) alludes to this (UNCTAD, 2005). Therefore, a thorough understanding of what makes up a developing country's socio-economic needs can lead to formulating entrepreneurship-driven national economic development plan. Schumpeter (1961) and McClelland (1961)' theories support the fact that most of the socio-economic needs prevalent in developing country underlie what is known as "entrepreneurial spirit" (Cuervo, Ribeiro & Roig, 2007) or "entrepreneurial tendencies". This entrepreneurial spirit or tendencies in individuals and firms can be harnessed on a whole scale to engender innovation, productivity and economic development. According to Cuervo, Ribeiro & Roig (2007), opportunity for entrepreneurship within an economy on a substantially large scale is actually "economic opportunity" that needs to be exploited for economic growth and development.

### 3.1.2 Network

This is the second pillar of the "TICE" model which suggests that realising sustainable economic development would depend so much on collaboration which must first be well established and coordinated and second, explored in order to harness the opportunities presented by the "WINDOW". Figure 3 below, which is a subset of the "TICE" model suggests five key players that be integrated into one network for fostering economic development



**Figure 3:** Pentagonal entrepreneurial network for fostering economic development

Government - The old idea that government is the custodian and manager of an economy is fast giving way to what recent economic theorists advocate to be its chief role – that of a "facilitator". The experience of Brazil, Indonesia, Malaysia and Thailand prove invaluable evidence that if government role is largely reduced to that of a "facilitator", there will be enabling environment for entrepreneurship to thrive – free enterprise setup that allows for pure competition. It is only then any economic development policy formulated on this model would yield intended results.

Individual Entrepreneurs - Cuervo, Ribeiro & Roig (2007)'s statement – "The creation of a country's wealth and dynamism depends upon the competitiveness of its firms and this, in turn, relies fundamentally on the capabilities of its entrepreneurs..." – vividly captures the essence of integrating the individual entrepreneurs in

the network. This essence was equally emphasised by the Wennerkers and Thurik (1999)'s model when they asserted that entrepreneurial activity require to grow and develop any economy is traceable to individuals – entrepreneurs. The economic development plan that be based on the model therefore suggests that the plan must thoroughly focus on the individual entrepreneurs that pebble various sectors of the national economy.

Education/ Research - Well funded education and research sector that is strongly tailored towards harnessing the economic opportunities in the economy forms a key team player in the entrepreneurial network. Expectedly, the E/R will normally churn research outcomes in form of technological advance, discoveries and know-how necessary to drive the industrial base of the economy. The funding of this sector should not be left in the hands of the government alone. Industries, firms and individuals must plug in. Pennsylvania State University for instance got more than 8% of its US\$ 230.3 million as research funding from industry in 2011 (Pennsylvania State University, 2012). This is a continuum in similar region.

Firms - The EMPRETEC model (2004) which focused strongly on developing the entrepreneurial capabilities of individuals also took cognisance of the firms. The implementation of EMPRETEC programme is intended to strengthen SMEs in developing countries in order to further foster entrepreneurship for economic benefits. Existing firms at all levels – small, medium and large – and in the various sectors are recognised as important drivers for promoting entrepreneurship in a coordinated manner since they organise productive resources. Furthermore, enforcement of free entry and exit barriers as advocated by Porter (1980)'s model should also encourage the springing up of promising enterprises in the economy. Firms therefore become a key member of the entrepreneurial network.

Foreign Direct Investment - The "TICE model views Foreign Direct Investment (FDI) as a vital in advancing a developing economy. The Argentine scenario proves this point clearly. It is claimed that the Argentine manufacturing subsector gets 36% share of FDI stock that is put at US\$ 8.7 billion in 2012. On the overall, 51% of Argentine FDI stock is said to be channelled to medium and high-tech investment.

### *3.1.3 Corridor*

The "TICE" model is pillared on the concept of Value Chain first propounded by Porter (1985). From the microeconomic perspective, Value Chain refer to a set of interconnected value-creating activities performed by an organisation spanning from procurement of productive inputs up to the end products being marketed to the final consumers. From the macroeconomic viewpoint, the entire economy can be seen as a complex value-adding system which must be well structured and coordinated in order to attain to the status of being a "producing economy". This means that various sectors of the economy (i.e. transport, manufacturing, energy, communications, banking, marketing, etc) must be work in a cohesive manner as facilitated by government policies and programmes. Contradictory policies at any level of governance or from regime to regime, as it is a common thing in developing countries will hamper the "corridor" pillar of the "TICE" model.

