

Journal of Management & Entrepreneurship

Volume 12

Number 3

July-September 2018

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Internal Capabilities and Export Performance of SMEs in Ghana's Non-Traditional Agricultural Export Sector.*

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Abstract

The internal capabilities (e.g. innovation, entrepreneurship and value chain activities) of Non-Traditional Agricultural Export - Small and Medium Enterprises (NTAE-SMEs) which this study focuses on, are considered important to explain export performance. The study made use of cross-sectional data from a sample of 152 NTAE-SMEs located in the coastal, forest and savannah zones of Ghana and applied Partial Least Squares SEM analysis. The results showed that when competing internationally, the NTAE-SMEs gain higher performance levels if they combine an entrepreneurial strategy with high innovation capacity. Export knowledge and the organization of the upstream supply chains will help NTAE-SMEs gain better performance competing in international markets. The statistical significance of international experience and export knowledge shows that knowing how to get the goods into foreign markets is essential for NTAE-SMEs. SMEs were predominantly located in the coastal zone which statistically excluded possibility of analysis based on location. Future research could look at a longitudinal study to support our cross sectional study.

* **ACKNOWLEDGEMENTS:** The authors acknowledge the contribution of Emeritus Professor Kofi Awusabo-Asare of the University of Cape-Coast, Ghana for his extensive review, suggestions and guidance. Mr. Felix Larry Essilfie of the Institute of Development and Economic Research (IDER), Ghana for his support in data analysis.

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KEY WORDS: Internal Capabilities, NTAE-SMEs, Export Performance

Introduction

Small and medium-sized enterprises (SMEs) in Ghana contribute to economic development through employment, supporting a relatively “even distribution of industrial development in the country, including the rural areas” (Oppong et al. 2014, pp. 85). In Ghana, SMEs account for 92% of all businesses, contribute close to 70% of gross domestic product (GDP) and provide an estimated 85% of employment in manufacturing (Abor and Quartey 2010).

The promotion of non-traditional agricultural export (NTAE) sector, predominantly SMEs, is becoming an important development strategy in low and middle-income countries (LMICs) due to its high value products (fruits, vegetables and horticultural products) and its growing importance in the economy of these countries. This is partly because many African countries (including Ghana) adopted “a market-friendly, export-oriented strategy”, with non-traditional agricultural products (Ouma et al. 2013, pp. 227). Between 1980 and 2005 the NTAEs in African countries increased by 243% and this growth was even higher in the horticulture exports of the sub-sector (Ouma et al. 2013). In general, the export firms in Ghana, have been reasonably studied on aspects such as international experience of exporters and market strategy of firms (Sraha et al. 2017; Acquah and Agyapong 2015; Akomea et al. 2014; Hinson et al. 2008), the role of bank finance (Abor et al. 2014); and, the role of market orientation (Mahamoud 2011), but not much on their entrepreneurial strategy, innovation capacity and value chain activities. The non-traditional agricultural export products, especially, require new strategies in the organisation of their value chain (Konig et al. 2013). The impact of any intervention may be limited in part by the lack of a holistic approach that addresses opportunities and challenges in the SME value chain (Devaux et. al. 2018). Therefore, this study investigates how exporting SMEs in Ghana develop entrepreneurial strategies and innovate when organizing their value chain activities.

This paper is structured as follows: section 2 discusses theoretical background for the study, and is followed by an explanation of the conceptual model and hypothesis development in section 3. Section 4 explains research methodology and data analysis. The results are discussed in section 5. The final section concludes with some policy implications, and identifies limitations to the study and scope for future research.

Theoretical Background and Framework

The resources and internal capabilities of a firm, expressed as the Resource Based View (RBV), have been regarded as essential to understand the performance of firms. Originally developed by Wernerfelt (1984), the RBV of a firm has been described as “the accumulation of valuable, rare, inimitable, and non-substitutable (VRIN) resources” (Lin and Wu 2014, pp. 407). Judicious use of resources, both tangible (land, building, equipment, human) and intangible (team capabilities and capacity), enable a firm to gain higher returns (Lozano et al. 2014, pp.6-7; Peteraf 1993, pp.179; Barney 2001). As a result, firms that build skills and know-how from their resource base are able to leverage ‘superior resources and capabilities’ for ‘superior profits’ and performance (Wolff and Pett 2000, pp. 36). The paradigm has gained interest in the study of the performance of the firms in developing economies in recent years due to its ability to explain firm performance (Fainshmidt et al. 2016). In particular, the scarce resources that are available in developing countries influence a firm’s innovative activity, which eventually leads to competitive advantage and performance (Barassa et al. 2017). Various studies that draw on the RBV theory have investigated the factors that largely explain the success of exporting firms and have found that an entrepreneurial strategy, the human capital of the firm (international experience and export knowledge), and the organization of the value chain activities were important for their success (Heiss 2017; Carland et al. 2015; Gashi et al. 2014; Kungwansupaphan and Siengthai 2014 and 2012). Although few studies focused on agricultural firms, we argue that firms that export agricultural products can differentiate themselves in foreign markets by entering niche markets of non-traditional export products. Entrepreneurial strategy and the innovation capacity of the firm are important assets to identify the niches and gain a competitive advantage.

A firm’s *entrepreneurial strategy* reflects its behavior to develop innovations and take bold decisions regarding investments (Brown et al. 2006). For export firms this is manifested by the investment it makes in physical capital (supply capacity) which in part influences the productivity-export relationship (Gashi et al. 2014) and in part builds a firm’s resource base. A firm’s entrepreneurial strategy reflects its behavior to identify opportunities and take bold decisions regarding investments (Brown et al. 2006). Gashi et al. (2014) have argued that the impact of investment in physical capital (supply capacity) increases productivity and export (in quantities). Furthermore, a firm’s internal resources, which include physical capital (supply capacity) and human and organizational capital is linked to export performance (Heiss 2017).

The *human capital* of a firm reflects its resources in terms of the knowledge and capabilities of the management team and employees. The term, originally coined by Becker (1964), refers to “the skills, knowledge, (experience) and competence” which emanate from the accumulation of education and experience (Kungwansupaphan and Siengthai 2014, pp.5). The role of human capital is to harness employees’ capabilities to the advantage of a firm.

Value-chain concepts are relevant to the emerging philosophy on chain development and relationships. The term “value chain” is variously used and applied in the literature. (Devaux et. al. 2018; Donovan et. al. 2015). The value chain activities can be categorised as primary activities and support activities. “These activities are integrating functions that cut across the traditional functions of the firm” (Christopher 2011, pp.10). Porter (1985, pp. 33) states that, a “value chain disaggregates a firm into its strategically relevant activities” whose performance leads to competitive advantage. It is “the full range of activities that firms and workers undertake to bring a product from its conception to end use and beyond” (Gerrefi and Fernandez-Stark 2016, pp.7).

Export performance represents the outcome of the firm’s export activities. There is consensus among researchers that export performance has more than one dimension (Jalali 2012, pp.55). Two dimensions of export performance used in most studies are economic (objective-sales, profitability, ‘sales growth’, ‘export intensity-proportion of export over total sales’, etc.) and/or strategic (subjective- ‘overall export performance’, ‘relative overall export performance’ and ‘relative export sales growth’, perception of performance, etc.) (Ngo et al. 2016; Hinson et al. 2008; Zou and Stan 1998). As a result, the explanations of export performance are varied and contextual in application (Stam et al. 2013, pp.7).

Export in Developing Countries

3.1 Entrepreneurial strategy

Entrepreneurial strategies increase productivity and address “unsatisfied market needs” (Webb et al. 2014, pp.3). Webb et al. (2014) present historical cases to define an entrepreneurial strategy as novel processes, added value, intended expansion, opportunities for market information, and business strategies (product, price, technology marketing, cost reduction and quality). Entrepreneurial strategy can manifest by four possible growth strategies, namely moving into new markets, introducing new products or services, increasing sale with existing products and services, and hiring

more employees (Rostamkalaei and Freel 2016, pp.9). This is consistent with the study by Bamiatzi and Kirchmaier (2014, pp.261) who “claim that high-growth firms pursue market expansion”. In this study, we define entrepreneurial strategy as the intended expansion of a firm. Intended expansion, in particular shows a firm’s commitment to allocate resources to grow its production and move into new markets, which in turn increases a firm’s size and/or turnover. This is why we argue that an entrepreneurial strategy positively impacts a firm’s export performance:

H1 Entrepreneurial Strategy will be positively related to export performance of NTAE-SMEs in Ghana

3.2 Innovation Capacity

Perhaps, the earliest definition of innovation can be attributed to Schumpeter (1934) who suggested that innovation is a key driver for “economic growth, enhancing competitive advantage and stimulating firm productivity”. Innovation enables firms to revitalise the value of assets they are endowed with (Schumpeter 1942). Innovation is known as the ‘core renewal process’ and ‘life blood’ for a firm’s survival and growth, creating value and competitive advantage (Zahra and Covin 1994, pp. 183; Bessant et al. 2005, pp. 1366). The ability of a firm to innovate is determined by its resources and capabilities (Barassa et al. 2016). Innovation is a way of bringing about organisational change and covers “new product or service, new process technology, new organization structure or administrative systems, or new plans or program pertaining to organization members” (Damanpour 1996, p. 694). This study adapts the definition of Damanpour (1996) focusing on innovation capacity in a firm’s internal environment. There is some complementarity between innovation and export performance which positively impacts the growth and profitability of small firms (Golovko and Valentini 2011). The following hypothesis is drawn:

H2 Innovation capacity of Ghanaian NTAE-SMEs will be positively related to export performance.

3.3 Supply Capacity

The supply capacity (of a firm) is made up of size, asset endowments and various strategies adopted in its value chain. Supply capacity, as an internal condition of a firm, is affected by ‘location-related elements’ such as ‘access to raw materials and other resources’. “Supply conditions are fundamental in defining export potential” (Fugazza 2004, pp.3). In general, good internal conditions of a firm are needed for export performance. At country level, export performance is determined by foreign market access and supply

capacity (Damijan 2011). For a firm's value chain therefore, the upstream supply capacity requires effective stock management for continuous supply of inputs. This is because as an internal resource, stocks have a positive impact on profitability of the business through influencing customer satisfaction (Amoah-Mensah 2013).

In this study, upstream supply capacity is defined as maintaining input supply capacity of a firm.

Exporting firms that are better at managing the upstream supply capacity for inputs are considered to have a better understanding of the market and available options essential to obtain a smooth and steady export level. Upstream supply capacity is considered to have a positive influence on export performance. The following hypothesis is made:

H3 Upstream supply capacity of exporting Ghanaian NTAE-SMEs will be positively related to export performance.