### *3.1.4 Product*

As earlier stated, if a well funded education and research sector is strongly tailored towards exploring a developing country's vast natural resources, the expected outcome should be a mix of products that can developed and marketed to the rest of the world at competitive cost advantage. With the claim that 90% of its exports in 2000 came from the industrial, Mexico could only record this rapid growth, industrialisation and economic development because of the competitive cost of manufacturing and design of its electronics which are mostly indigenous. It is said that the automobile industry produces technologically complex components and engages in some research and development activities. An example is that of the new Volkswagen Jetta model with up to 70% of parts designed in Mexico (Gereffi & Martínez, 2004). In addition, Mexico produces and exports at competitive prices, high-tech products such as aircraft, petrochemicals, cement, textiles, processed food and beverages and consumer durables. Most of these products were developed when education and research oriented toward exploring their rich natural resources.

### *3.1.5 Outcome*

Generally, developing countries yearn to reap economic benefits from formulated policies and programmes. Some of the benefits, which represent the expectations of the populace include: improved living standard as a result of provision of employment opportunities, better infrastructural facilities to foster economic output,

stable economy that guarantees increased wealth and income, etc. While these constitute “felt” outcome, in general, the outcome pillar of the “TICE” model presupposes that there will be: increased production of indigenously originated high-tech goods and services to drive GDP growth; very large platform for wealth creation/ownership at the micro level thereby reducing poverty, increasing per capita income and ultimately improving general standard of living; resilient economy due to bulk “home-sourcing” of products for local consumption and productive inputs; and well diversified economy with strong industrial base as in the case of Mexico, Argentina, Brazil, Thailand and Indonesia. However, continuous EVALUATION of framework, machineries, rules and regulation, policies, programmes, support systems and infrastructural upgrading is required ensure that any national economic development strategy formulated on the basis of the “TICE” model would continually yield results consistent with these OUTCOMES.

### **3.2 Prevailent conditions necessary for implementing the “tice” model**

The adaptation of the “TICE” model by any developing country can not be without necessary pre-conditions. These conditions, which cut across the political, social, economic and educational dimensions, are foundational to conceptualisation and implementation of any national economic strategy. They include:

- National economic framework that allows for truly free enterprise with strong legal structure and strong corporate governance
- Availability of physical infrastructure (like power; communications; transport system) and “socio-fracture” that guarantees security of human life and investment.
- Transparent tax system that supports entrepreneurial drive and industry.
- Orientation towards private-driven economy with government playing the role of “facilitator”.
- Genuine promotion of indigenous technological know-how through purposeful investment in E/R and joint partnerships to establish manufacturing plants rather than mere assembly plants.
- Orientation towards functional educational system that would spur entrepreneurial development.
- Stable polity characterised with “non-profitability”, absence of “systemic” corruption and promotion of excellence, accountability, industry and ingenuity as national values.

### **3.3 Discussion on practical application of the “TICE” model**

Education and research sector forms the core of the “TICE” model. As such, the education/research sector should be **TAILORED** towards exploiting natural resources within the economy. To achieve this, *first*, the education/research sector must be rigorously restructured into well-planned frame that would impart entrepreneurial skills at all levels of education beginning from the very foundation so that graduates at each level of education are fully equipped to pioneer start-ups capable of exploring indigenous product ideas, process technologies and adapted technologies in order to add manufacturing value to natural resources possessed in abundance by the country. This restructuring should however be based on “PARity” concept which means: **P**erformance (the exact expected accomplishment from each institution and researcher in the sector); **A**ccountability (justification of investment as input vis-à-vis economic contribution as output); and **R**eward (adequate remuneration juxtaposed between the prevalent national and global socio-economic realities. This in essence should spur excellent intellectualism that would lead to ingenuity and innovation. Figure 4 below offers an example of education/research remodelling. *Second*, synergies resulting from the entrepreneurial network (i.e. research grants/funds; technical expertise, etc) should be **CHANNELLED** towards to developing new products fit for local consumption and export as well as devote foreign direct investment to the establishment of firms that will grow the economy within the framework of entrepreneurship. *Three*, **INTEGRATE** the E/R sector into all other economic sectors of the country (i.e. manufacturing, governance, business, financial, etc) in order to maximally harness the intellectual insights into the country’s abundant natural resources.



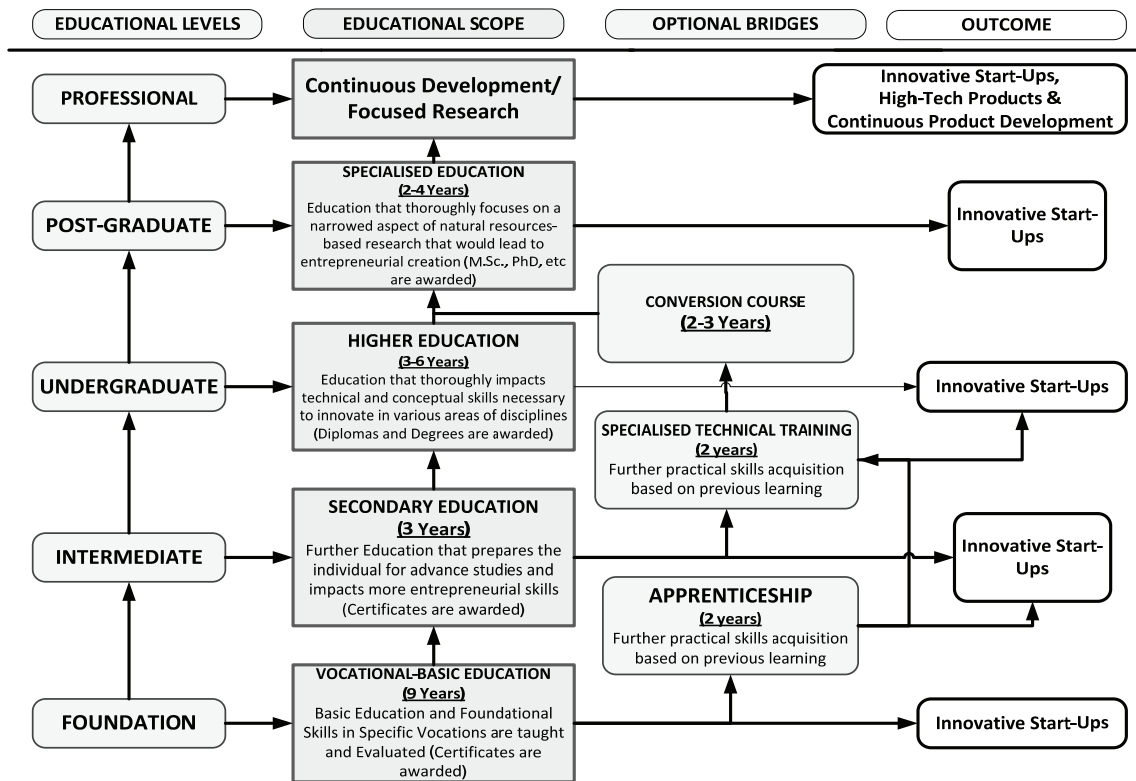


Figure 4: A sample of education/research sector remodelling

#### 4. Conclusion and recommendation

On the basis of the Schumpeterian economic development theory, entrepreneurship is seen as key driver of economic development. This paper proposes a model that could form the basis for formulating a workable national economic development strategy especially for developing countries. It is hoped that positive and progressive differences would be recorded like in the case of Argentina, Brazil, Mexico and Thailand if well funded education and research activities are strongly **TAILORED** to develop natural resources-based products; and the synergies gained through well **INTEGRATED** entrepreneurial network is together with ample entrepreneurial tendencies **CHANNELLED** to create value-added goods and services, with recourse to continuous **EVALUATION**. For future research, it is hoped that if these models proposed by this paper are applied as intended, it will be possible to measure the dramatic impact the models could bear on the economic development as well as the entrepreneurship development of a developing country.

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