The value chain activities downstream involve a strong market orientation towards buyers in foreign markets. It includes the established infrastructure for export storage and transportation to meet buyer demands. SMEs with a well organised downstream supply capacity towards buyers can benefit from their export market information and understanding of buyer needs and preferences (Akyol and Akehurst 2003) and respond much quicker to changing demands (Smith et. al. 2007). Internal supply capacity is determined by 'access to ports', 'institutional quality' and 'foreign market access', which positively impacts export performance (Redding and Venables 2004). In this study, downstream supply capacity is defined as a firm's ownership of storage facilities which is thought to have a positive influence on export performance. It is hypothesized as follows:

H4 Downstream supply capacity of exporting Ghanaian NTAE-SMEs will be positively related to export performance.

3.4 Export Knowledge

Export knowledge is necessary to facilitate entry into foreign markets (Okpara 2010). Export knowledge includes the knowledge of export assistance available for potential exporters, awareness of export market benefits, knowledge of potential markets, availability of knowledgeable or trained staff for export markets, and knowledge of options for export market entry (Okpara 2010; Suarez-Ortega 2003). Having a better understanding of a foreign market contributes to the positioning of a firm's products in that market. Export knowledge helps a firm to "identify changes in products that

will lead to greater acceptance and sales" (He et al. 2013, pp.7). A firm's internationalisation may be endangered if knowledge of the foreign market is insufficient, as this will increase their probability of failure (Sui and Baum 2014). Export knowledge is therefore important to the success of the SME and export performance. It is hypothesized that:

H5 Export knowledge of NTAE-SME management will be positively related to export performance.

3.5 International Experience

International experience is the experience gained outside the home country through career development or international assignments (Takeuchi et al. 2005). Successful international assignments occur where a manager overcomes cross-cultural barriers and completes the assignment (Caligiuri 2000; Shaffer and Harrison 1998). International experience is acquired through current or past events and is determined by the 'domain' (work or non-work) and cultural specificity either of which may or may not be work related (Takeuchi et al. 2005). International experience is described as the experience in selling to foreign markets and includes the factors that reflect a firm's exposure to foreign market environment (Reuber and Fischer 1997). SMEs with international experience resource tend to increase internationalisation because entrepreneurs (managers) returning to country of origin bring along transferable experiences. This ultimately has a positive impact on export performance (Filatotchev et al. 2009; Reuber and Fischer 1997). The lack of international experience poses challenges to internationalising SMEs (Thanos et al. 2017). The following hypothesis is drawn:

H6 International experience of NTAE-SME management will be positively related to export performance

The variables and hypotheses statements discussed are used in the conceptual model in figure 1.

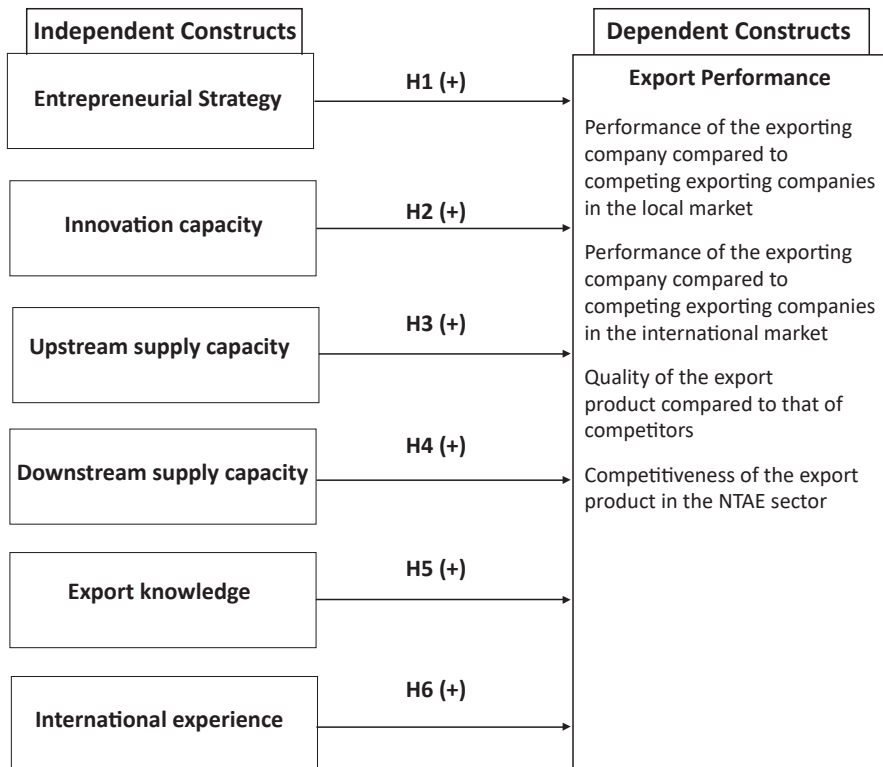
4. Data Collection

4.1 Research Design and Sample

The sample frame for the study population of NTAE is taken from data obtained from the Customs Division of the Ghana Revenue Authority (formerly Ghana Customs Excise and Preventive Service (GCEPS)), Ghana Statistical Service (GSS), Bank of Ghana (BOG), Ghana Export Promotion Authority (GEPA), Association of Ghana Industries (AGI) and Sea Freight

Pineapple Exporters of Ghana (SPEG). These institutions were surveyed to ensure that most NTAE-SMEs are covered. A reviewed list was developed from this and subsequently used for the study.

Figure 1 Conceptual Model: Relationship between independent and dependent constructs



The definition of SMEs used in this study is based on sales and/or employee size, that is,

Micro: ≤ USD 10,000 / 1-5 employees; Small: USD 10,001 ≤ USD 100,000 / 6-29 employees; Medium: USD 100,001 ≤ USD 250,000 / 30-50 employees. SMEs are also classified into various other identified firm categories: sole proprietor or single owner business; family-owned business; joint-partnerships; private limited liability companies; co-operatives; associations; and state-owned enterprises (Abban et al. 2013; Kayanula and Quartey 2000).

A multi-stage sampling approach was applied to the review list of SMEs to obtain a list of non-traditional exporters. Out of the 483 non-traditional

exporters identified in Ghana, 412 were in agriculture or agriculture related businesses. A simple random sampling methodology was used to select 235 non-traditional agricultural exporters (NTAE) out of the 412. About 70% of NTAEs were found to be located in the coastal zone* which accounts for 50% (on regional basis) of the country. Out of the 235 potential respondents, 152 participated in the survey. This represents a response rate of 65%. Four experienced field assistants and two field supervisors assisted in the field survey. The interviews targeted top management (CEO, Managing Director, Manager, Director, Officer) of each establishment.

Figure 2 Map of Ghana



4.2 Measures

The variables of our model are based on existing items which were used in similar studies that focused on measuring the performance of export companies and the resources of firms in general. The items were measured using a questionnaire that included statements. The answer to each item reflects a self-assessment by the respondent and indicates the extent to

* Coastal zone covers Western, Central, Greater Accra, Eastern and Volta regions. Forest zone covers Ashanti and Brong-Ahafo regions. Savannah zone covers Northern, Upper West and Upper East regions.

which the respondent agrees or does not agree to the statement. The answers were measured by a seven-point Likert scale.

4.2.1 Dependent Variable

Export performance in this study, was measured using three summative constructs on a seven-point 'Likert scale' (from "very poor/low" to "very good/high"). The summative constructs were derived from:

- a. Company performance on the local market. This is measured by the rating of performance of each respondent company in comparison to competing export companies in the local market.
- b. Company performance on international market. This is measured by the rating of performance of each respondent company in comparison to competing export companies in the international market.
- c. Product quality. This is measured by the rating of the quality of each respondent's product compared to that of competitors. This measure identified quality as an indicator for sales demand. High product quality implies high sales and high export performance.
- d. Product competitiveness. This is measured by how competitive each respondent's product(s) is in the NTAE sector. This measure identified competitiveness as an indicator for sales demand. High product competitiveness implies high sales and high export performance.

These measures are relevant within the context of NTAE sector and appropriate for this study, especially as no responses were provided on objective measures of export performance by which firms could be assessed.

The summative constructs were operationalized as follows:

1. ExpNatQualPerf2 - company performance compared to similar export companies in local market, product quality and product competitiveness.
2. ExpIntQualPerf3 – company performance compared to similar export companies in international market, product quality, and product competitiveness.
3. ExpAllQualPerf4 – company performance in local market, company performance in international market, product quality and product competitiveness.

4.2.2 Independent variables

Entrepreneurial strategy was operationalized by four items: expansion of existing facilities, expansion to another location, expansion with more elaborate equipment, and, expansion to new markets.

Innovation capacity was operationalized by two items: new products/services, operating technologies or administrative techniques are the first to be introduced by the company (for company operations) and company is first to introduce new products/services, administrative techniques or operating techniques (in the industry).

Up-stream supply capacity was operationalised by four items: ensure reliability in supplies to the company; maintain minimum stock levels; provide for alternative sources of supply; and make prices more competitive.

Downstream supply capacity was operationalized by two items: storage facilities are in place at strategic transit (harbour/airport) points; and in transit (ship/plane). SMEs exporting non-processed products were highly dependent on storage facilities compared to SMEs that exported semi-processed and processed products. The respondents gave answer to these variables by stating yes, we have access or no, we do not have access. These dichotomous variables were recoded into dummy variables and applied in the analysis.

Table 1 Downstream supply capacity ‘dummy’ variables

Variable	Valid	Frequency	Valid percent	Cumulative percent
Storg_fac_strattransit dummy (harbour/airport)	0	70	46.1	46.1
	1	82	53.9	100
	Total	152	100	
Comp_storg_fac_transit Dummy (ship/plane)	0	76	50.0	50.0
	1	76	50.0	100
	Total	152	100	

Export knowledge was operationalized by five items: knowledge of market; knowledge of regulations of importing countries; knowledge of quotas/overseas barriers; knowledge of frequent changes in regulations of importing country; and, need for more learning.

International experience was operationalized by three items: CEO/ Management team born and raised abroad, schooled abroad, and previously

worked abroad. Respondents answered to these questions by stating either yes or no. These dichotomous variables were recoded into dummy variables as well.

Table 2 International Experience ‘dummy variables’

Variable	Valid	Frequency	Valid percent	Cumulative percent
Inter_exp born and raised abroad dummy	0	125	82.2	82.2
	1	27	17.8	100
	Total	152	100	
Inter_exp schooled abroad dummy	0	102	67.1	67.1
	1	50	32.9	100
	Total	152	100	
Inter_exp previously worked abroad dummy	0	96	63.2	63.2
	1	56	36.8	100
	Total	152	100	

4.2.3 Control Variables

The statistical model included firm age and firm size as control variables. These variables were also used by Dana, Grandinetti, & Mason (2016, pp.612) because, firm’s age (number of years) and size (total number of employees) were considered to minimize any spurious results. Firm age was measured by number of years of a company’s operations. Firm size was measured by the total number of workers currently employed in the firm. This also included seasonal workers.

5. Results/ Data Analysis

5.1 Sample Characteristics

The profile of the respondents is presented in Table 3. The variables in Table 3 were originally used as control variables but were found to have no significant effect on export performance and therefore left outside the statistical model. Of the firms interviewed, 83% were located within the coastal belt of the country. About 7% and 10% were located in the forest and savannah zones respectively.

Table 3: Basic Company Characteristics

Characteristics	Frequency	Percent
<i>Location of Business</i>		
Savannah	15	9.87
Forest	11	7.24
Coastal	126	82.89
Total	152	100
<i>Ever Audited Financial Statement</i>		
Yes	91	59.87
No	61	40.13
Total	152	100
<i>Company Capital Asset Finance</i>		
Equity	79	51.97
LT Debt-equity	63	41.45
ST Debt	10	6.58
Total	152	100

Source: Field Survey (2016)

Sixty percent of the respondents had audited financial statements. With respect to financing, about 52% of the companies used equity finance. Other forms of capital investment financing used were equity 51.97%, long-term (LT) debt (41.45%) and short-term (ST) debt (6.58%).

The overall vision of the SMEs was coded and categorised into five main thematic areas (Table 4). The table revealed that the majority of the SMEs had a vision to be leaders in fresh agricultural commodity exporting (46.1%) or in supply of fresh agro and agro-related products to shops abroad (34.2%).

Out of the total number of respondents, 79% were male and 21% were female. Fifty-seven percent of respondents had tertiary (first degree) education, 12% had post graduate or professional education, while the remaining respondents had secondary or basic education.

Table 4: Distribution of Overall Vision of the Companies

Vision	Frequency	Percent
Commercialising goods (handicrafts, wood carvings, artefacts)	9	5.9
Generating funds and creating employment through exporting of agricultural commodities	6	3.9
Leader in fresh agricultural commodity exporting in Ghana	65	42.8
Leader in supply of fresh agro and agro-related products to shops	52	34.2
Leader in the production of good quality fabrics and garments (textiles) for Ghana and abroad	20	13.2

Source: Field Survey (2016)

The respondents were working in their respective companies for an average of 10 years. On the average about 80% of the respondent SMEs relied on the national grid as source of energy supply. This, in effect, meant that SMEs' operations are highly affected by irregular power supply in Ghana. In total, about 48% of the SMEs exported non-processed agro-products; 41% exported processed agro-products; and the remaining 11% exported semi-processed agro-products.

Non-processed agro products were pineapple, chilli pepper, baby corn, shea nuts, lumber/timber, cashew nuts, green pepper, soyabean, green mango, green banana, green pawpaw, fish, garden eggs, cocoyam, okro, and soybean. Semi-processed products include dried fruits (mango, banana), orange concentrate, pineapple (juice, chopped), dried voacanga and/or griffonia seeds, shea butter, Voacanga/griffonia tea bags, dried orange/lemon peel, flowers. Processed products include clothing (garments and textiles), artefacts (carvings), baskets and other handicrafts (drums, masks), stools, shea - body oils/cream/lotions, lip balm, soap, canned foods – tuna, fruit, vegetables, pepper sauce, palm soup, melon soup, gari (grated, roasted cassava), palm oil, traditional footwear, cocoa products, processed wood, 'kente' cloth, 'fufu' flour (cassava, yam, plantain and maize) and 'banku' mix (dried fermented maize and cassava flour).

5.2 Data Description

Analysis was done using partial least squares structural equation modelling (PLS SEM). The PLS SEM analysis is appropriate for sample sizes of between 100 and 200 (Wong, 2013) and has a better prediction for latent variables. In addition, PLS SEM is a components-based approach which models formative indicators that “form or cause the creation or change in latent variables” (Chin 1998). We first analysed the constructs and checked for internal consistency (composite) reliability. The findings indicate that it was not less than 0.89 and the convergent validity measured by the average variance extracted (AVE) was minimum of 0.68 for all variables and is, therefore, acceptable (Wong, 2013). We also analysed the discriminant validity which was determined by the Fornell-Larcker – (FL) criterion. For the FL criterion to be satisfied, the square root of the AVE should be greater than the correlation values amongst latent variables. The diagonal in Table 5, gives the square root of the AVE for each variable, and was calculated as, for example: $1.105 = 1.221^{0.5}$ (1.221 is the AVE). The findings indicate that the measures satisfy the criterion for discriminant validity.

On the non-diagonal you see the correlations of the constructs with the other constructs. According to the FL criterion, the values on the diagonal should be larger than the values in the respective columns. This shows that the correlations between the construct’s underlying items are larger than the construct’s correlations with other constructs. The construct is considered more internally coherent than are the relations of the construct with other constructs. It indicates that the construct really is unique (discriminative). The discriminant validity is good for all constructs (Hair et al. 2014; Wong 2013).

Table 5 also gives the correlations between the variables. Some strong correlates were found between innovation capacity and entrepreneurial strategy ($r = 0.436$) and between innovation capacity and the upstream supply capacity ($r = 0.497$) but these were considered not to pose a problem for the PLS SEM analyses.

Table 5 Average Variance Extracted (AVE) and Correlations

Variable	Average Variance Extracted (AVE)	1	2	3	4	5	6	7	8	9	10
1. Innovation Capacity	1.221	1.105									
2. Export Knowledge	0.945	0.092	0.972								
3. ExpPerf	1.000	0.289	0.235	1.000							
4. Firm Age (Years Operation)	1.048	0.222	0.098	0.243	1.024						
5 Firm Size	1.020	0.131	0.103	0.247	0.298	1.010					
6. Upstream Supply Capacity	0.826	0.497	-0.165	0.170	0.185	0.176	0.909				
7. Entrepreneurial Strategy	0.680	0.436	-0.078	0.110	0.068	0.019	0.385	0.825			
8. Entrepreneurial Strategy*Innovation Capacity	0.935	-0.228	0.234	0.183	0.049	0.140	-0.328	-0.538	0.967		
9. International Experience	0.774	0.008	0.320	0.267	-0.02	0.315	-0.104	-0.088	0.253	0.880	
10. Downstream Supply Capacity	0.890	-0.160	0.103	0.011	-0.028	0.067	-0.080	-0.189	0.142	0.223	0.943

5.3 Partial Least Squares Structural Equation Modelling analyses

The PLS SEM path modelling captures relationships of unobserved or latent variables and analyses path coefficients to avoid bias or inconsistency in parameter estimations for equations. The PLS method is appropriate for “smaller size samples than recommended for covariate-based SEM methods” and reveals “associations that might not appear with standard regression or covariance-based SEM methods” (Lechner and Gudmundsson, 2014). The results of the SEM PLS analyses are shown in Table 6. The standardised coefficient (β) values are shown including the significance levels.

The results were acceptable for the measurement model (outer model) since the composite scale reliability exceeded the recommended minimum of 0.70 (range 0.91 to 1.10) and the convergent validity (AVE) exceeded the minimum (0.50) in all cases (range 0.68 to 1.22) (Lechner and Gudmundsson 2014; Bagozzi and Yi 1988).

Table 6 PLS SEM estimate for factors that influence export performance of SMEs in Ghana

Variables	MODEL 1	MODEL 2	MODEL 3	Collinearity Statistic
	Export National Quality Performance 2	Export International Quality Performance 3	Export All Quality Performance 4	
	Coef.	Coef.	Coef.	Inner VIF
Firm Age	0.139*	0.154**	0.141*	1.182
Firm Size	0.060	0.056	0.041	1.295
International Experience	0.176**	0.216***	0.222***	1.341
Entrepreneurial Strategy	0.139	0.206	0.182	1.690
Innovation Capacity	0.217**	0.136	0.153	1.593
Upstream Supply Capacity	0.122	0.145	0.177*	1.568

				1.103
Downstream Supply Capacity	-0.013	-0.094	-0.060	
				1.223
Export Knowledge)	0.146	0.213**	0.242***	
				1.607
Entrepreneurial Strategy *				
Innovation Capacity	-0.315**	0.372***	0.346***	
Observations	152	152	152	
R-squared	0.252	0.316	0.317	
Adj. R-squared	0.205	0.273	0.273	

*** p<0.01, ** p<0.05, * p<0.1

Source: Field Survey (2016)

PLS SEM analysis was applied to test the hypotheses (Figure 1). Table 6 contains the coefficients (β), R^2 , the adjusted R^2 , and collinearity statistic. Multicollinearity was checked. For each of the predictor variables, the maximum variation inflation factor (VIF) was calculated and found to be below 5.0 ($VIF < 1.7$). This indicates there were no serious multicollinearity problems.

The first model in Table 6 assesses the contribution of the variables on the export performance. Model 1 has an adjusted R^2 of 0.205. The first model shows that firm age measured by years of operation is statistically significant and positively related ($p < 0.10$) to export performance. The effect of the firm age remains stable for Models 2 and 3 with p values at $p < 0.05$ and $p < 0.10$ respectively. Firm size has no statistically significant effect for any of the models. Innovation capacity and International experience have significant effects on export performance with p values each at $p < 0.05$. Although Entrepreneurial strategy has no effect on its own, the interaction of Entrepreneurial strategy and Innovation capacity has a significant joint inverse effect on export performance with $p < 0.05$. The result of this interaction suggests that for Model 1, competing SMEs in the local market, do not have the same or similar positive impact on export performance as when compared with competing international exporting SMEs for Models 2 and 3.

The second model in Table 6 has an adjusted R^2 of 0.273. Export knowledge has significant effect on export performance with $p < 0.05$. International experience is significant with $p < 0.01$. There is a significant joint positive effect of Entrepreneurial strategy and Innovation capacity on export performance. This suggests that for model 2 comparison with exporting companies on the international market has a positive influence. This is opposite for model 1 when comparison is made with exporting companies on the local market.

Model 3 was used in testing the study hypotheses. This is because all variables for export performance used in the study are captured, and the adjusted R^2 is high.

The effect of Upstream Supply Capacity on export performance is formulated in Hypothesis 3 and is statistically significant ($\beta = .177$; $p < 0.1$). Hypothesis 3 is supported. Hypothesis 5 on Export Knowledge indicates significant effect on export performance ($\beta = .242$; $p < 0.01$). Hypothesis 5 is therefore supported. Hypothesis 6 reflects the role of international experience on export performance, ($\beta = .222$; $p < 0.01$) showing a positive significant effect. This hypothesis is therefore supported. Hypothesis 1, having a focus on an Entrepreneurial Strategy has no effect and is not supported. The role of Innovation Capacity is formulated by Hypothesis 2 and is not supported. Hypothesis 4, looking at Downstream Supply Capacity has no effect on export performance.

Analysis was conducted for interacting terms and effect on export performance. The result of interest was the joint effect of innovation capacity and entrepreneurial strategy which was found to be positive and statistically significant at 1% for model 3. This implies innovation capacity and entrepreneurial strategy jointly improve export performances significantly. On the basis of this result it can be assumed that the SME internal policies on innovation capacity and entrepreneurial strategy when properly coordinated will positively improve export performance of the SME.

5.4 Discussion

This study focused on the relation between export performance of Ghanaian SMEs in the NTAE sector and internal capabilities of these SMEs. The results in our study show that the entrepreneurial strategy has no direct effect on the export performance. However, when we analyse the combination of entrepreneurial strategy with innovation capacity, it seems that the relative advantage of the combined entrepreneurial strategy and innovation capacity varies with the competitive position with national or international competitors. Innovation capacity is important for export firms when they

compete with local SMEs. However, the effect is absent when compared to international export firms. The findings suggest that when the firms compete with local firms, higher levels of performance can be achieved when the firm has low levels of entrepreneurial strategy and low innovation capacity, but when competing with international firms, the exporting firm gain higher performance levels if they combine an entrepreneurial strategy with high innovation capacity. Also, export knowledge and the organization of the upstream supply chains will help them gain better performance while competing in international markets.

These findings may in part be the result of the financing options for expansion and innovation in Ghana. At least 50% of the SMEs in the study depended on equity finance where requirement of equity capital was small. Small enterprises could rely on micro-finance institutions, credit unions or financial non-governmental organisations (FNGOs) to leverage some debt capital. However, the volume of capital available may not suffice for the venture to be undertaken due to restrictive conditions imposed by Bank of Ghana (BOG). As explained by the SMEs, these financial institutions cannot issue letters of credit (LCs). The SMEs, therefore, have to depend on other banks even though their interest rates may be higher. It is obvious that the regular banks that can generate LCs and provide long term lump-sum capital demand secured collateral which these SMEs cannot readily provide.

The higher levels of export performance may also be driven in part by better quality and competitive products. The innovations and better quality products could also be improved and sustained through legal protection mechanisms such as intellectual property (IP) registration. SMEs in Ghana appear unaware of such legal protection options. As a result, new innovations are easily picked up and copied by competitors. Carving out a niche for themselves through improved packaging, branding, trademarks, and designs could be improved with IP protection. There is the need to strengthen SME sub-sector collaborations for group exports through mandatory registrations of and with associations. This would enable better monitoring and regulation of the sub-sectors.

Currently, there is the perception that the ability of SMEs to mimic one another means any leads that one SME may develop is short-lived as other SMEs catch up fast through imitation. The effect may be the overall negative image that encapsulates them all and hampers international market penetration. With regards to organizing their business operations in the value chain, the results indicate that the upstream supply capacity has a significant effect on the export performance. It seems that organising the upstream supply capacity is important to ensure a reliable and stable flow

of goods for export. It may be that the firms that can better manage their upstream supply capacity activities are showing higher export performance because they are more trustworthy to partner with. The findings indicate that the downstream supply capacity does not explain differences in export performance. It appears that these activities are less crucial. The export firms may have more alternatives when it comes to storage at harbour/airport location. It is largely true of exporting SMEs that they are concentrated on few international buyers. For this reason, developing franchise market as a strategy linking the SMEs with multinational companies and large international buyers could generate multiple pay-offs in the value chain of the Ghanaian SMEs. This is because the multinationals or franchisors are likely to include support to their franchisees to develop the same or similar value chains along their business concepts. What SMEs should consider in such ventures is to avoid 'captive supply' scenarios where only products of franchisors are produced without allowing or restricting alternative product lines to the franchisee. The role of export knowledge is also found to be important. Exporting firms that have more knowledge of the trade regulations abroad, and the trade regulations to export in Ghana seem to be acquiring higher levels of export performance. This factor of export knowledge, knowing how to get the goods to foreign markets is often discussed as an important factor for export success in other countries (Okpara 2010). Within the franchise market development proposed, SMEs could benefit from tacit knowledge build-up (anchor) from the established franchisor to enhance export knowledge. There may however be some genuine concerns about 'crowding out' SMEs in the domestic market without the same or similar anchor. In addition, promoting SME participation in associations would help build absorptive capacities through avenues such as, knowledge share and outsourced arrangements. Relevant to our study findings is the significance for international experience and export knowledge. Knowing how to get the goods into foreign markets is as essential for export firms in Ghana as is their international experience.

6. Conclusion

Drawing on a sample of 152 firms in the NTAE sector of Ghana, we analysed the role of the entrepreneurial strategy and innovation capacity for exporting firms and how they organise their value chain activities. This was important, especially for export of agricultural products that are dependent on seasonal and storage conditions. The study captured not only the human capital of the SMEs in agribusiness but also the entrepreneurship they adopt, and what could be done better in the value chain in order to reach higher levels of export performance. Sub-sector peculiarities and lack of sector drivers

would mean interventions cannot be generalised. More specific regulations and interventions that are unique to each sub-sector, would be needed.

Our study findings showed that human capital as explained by international experience of the management team was significant for export performance. Export knowledge had a positive effect on export performance. The SMEs are not constrained by export knowledge but appropriately exploit this for increased export performance. The result for value chain activities as measured by upstream and downstream supply capacities imply that the SMEs are capable of organizing their portfolio of upstream input supplies in order to meet buyer demands. Organisation of the downstream supply capacity is however weak. This is not good for export performance and could explain the 'negatives' in terms of rejection of some exported products for not meeting specifications or standards. Generally, for SME characteristics, previous studies have focused on strengthening the capacity at the firm level (Babu et al. 2016) although the human capital of the SME is often considered the limiting factor to the progress of the SME sector in Ghana (Konig et al. 2013). Although this study does not focus on the institutional sector, it may be necessary to include such factors that lie beyond the firm to optimize export success (Van Rooyen 2014).

6.1 Limitations And Future Research

The study made use of cross-sectional data from non-traditional agricultural exporting SMEs. The SMEs were predominantly located in the coastal zone. It was, therefore, not statistically possible to make extensive analysis on SMEs based on location. However, the evidence showed that SMEs in the forest and savannah zones exported mostly semi-processed and processed products compared to SMEs in the coastal zone that exported unprocessed products as well. It would be good for future research to develop a more longitudinal study to support our cross-sectional study. Longitudinal studies may likely capture an improved sample of non-traditional agricultural exporting SMEs in the forest and savannah zones. Our cross-sectional data may be subject to the success SMEs have over time and longitudinal data will show more stability over longer periods. This may also overcome the problem of causality. In our study it may be that the success of export performance may also influence the independent factors positively. Having higher export performance motivates firms to channel more resources into the stability of their value chain activities and into developing export knowledge.

6.2 Recommendations

SMEs in the NTAE sector generally do not appear to invest much resources in training. As many as 66% of the SMEs interviewed did not invest in any form of training. As a result, their employees are skilled on the job (repeated tasks) but do not have deep insights in the export market. Technological adaptations, innovation, orientation to changes in market demand or regulations, are therefore rather slowly imbibed, if at all. SMEs could consider improving social networks through groups or associations with stronger monitoring and enforcement of agreed rules and regulations to improve information flow and capacity building. Consideration could be given to the development of organised franchise markets that link SMEs with multinational companies or large buyers. This would improve the value chain as a result of better coordination activities (Ricketts et. al. 2014).

The research findings also suggest that SMEs should also focus on strengthening downstream supply linkages. This will ensure less breaks in production. The direction of exports has been mostly targeted at the EU, but export orders are seldom based on contracts which expose SMEs to risks (Abban et al. 2013). SMEs could fare better by exporting added value (semi-processed and processed) products. Sub-regional markets could be further explored by SMEs, with government interventions, on ways to reduce bottlenecks.

While government has placed effort in developing the NTAE in general, equivalent effort has not been channelled to sub-sector policies. For example, until recently, the sheanut sector was unregulated and the activities of large foreign buyers distorted sheanut prices and truncated supply of sheanut to local exporters of shea products. Effective implementation of the shea sector policies remains necessary to promote shea exports (Abban et al. 2014). Exporters of medicinal seeds such as voacanga and griffonia have lamented the absence of a regulatory agency to enforce quality of these export products. This especially has to do with the moisture content of these products. The poor quality of the products supplied by a few exporters is often generalised to incorporate all exporters. This situation has significantly affected the sub-sectors exports. For the pineapple sector, for example, the lack of investment in market research impacted SMEs who were caught unaware by the sudden shift in consumer demand from 'smooth cayenne' to 'MD2' pineapple varieties, which severely affected production. Over politicisation of government interventions make SMEs averse to seeking government support. It would be helpful for government to promote and provide resources to agriculture and trade associations to support aspects

of the value chain process. This will encourage more exporting SMEs to join the associations and build their capacities. SMEs could place more emphasis on research to advance innovation capacity. The public-private sector initiatives with research institutions will expand development of technology and innovation opportunities that are available and affordable to exporting SMEs.

A public-private sector initiative to strengthen the intellectual property (IP) framework for various sectors and sub-sectors, could help Ghana as a country to come out with its branded products that are internationally acceptable. This will also help the SMEs to build their characteristic brands and value chains.

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Role of Employee Relationship Management Practices as Determinants of Employee Performance – Investigation of the Mediating Role of Employee Motivation

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Abstract:

Employee relations are born in an industrial setting. It is the Industry which provides the environment for employee relations. Production and productivity depends upon the type of employee relations in an organization. The overall performance of an organization is affected by the nature of employee relations. The internal communication system, levels of trust among the employees, HR/ IR Policies by management, leadership style of the management, goals of the individuals as well as organization are key factors influencing employee relations. There is evidence in literature to show that high levels of motivation among the employees leads to an improvement in firm performance. The current study attempts to assess the mediating role of employee motivation in improving employee performance in the organizations. The researcher collected 888 samples from Rashtriya Ispat Nigam Limited, Visakhapatnam to test the proposed model. The respondents' profile is explained by using the descriptive statistics such as mean and standard deviation. The proposed hypotheses of the model are tested by using Hayes (2016) mediation analysis. The results confirm the presence of significant indirect effect as hypothesized in the proposed model.

Key Words: *Employee Relations; Trust; HR Practices; Communication System; Shared Goals & Values; Leadership Style; Employee Motivation and Employee Performance*

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Introduction:

The concept of 'employee relations' is seen as an improvement over the older and traditional industrial relations as it is believed that the scope and significance of employee relations is high compared to the concept of industrial relations. The study of employee relations is aimed to understand the relations between employees and the employer, to understand the problems which may arise between these parties and to find the appropriate solutions to resolve these problem. It is based on the expectation that high levels of motivation among the workers of an organization leads to higher productivity (Boselie et al., 2011; Boswell.W 2016; Aguninis et al., 2017; Ashish et al., 2012 & Campebell et al., 2011). The notion of employee relations is also about the flow of information in the organization from top to bottom and vice versa either formally or informally. This phenomenon helps the workers to understand the aims, policies, procedures and goals of the organization. Appropriate employee relations help organizations to communicate the poor performance of the workers and suggest corrective measures to improve their performance. Employee relations also emphasizes the issue of communicating and addressing employee grievances (Delery et al., 2016; Boon et al., 2017; Gerhat 2014 & Hair et al., 1998). It also covers in its gambit the rights and responsibilities of employees, especially in the cases involving any acts of discrimination in the organization.

Concept of Employee Relations:

Buller (2012) discusses the changes occurring in the employee and employer relations in the context of the changes in economic and political system, which in turn had an effect on the industrial relations. Employee relations are defined as "the study of the rules, regulations and agreements by which employees are managed, both as individuals and as a collective group, the priority given to the individual as opposed to the collective relationships vary from organization to organization depending upon the values of management".

The concept of employee relations management (ERM) believes that increasing the motivation levels among the workers in an organization, increases organization performance (Purcell et al., 2017; Smeenk et al., 2014; Storey et al., 2013 & Van de Voorde et al., 2008 & 2015). ERM is also considered as an effective strategy to increase employee retention. It also helps in designing appropriate training programs, organize the workforce, and increase employee satisfaction. The basic belief is that motivated and well-performing employees are more valuable to the organization than the demotivated and non-performing employees (Veld et al., 2010).

ERM helps organizations to implement various strategies to integrate their workforce. In other words, ERM can be seen as a process of managing and accomplishing individual and collective tasks of employees without any ambiguities or confusion. It also helps in attaining the stated goals, objectives and targets of the employees (Shu-hsien Liao., 2004; Osborne and Waters., 2009; Merchant et al., 2013 & MacDuffie J., 2015).

Employee Relationship Management (ERM):

The main essence of ERM is to formulate appropriate practices which are intended to make the employees happy and increase their productivity. ERM involves various aspects of employee management such as recognizing the employees' contribution to the organization, policies for personal development of the employees, initiating the problem-solving methods and to set up the dispute resolution mechanism in the organization. Employee relationship is not assumed merely as a technical aspect or a software product but can be considered as a concept which facilitates smooth functioning of the organization (Liao et al., 2009; Ganga S. Dhanesh., 2014; DeNisi, et al., 2006 & Fletcher et al., 2001). Furthermore, ERM is treated as a program that can bring mutual benefits to both the parties, namely the employees as well as the management of the organization. It may yield high-level of satisfaction among the employees and will also be useful to the management in different aspects such as, new talent attraction, retention of existing employees and increase productivity of employees. Hence, sustainability of the organization depends on the effective implementation of ERM practices (Cheney et al., 1982; Boxall et al., 2011; Arthur, J.B. 2014; Kuvaas, B. 2016; Paauwe, J. 2009 & Van Riel, C.B.M et al., 2016). Maintaining effective employee relations is useful to build the organizational culture, enhancing the morale among the employees and to maintain a cordial work environment (Williams R., 2012; Wayne et al., 2007; Campbell et al., 20201; Bach et al 2010; Decramer et al., 2012 & Kimsey-Sward., 2001).

Within in the realm of employee relationship management, an employee of the organization will be considered as an asset rather than a cost. This concept is useful to the firms to maintain open communication and encourage goal-oriented employees of the organizations. Employee relationship management is mainly focused on reducing conflicts among employees and employers. It is also believed that an effective employee relationship management can impact the workforce by contributing to creation of a value-based organization. Effective employee relationship management practices will help the organizations in creating appropriate

environment that benefits both, the employees and employers (Latham et al., 2015; Jose et al., 2016 & Giles et al., 2000).

Review of Literature:

An analysis of the existing literature in this area, suggests certain major factors which impact employee motivation and employee performance:

Trust:

Trust is a strong factor which influences the performance and efficiency of an organization (Dekouloua, 2014). Trust cannot be built overnight and people take a long time to repose their trust in an organization (Cheney PH et al., 1982; Kimsey – Sward K., 2001 & Lepak et al., 2016)). Trust has two elements: integrity and reliability (Liao et al., 2009). Further, trust has to be from both parties i.e. employees and management. If any one or both of them do not trust each other then it results in negative communication (Mithas S et al., 2005).

Leadership Style:

Leadership is an influential factor which affects performance of employees in an organization and in turn also the ability of the organization to achieve its goals (Green Bert., 2006; Levin D.Z 2010; Roberts 2013 & Ruber et al., 2010). Effective leadership uses right people for the right job. (Dansereau et al., 2005; 2012 & 2015).

HR /IR Practices:

HR/IR Practices are crucial function of Management which can bring change in status of ERM in the organization as this function can be quantified in statistical data to prove its importance in enhancing ERM status in an organization. Improved quality and productivity can be achieved through increase in motivation levels of employees resulting from practices such as training, job rotation, job satisfaction, participative management, performance appraisal, career planning and development. Better training policies and assessment can improve satisfaction of employees in an organization. Research on performance appraisal indicates that better satisfaction levels among employees can be achieved through variable pay performance system (Paauwe J., 2009; Storey et al., 2013 & Mark et al., 2015).

Communication System:

Communication is one of the most important components where a comprehensive employee relations strategy defines and builds trust among

employees (Jie Shena et al., 2014). With the help of communication an organization conveys important information to the employees about its business goals and policies, and to maintain the value and work ethics in the organization. Organizational communication can be formal or informal with the clear intention of passing useful information which gives more clarity about work, and offers a platform for open discussion (Hiroshi Yamamoto, 2011). Communication creates synergy among employees through face to face communication, meetings, emails and orders or telephonic calls (Ichniowski, C., Kochan et al., 1996).

Shared Goals and Values:

Business goals are important in any organization as shared goals and values foster good employee relations. Shared goals can be defined as beliefs in common values pertaining to behavior norms, goals and policies (Fletcher., 2001). Common goals help employees to direct their efforts towards achieving them. However, for this to happen it is very important that employees collaborate with each other, thus improving employee relations a prerequisite. (Delery, J et al., 2016).

Employee Motivation:

Motivation is explained as a reason for employee's willingness. Motivation involves the perception of and individual about values, interest and actions. Motivation levels vary from person to person, and tend to increase or decrease with physical age of a person and with physiological state. It depends on various factors such as family life, education, etc. Traditionally, the concept of motivation was considered as internal to a person. However, recent literature on the subject is interested in external factors that motivate people such as speech and counseling which will help them achieve their goals and make them happy about their performance (Claus, L et al., 2009; Delery et al., 2008 & 2009).

Employees Performance:

Employees' performance is continuously reviewed to ensure that performance and quality of work is maintained so as to help in achieving the objectives of the organization. Management should ensure that employees know what is expected from them not only in terms of duties or responsibilities but also in terms of performance (Hofstede, G. 2008; Osborne and Waters 2009; Wayne et al., 2009 & Kim JW 2004). Many organizations feel that their employees can give a competitive advantage and achieve higher productivity leading to better organization performance. Employees play an important role in an organization's growth and success

(Hiroshi Yamamoto 2011). Performance is equally important to the employees for their promotion and enhancement of their career. It gives them satisfaction and enhances their self-image. To achieve the goals of an organization it is mandatory to continuously examine the performance of employees. This also helps to give feedback to employees if they are lagging behind, understand the reasons for the same and take timely corrective measures such as training for skill enhancement or if required change of job profile in order to enhance the quality of work and efficiency (Franc,ois Grima, 2011).

Research Gap:

Despite the importance of ERM, the research on effect of ERM on employee performance in the steel industry is scarce and shows contradictory results (Gomez, Arranz & Cillan, 2006). Some practitioners have posited that ERM, specifically in the steel and iron industry is ineffective (Grewal, Levy & Lehmann, 2004) or is not well understood (Bolton, Kannan & Bramlett, 2000) in enhancing the employee performance. (Lewis, 2004; Kivetz, Oleg & Zheng, 2006). Dowling (2002) suggests that ERM practices do not necessarily foster employee performance and are not cost effective. There is difference of opinion over whether the relationship management is just another appealing HR tool (Leenheer & Bijmolt, 2008; Shugan, 2005). Furthermore, the empirical results on the strength and direction of effects on employee behaviour remain limited and contradictory (Meyer-Waarden & Benavent, 2009). Conversely, a few studies show that ERM programs have a positive impact on employee performance (Lewis, 2004; Verhoef, 2003).

The divergent views suggest that there is a need to understand the concept of ERM in the large-scale industries. There are still no clear indicators as to whether these initiatives are successful with some research supporting the role of employee motivation in determining employee performance (Lal & Bell, 2003; Lewis, 2004; Meyer-Waarden, 2007) while others are not as supportive in employee motivation (Mauri, 2003; Ergin, Pariliti & Ozaçmacı, 2007). In this connection, little research has been done on the knowledge, perceptions, feelings, emotions and gratifications, associated with ERM practices in the Indian industry. This study, therefore, seeks to provide exploratory evidence on how employee responses are associated with ERM through employee motivation and further investigates the impact of employee responses on employee performance.

Hypothesis Development:

Based on the analysis of past research in the area as outlined above, this research aims to study the impact of employee relationship factors (Trust, HR/IR Practices, Communication System, Shared Goals & Values, Leadership Style) on employee performance through the mediating variable of employee motivation. Detailed description is given below for each hypothesis of the study.

H1₀: Employee motivation will not have mediating effect on the impact of factors of employee relationship management on employee performance in relation to:

H1_{0a}: Trust; **H1_{0b}**: HR / IR Practices; **H1_{0c}**: Communication System;

H1_{0d}: Shared Goals and Values; **H1_{0e}**: Leadership Style

H2₀: Employee motivation will not have significant effect on employee performance

H3₀: Determinant factors of employee relationship management will not have significant effect on employee performance in relation to:

H3_{0a}: Trust; **H3_{0b}**: HR / IR Practices; **H3_{0c}**: Communication System;

H3_{0d}: Shared Goals and Values; **H3_{0e}**: Leadership Style

Objectives of the Study:

The main objective of this study is to provide a comprehensive understanding of the impact of employee relationship management over employee performance through employee motivation. The other objectives of the study are as follows:

1. To explore the different factors affecting employee relationship management which determine employee motivation and employee performance?
2. To examine the mediating effect of employee motivation over trust on employee performance.
3. To assess the mediating effect of employee motivation over HR/IR Practices on employee performance.
4. To test the mediating effect of employee motivation over communication system on employee performance.

5. To measure the mediating effect of employee motivation over shared goals & values on employee performance.
6. To evaluate the mediating effect of employee motivation over leadership style on employee performance.

Research Design:

The limited available literature on employee relationship management, employee motivation and employee performance in the Indian context adopts qualitative and quantitative approaches to explore and examine the factors affecting employee relationship management, employee participation and employee performance. Accordingly, the researcher conducted semi-structured personal interviews with senior HR managers and consolidated various qualitative and quantitative variables of the study. Semi-structured interviews with HR managers, academicians and researchers helped to arrive at the determinant factors such as trust, HR/IR practices, communication system, shared goals and values and leadership as the independent variables of the study.

Sampling Technique and Sample Size:

In order to collect the samples, the researcher adopted the simple random sampling method. The details of employees from the different cadres such as workers, executives and supervisors were taken from their muster rolls and the researcher randomly selected 888 respondents i.e 28 respondents are from supervisors, 273 respondents from executives and 587 respondents from workers. Further, the researcher approached them with a structured questionnaire and requested to respond to the questionnaire in a face-to-face interaction. The data was collected during April – 2018 to June – 2018.

Methods of Analysis:

The descriptive statistics give the frequencies, percentages, means, standard deviations etc. The mediation effect in the model between the independent variables such as, trust, HR/IR practices, communication system, employee relations and leadership style are tested iteratively with the dependent variable as employee performance with the mediation of employee motivation. Mediation analysis by Hayes (2016) is adopted to test the relationship between the concerned independent, mediating and dependent variables.

Data Analysis and Results

Demographic Profile of the Respondents:

As the study is empirical in nature, the researcher collected primary data from 888 respondents from the employees of Rashtriya Ispat Nigam Ltd, Vizag. The data comprises various aspects regarding the respondents of the study. The data is collected from 620 male respondents and 268 female respondents. The consolidated demographic data is presented in table – 1.

Table -1 Consolidated Demographic Profile of the Respondents

Demographic Description		Frequency	Percentage
Gender	Male	620	69.82
	Female	268	30.18
Age	25 - 35 Yrs	262	29.5
	35 - 45 Yrs	374	42.12
	45 - 55 Yrs	183	20.61
	>55 Yrs	69	7.77
Cadre	Worker	587	66.1
	Executive	273	30.74
	Supervisor	28	3.15
Span of Experience	0-2 Years	338	38.06
	2-5 Years	352	39.64
	5-10 Years	93	10.47
	>10 Years	105	11.82
Qualification	SSC/Diploma	312	35.14
	Degree	532	59.91
	Post-Graduation	44	4.95

Source: Primary Data

Mediation Analysis:

Testing the mediation effect of *trust* on *employee performance* through *employee motivation*:

The relationship between independent variable of *trust* on *employee motivations* is tested through the significance of regression coefficient of *trust*. This path is denoted as “a” and the standard error derived is mentioned as SE(a). The results revealed that the regression coefficient is 0.481 and the standard error of the coefficient is 0.026. The regression coefficient is found to be significant at 5% alpha.

The effect of *employee motivation* on *employee performance* is tested through significance of regression coefficient of *employee motivation*, when mean score of *employee motivation* is regressed upon mean score of *employee performance*. The test results reveal that the regression coefficient is 0.661 and the standard error is 0.039. The T statistic corresponding this regression coefficient (0.661/0.039) is significant at 5% alpha ($p < 0.05$).

The mean score of *trust* is regressed upon mean score of *employee performance*. The regression coefficient for *trust* is 0.580 and the standard error is 0.034. The T statistic corresponding this regression coefficient (0.580/0.034) is significant at 5% alpha ($p < 0.05$).

The effect of independent variable *trust* on the dependent variable *employee performance* in the presence of mediating variable *employee motivation* is tested in path denoted as “c” (C-Dash), the regression coefficient is named as “c” and the standard error is denoted as SE(c’). The derived regression coefficient is found to be 0.261 and the standard error is 0.035. The T statistic corresponding this regression coefficient (0.261/0.035) is found to be significant at 5% alpha ($p < 0.05$).

The above results conclude that there is a partial mediation evidenced in the model. In order to determine the size and significance of the mediation effect in the proposed model, indirect effect is assessed further. The indirect effect of the model is found to be significant. The regression coefficient is 0.3185 and the standard error is 0.0277.

Testing mediation effect of *HR/IR Practices* on *employee performance* through *employee motivation*:

The relationship between independent variable *HR/IR practices* on *employee motivation* is tested through the significance of regression coefficient of *HR/IR practices*. The mean scores of the *HR/IR practices* variable is regressed

upon the mean score of *employee motivation*. The results revealed that the regression coefficient is 0.749 and the standard error of the model is 0.030. The regression coefficient is found to be significant at 5% alpha.

The effect of *employee motivation* on *employee performance* is tested through significance of regression coefficient of *employee motivation*, when mean score of *employee motivation* is regressed upon mean score of *employee performance*. The test results reveal that the regression coefficient is found to be 0.580 and the standard error is found to be 0.043. The T statistic corresponding this regression coefficient (0.580/0.043) is found to be significant at 5% alpha ($p < 0.05$).

The mean score of *HR/IR practices* is regressed upon mean score of *employee performance*. The regression coefficient is 0.853 and the standard error is found to be 0.041. The T statistic corresponding this regression coefficient (0.853/0.041) is found to be significant at 5% alpha ($p < 0.05$).

The effect of independent variable *HR/IR practices* on the dependent variable *employee performance* in the presence of mediating variable *employee motivation* is tested in path denoted as "c" (C-Dash), the regression coefficient is named as "c" and the standard error is denoted as SE(c'). The derived regression coefficient is found to be 0.434 and the standard error is 0.049. The T statistic corresponding this regression coefficient (0.434/0.049) is found to be significant at 5% alpha ($p < 0.05$).

Based on the above results we conclude that there is evidence of partial mediation in the model. The size of the mediation effect in the model is confirmed by indirect effect of the model which is found to be significant. The regression coefficient is 0.434 and the standard error is 0.491.

Testing the mediation effect of communication system on employee performance through employee motivation:

The relationship between independent variable *communication system* on *employee motivation* is tested through the significance of regression coefficient of *communication system*. The mean score of the *communication system* variable is regressed upon the mean score of *employee motivation*. The results revealed that the regression coefficient is 0.520 and the standard error of the model is 0.033. The regression coefficient is found to be significant at 5% alpha.

The effect of *employee motivation* on *employee performance* is tested through significance of regression coefficient of *employee motivation*, when mean score of *employee motivation* is regressed upon mean score of

employee performance. The test results reveal that the regression coefficient is 0.721 and the standard error is 0.037. The T statistic corresponding this regression coefficient ($0.721/0.037$) is significant at 5% alpha ($p < 0.05$).

The mean score of *communication system* is regressed upon mean score of *employee performance*. The regression coefficient is 0.600 and the standard error is found to be 0.044. The T statistic corresponding this regression coefficient ($0.600/0.044$) is significant at 5% alpha ($p < 0.05$).

The effect of independent variable *communication system* on the dependent variable *employee performance* in the presence of mediating variable *employee motivation* is tested in this path. This path is denoted as “c’” (C-Dash), the regression coefficient is named as “c’” and the standard error is denoted as SE(c’). The derived regression coefficient is found to be 0.224 and the standard error is 0.421. The T statistic corresponding this regression coefficient ($0.224/0.421$) is found to be significant at 5% alpha ($p < 0.05$).

The above results conclude that there is evidence of a partial mediation in the model. In order to determine the size and significance of the mediation effect in the proposed model, we considered the indirect effect results in the model. The indirect effect of the model is found to be significant. The regression coefficient is 0.375 and the standard error is 0.037.

Testing the mediation effect of *shared values and goals* on *employee performance* through *employee motivation*:

The relationship between independent variable *shared values and goals* on *employee motivation* is tested through the significance of regression coefficient of *shared values and goals*. The mean scores of the *shared values and goals* variable is regressed upon the mean score of *employee motivation*. The results reveal that the regression coefficient is 0.272 and the standard error is 0.034. The regression coefficient is found to be significant at 5% alpha.

The effect of *employee motivation* on *employee performance* is tested through significance of regression coefficient of *employee motivation*, when mean score of *employee motivation* is regressed upon mean score of *employee performance*. The test results reveal that the regression coefficient is 0.778 and the standard error is 0.034. The T statistic corresponding this regression coefficient ($0.778/0.034$) was found to be significant at 5% alpha ($p < 0.05$).

The mean score of *shared values and goals* is regressed upon mean score of *employee performance*. The regression coefficient is 0.358 and the standard

error is 0.036. The T statistic corresponding this regression coefficient (0.358/0.044) is found to be significant at 5% alpha ($p < 0.05$).

The effect of independent variable *shared values and goals* on the dependent variable *employee performance* in the presence of mediating variable *employee motivation* is tested in this path. This path is denoted as "c" (C-Dash), the regression coefficient is named as "c" and the standard error is denoted as SE(c'). The regression coefficient is 0.146 and the standard error is 0.036. The T statistic corresponding this regression coefficient (0.146/0.036) is found to be significant at 5% alpha ($p < 0.05$).

These results conclude that there is evidence of partial mediation in the model. In order to determine the size and significance of the mediation effect in the proposed model, we have to consider the indirect effect results in the model. The indirect effect of the model is found to be significant. The regression coefficient is 0.211 and the standard error is 0.030.

Testing the mediation effect of leadership style on employee performance through employee motivation:

The relationship between independent variable *leadership style* on *employee motivation* is tested through the significance of regression coefficient of *leadership style*. The mean scores of the *leadership style* variable is regressed upon the mean score of *employee motivation*. The results reveal that the regression coefficient is 0.462 and the standard error of the model is 0.031. The regression coefficient is significant at 5% alpha.

The effect of *employee motivation* on *employee performance* is tested through significance of regression coefficient of *employee motivation*, when mean score of *employee motivation* is regressed upon mean score of *employee performance*. The test results reveal that the regression coefficient is 0.676 and the standard error is 0.036. The T statistic corresponding this regression coefficient (0.676/0.036) is found to be significant at 5% alpha ($p < 0.05$).

The mean score of *leadership style* is regressed upon mean score of *employee performance*. The regression coefficient is 0.637 and the standard error is 0.040. The regression coefficient is found to be significant at 5% alpha ($p < 0.05$).

The effect of independent variable *leadership style* on the dependent variable *employee performance* in the presence of mediating variable *employee motivation* is tested in this path. This path is denoted as "c" (C-Dash), the regression coefficient is named as "c" and the standard error is denoted as

SE(c'). The regression coefficient is 0.324 and the standard error is 0.037. The T statistic corresponding this regression coefficient (0.324/0.037) is found to be significant at 5% alpha ($p < 0.05$).

The above results show that there is evidence of partial mediation in the model. In order to determine the size and significance of the mediation effect in the proposed model, we have to consider the indirect effect results in the model. The indirect effect of the model is found to be significant. The regression coefficient is 0.312 and the standard error is 0.030.

Discussion of Results & Implications:

Discussion for Mediation effect in the Model of Trust Employee Motivation Employee Performance:

As per discussion on mediation analysis in Hayes (2016) one can conclude that the paths a, b and c' are significant as their p-values are less than 0.05 in case of all the factors of *employee relationship management, namely, Trust, HR/IR Policies, communication systems, shared values and goals, and leadership style*. Further, it is also noted that the direct effect of the model is less than the total effect in all cases. Hence, we conclude that, there is evidence of partial mediation in the model. To determine the size and significance of the mediation effect in the proposed model, the indirect effect results are considered and found to be significant. The results imply indirect effect of each component of employee relation management on employee performance through employee motivation and thus indicate presence of partial mediation.

Implications of the Study:

The empirical investigation of this research revealed that the independent variables i.e. trust, HR/IR practices, communication system, shared goals and values, leadership style, the mediating variable employee motivation and the dependent variable of employee performance are testable in the context of employee relationship management practices in Indian context. It further shows that employee relationship management has effect on organization performance by way of increasing employee motivation. This research provided a complete and comprehensive understanding about the relationship between the proposed independent, mediating and dependent variables.

Table – 2: Mediation Results Summary based on Hayes (2016) Mediation Analysis

Independent Variable (X)	Mediator (M)	Dependent Variable (Y)	Hypotheses Tested	Step 1 X->M a=Coeff of X a ;SE(a) ; p;	Step 2 M-> Y b=Coeff of M b; SE(b) ; p	Step 3 Total Effect X->Y c=Coeff of X c;SE(c) ; p	Step 4 Direct Effect X,M -> Y Coeff of X c'; SE(c') ; p	Indirect Effect Coeff**; (SE)**; p
Trust			H1 _{ob} ; H2 _o & H3 _{ob}	0.481, 0.026,0.000	0.661, 0.039, 0.000	0.580, 0.034, 0.000	0.580, 0.034,0.000	0.318, 0.027, 0.000
			H1 _{ob} ; H2 _o & H3 _{ob}	0.749,0.030,0.000	0.580, 0.043, 0.000	0.853, 0.041, 0.000	0.434, 0.049, 0.000	0.434, 0.491, 0.000
HR Practices			H1 _{ob} ; H2 _o & H3 _{ob}	0.520,0.033,0.000	0.721, 0.037, 0.000	0.600, 0.044, 0.000	0.224, 0.421, 0.000	0.375,0.0371,0.000
			H1 _{ob} ; H2 _o & H3 _{ob}	0.272,0.034,0.000	0.778, 0.034, 0.000	0.358, 0.044, 0.000	0.146, 0.036, 0.000	0.211,0.030,0.000
Communication System	Employee Motivation	Employee Performance	H1 _{ob} ; H2 _o & H3 _{ob}	0.462,0.031,0.000	0.676, 0.036, 0.000	0.637, 0.040, 0.000	0.324, 0.037, 0.000	0.312, 0.030, 0.000
			H1 _{ob} ; H2 _o & H3 _{ob}					

Source: Data Analysis

Conclusions

In conclusion, motivation not only influences employee's own performance but also the whole organization performance and business productivity. Every member in the organization has some requirements and expectations from the organization from the very first day he/she joins the organization. He/she might not be aware of how to achieve these needs and goals, and here the role of the line manager and the division manager comes into picture. To be a motivator, it is important to be a leader in order to discover what really motivates employees and it is necessary to discover the fundamental needs of the employees (Freeman, & Stoner, 1992).

Limitations of the Study:

The present research study has a few limitations. This study is limited to Rashtriya Ispat Nigam Ltd in Vizag city, in the state of Andhra Pradesh. The respondents were employees, who are above 25 years of age and from different cadres, namely workers, executives and supervisors. Employee relationship management factors were limited to trust, HR/IR practices, communication system, shared goals & values and leadership style. The study is confined only to the mediating variable of employee motivation based on previous research and findings of the pilot study.

Directions for Future Research:

Some of these limitations may be used as directions for future research in this and related areas. New dimensions of employee relationship management and psychographics of employee performance with the use of multidimensional scaling may be considered for future research in this area. The different attributes of the employee relationship management can be taken into consideration apart from the ones mentioned in the present study. More dimensions for measuring employee performance and ownership structures may also be examined.

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Impact Of Trade Liberalisation On The Informal Sector Of An Economy : Inferences From Macroeconomic Data And A Case Study

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Abstract:

This paper seeks to understand the informal sector and summarises the theoretical work done by scholars in the field. Starting with the movement of labour across formal and informal sector multi-segmented labour markets, it then tries to understand the impact that trade liberalisation has on informal sector. The paper concludes with data on urban informal employment from India and a case study of the impact of exposure to international trade on the garment industry in Tiruppur district of Tamil Nadu.

Introduction: Coining and Propagating the term ‘Informal Sector’

The first usage of the term ‘informal sector’ can be traced to a British economist, Keith Hart who used the term in his study on economic activities undertaken in urban Ghana in 1971 (ILO, 2002). Central to the conceptualisation of the term was Hart’s belief that broadly informal activities are those that are beyond the purview of the state (Sinha & Kanbur, 2012). However, Bacchetta et al. (2009) believe that Hart’s distinction between formal and informal job opportunities was based on the differentiation between wage earning and self-employment, i.e. whether or not labour is recruited on a permanent and regular basis for fixed rewards. The term was picked up by ILO employment mission in Kenya in 1972. The mission found that the traditional sector in the country, comprising of petty traders, small producers and a range of casual jobs, had persisted and included profitable and efficient enterprises, along with marginal activities and thus decided to use the term “informal sector” rather than “traditional sector” to describe the enterprises, thus using the term ‘informal sector’ to describe all small-scale and unregistered economic activities (ILO, 2002). Keith Hart and Kenya mission are credited with popularising the term but while both referred to the term as implying an efficient, creative and resilient sector; the later usages of the term have expanded and greatly changed the original meaning.

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the ILO in its 2002 report titled 'Women and men in informal economy: A statistical picture' traces how the understanding of what constitutes informal sector underwent a change. It came to be recognised by 1980s that even in advanced capitalist economies production was being organised into small-scale, decentralised, and more flexible economic units. Cost-effective production was being achieved through informalisation of employment relations that provided less or no benefits to workers and through subcontracting the production of goods and services to small-scale informal units and industrial outworkers. The informal sector was no longer a residual sector as believed in 1970s. Further, economic crises in Latin America and Asia, structural adjustment in Africa and economic transition in the former Soviet Union and in Central and Eastern Europe had started showing that these periods of turbulence were associated with an expansion of employment in the informal economy. Retrenched workers who couldn't find alternative formal jobs were turning to the informal sector for work and households were supplementing formal sector incomes with informal earnings, in response to inflation or cutbacks in public services. In the 1990s and beyond, informal sector has primarily been studied in context of the impact that globalisation has had on the sector.

Defining the Informal Sector

The ILO has been at the forefront in trying to make the definition of the informal sector more operational. In 1993 it defined the units in informal sector as "units engaged in the production of goods and services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labour and capital as factors of production and on a small scale. Labour relations – where they exist – are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees". Enterprises of informal employers were either to be below a specified level of employment or be non-registered, with countries given flexibility in deciding the upper limit on the size of employment and on additional specificities such as inclusion or exclusion of professionals, domestic employees, agriculture, etc.

Perhaps this flexibility that the ILO allowed itself became a problem as it made inter-country comparisons next to impossible which probably prompted ILO to give a more precise definition in 2002 where it defined informal sector as consisting of "private unincorporated (or quasi unincorporated) enterprises, which produce at least some of their goods and services for sale or barter, have less than 5 paid employees, are not registered, and are engaged in non-agricultural activities". The two definitions seem to form the basis of most of

the attempts being made to define informality in more operational terms. Some of the commonly used criteria are size of the production units, their registration status, location of the activity, level of organization and income- and employment-enhancing potential of firms or workers. (Bacchetta & al, 2009). Researchers have come up with several useful classifications such as informal enterprises being classified as micro-enterprises, family businesses, and own account operations and employees classified as domestic workers without a regular contract, casual day labourers without a fixed employer, temporary workers who get work through an agency, part-time workers for a fixed employer, industrial outworkers for formal or informal firms and their intermediaries, and unregistered or undeclared workers (ILO, 2002).

A more lucid understanding of informal sector is given by (Harris-white & Sinha, 2007) in their book on impact of trade liberalization on India's informal sector. They find that the units in informal sector function on a small scale and there is little or no division between labour and capital as factors of production or between labour and management or ownership. Labour relations are found to be based 'mostly on casual employment, kinship, or personal or social relations rather than contractual arrangements with formal guarantees, owners are completely responsible for risks undertaken by them and on several occasions capital such as buildings or vehicles may be used indistinguishably for both business and household purposes. The small scale of activities seems to be an important consideration as authors dismiss the argument that most enterprises exist in informal sector so that they can evade various restrictions that government regulations would otherwise impose on them.

Though research on informal sector has been difficult due to lack of a consistent and widely accepted understanding of the sector, the sector has nevertheless garnered huge attention of researchers for several reasons. Firstly, there exists strong association between informality and poverty and the explicit or implicit prediction of many development theories that informality will pale into insignificance as development proceeds has not come true (Sinha & Kanbur, 2012). Secondly, informal sector represents that part of global workforce which is deprived of full-time, stable, and protected employment and such informal workforce is rapidly increasing in proportion (ILO, 2002). Informal employment has been estimated to comprise one half to three-quarters of non-agricultural employment in developing countries (ILO, 2002). Finally, 'it draws attention to the scope, boundaries and limits of state intervention' (Harris-white & Sinha, 2007).

Understanding of informal sector has expanded with emergence of the dualist, the structuralist and the legalist or orthodox schools of thought (Bacchetta

& al, 2009). Dualist school of thought was dominant in 1960s and 1970s and it viewed informal sector as the inferior segment of a dual-labour market that had no direct link with the formal economy and a residual sector that came about during transformation process in a developing economy when formal economy could not offer employment opportunities to a portion of the labour force. Dualist school envisioned that with economic growth and transformation, informal economy would ultimately be fully absorbed by the formal sector. The structuralist school believed that there existed huge interdependence between the formal and the informal sectors. For them informal sector meant small firms and unregistered workers subordinated to large capitalist firms and supplying cheap labour and inputs to the big firms, helping them improve their competitiveness. The structuralist school thus introduced the idea that informal economy was not detached from the formal one but was fuelled by large firms' need to cut costs which they did by adopting flexible productive systems and by outsourcing. Finally, legalist or orthodox school of thought, which gained prominence in 1980s, simply saw firms' decision of operating in informal sector as being driven by their desire to avoid costs associated with registration. The legalist school thus saw informal sector as constituting 'a large reservoir for future increases in growth and living standards if only regulatory reforms and reductions in the tax burden could be introduced'.

Current understanding of informal sector integrates the thinking of all three schools. Current approach is fuelled by belief that informal sector is not a homogenous group but is rather comprised of three segments, namely lower, intermediate and upper-tiers. The lowest section, namely, segment 2 of lower-tier is dominated by households engaging in survival activities with few links to the formal economy, as dualists suggest. Segment 1 of lower tier works in tandem with the formal sector, as suggested by structuralists and upper-tier segment comprises of micro-entrepreneurs who choose to avoid taxes and regulations, as the legalists suggest (Bacchetta & al, 2009). Attempt to show that the informal sector is not a homogenous group is also made by Sinha & Kanbur (2012) who define three categories in the sector namely those that come under the purview of regulations but are not complying with them, those organisations that adjust their activities to stay out of the purview of the regulation so that they do not have to comply with them and lastly those that fall outside the purview of regulations in the first place and as such are not affected by it.

ILO has been making attempt to expand the statistical definition of informal sector given in 1993 by now focussing on informal economy, rather than informal sector. Informal economy also includes households and informal

workers employed in the formal sector, thus now focussing on defining informal employment both in informal enterprises as employers, employees, own-account operators and unpaid family workers and outside informal enterprises as domestic workers, casual or day labourers, temporary or part-time workers, industrial outworkers (including home-workers) and unregistered or undeclared workers. Informal employment as defined by ILO in 2002 thus includes “all remunerative work – both self-employment and wage employment – that is not recognized, regulated or protected by existing legal or regulatory frameworks and non-remunerative work undertaken in an income-producing enterprise”. This change is endorsed by several researchers (Bacchetta & al, 2009). Thus, rather than be identified by status of their enterprise, informal workers are now understood as those that, among other things, do not benefit from any social or labour security measures such as regulation on hiring and firing, minimum wage, protection against arbitrary dismissal and health and social insurance.

Traditional Theories on International Trade

Traditional theories on international trade are not helpful in predicting the impact of liberalisation of trade on the informal sector because their foundations rest on the distinction of various labour inputs based on skill differences. Going by the common assumption that developing countries have a large pool of low-skill labour; Heckscher-Ohlin theory would predict that upon liberalisation, developing countries would export goods and services that are relatively more low-skill labour intensive and would import goods and services that are relatively more intensive in high-skill labour. The theory predicts that since demand and subsequently price for low skill intensive products would rise due to their export; demand and wages for low-skill labour would also rise. But the theory assumes that factor endowments of a country are given and thus does not help in discussion on movement between formal and informal sector.

Intersectoral Movement of Workers

For understanding why trade liberalisation impacts informal sector, it is essential to understand the movement of workers in any market space. Movement of workers between formal and informal sector is explained by (Bacchetta & al, 2009) in a multi-segmented labour market model as depicted in Figure 1.

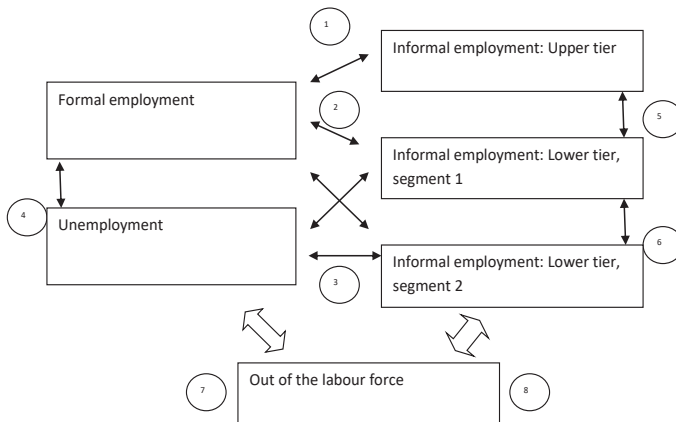


Figure 1: Multi-Segmented Labour Market Model

Recalling that the upper tier comprises of micro-entrepreneurs who choose to avoid taxes and regulations, segment 1 of lower tier comprises of micro-firms and workers subordinated to larger firms and segment 2 of lower tier comprises of households engaging in survival activities and having few links to formal economy, the various flows represented are: (1) transition between formal and upper-tier informal employment to avoid taxes and regulation; (2) transition between formal and lower-tier informal employment; (3) transition between lower-tier informal employment and unemployment to queue for formal jobs; (4) transition between formal employment and unemployment where appropriate benefit systems are in place; (5) transition between upper- and lower-tier upskilling; (6) transition between different lower-tier informal employment, for instance due to informal economy segments due to a switch in networks; (7) transition between inactivity and the formal labour market; (8) transition between inactivity and the informal economy.

The figure shows that there are only certain segments of the labour market to which workers have access to. Dynamics of job creation in the different segments of the labour market and of the flows between the formal and informal economy depend on several factors namely institutional characteristics which determine the direction of flows and their relative importance, individual characteristics which determine which of the different labour market segments a worker has access to, firm-specific characteristics and market considerations both of which determine labour demand and life-cycle considerations.

Sectoral reallocation of resources has been deemed essential by all theories in international trade, if a country has to successfully exploit comparative advantage. Studies have identified reasons why the movement across sectors is not smooth with factors including lack of portable skills among workers, workers not possessing necessary financial and physical capital, costly job search and lack of proper social capital and networking resources. However, multi-segmented labour market approach has, unfortunately, not been analysed properly in contexts of trade liberalisation despite acknowledgment that the dynamic flows are a good starting point for the analysis.

Theoretical Understanding of the Impact on the Informal Sector

There seems to be mixed evidence on relationship between openness and informality. Bacchetta et al. (2009) finds an inverse relation between the two and shows that an increase in a country's openness can be related to a reduction in the incidence of informal employment, though adds that the evidence is highly region specific and other factors such as country specific labour market policies may play an important role in determining the relationship.

There doesn't seem to exist one acceptable model on the matter and the models have been found to be differing on specifications of the informal sector as well as of the technological structure within which it is embedded (Bacchetta & al, 2009). Models differed in their assumptions regarding (a) type of production linkages with some assuming that informal sector produced a final good and others that the sector produced intermediate product, good or service (b) whether or not the output of the informal economy is tradable (in the international market) (c) availability and cost of credit to the economy i.e., degree of capital mobility and (d) whether urban informal employment is allowed to exist. Studies found that if informal goods and services are used as intermediate inputs in the formal sector, any reduction in activity in the formal sector would also reduce informal employment though the formal sector could use the informal sector itself to increase competitiveness by subcontracting more production to the informal sector. Cost advantages associated with the informal sector lead to the prediction that if informal sector produces final tradable good then employment in the sector would increase as the demand for goods from informal sector would increase. Tradability of goods and services produced by the informal sector is also crucial as a decline in tariffs raises both employment and wages in the informal sector. Associated with the issue of

tradability of goods and services is assumption of whether or not capital is mobile between formal and informal economy. When capital is mobile and goods are tradable, capital would move from formal to informal sector as the rate of return on capital in the formal sector falls. This is due to the two crucial assumptions that Bacchetta et al. (2009) make (a) the formal sector produces an import-competing good and therefore faces more competition leading to decrease in output. (b) wages in the formal sector are assumed fixed and as such there is no simultaneous decrease in costs. Freely mobile capital would lead to increase in capital to labour ratio in the informal sector and in turn increasing informal wage and subsequently employment. One study also found that even in case of capital being completely immobile between formal and informal sector, wages could still increase in the latter if one part of the informal sector is capital intensive. The mechanism would be that even if the contraction of the formal sector following a trade reform adversely affects the capital intensive sub-segment of the informal sector, informal capital would flow to the labour-intensive sub-segment increasing the capital to labour ratio and, hence, raising the informal wage. Other model is where informal employment is generated through delegation/subcontracting of certain tasks through informal contracts. Here formal producers see increased profit opportunities in exports but this requires effort in gathering information. Hence producer reallocates resources to marketing activities and subcontracts production to producers in the informal sector.

Along with the general analysis of impact of liberalisation on the informal sector, Bacchetta et al (2009) show that sector-specificities in the investment process can make a difference. Trade openness also raises opportunities for foreign direct investment in various industries. Investment in an EPZ didn't show decrease in informality rates as auxiliary services developed around the zone.

Informal Sector: Case of India

Some interesting data on informal sector in India is presented by Chen & Raveendran (2011) in their analysis on trends and patterns in urban unemployment in India. The authors try to understand urban informal employment in terms of employment status, industry branch and specific groups of urban informal workers. The authors analyse NSSO data for 1999-2000, 2004-05 and 2009-10 for the purpose.

Employment status: In 2009-10, 85 per cent of the urban self-employed worked in informal enterprises while two thirds of the urban wage

employment was in the informal sector. In sum, just under 80 per cent of all urban workers (79% of men and 81% of women) were informally employed, with the urban informal employment divided evenly between self-employment and wage employment. Around 75 per cent of male informal wage workers, compared to around 60 per cent of female informal wage workers, were hired by informal enterprises and 9 per cent of female informal wage workers were hired by households as domestic workers compared to one percent of male informal workers hired as domestic workers. In all the three survey points, a higher percentage of women urban workers than men urban workers were informally employed.

Branches of Industry: The urban informal trade has been concentrated in three industry groups namely manufacturing, trade, and non-trade services at 26, 29, and 32 per cent, respectively, in 2009-10. The percentages of the urban informal workforce concentrated in manufacturing and non-trade services went up during the decade from 25% and 30% respectively to 26% and 32% while the percentage in trade went down from 33% to 29%. Between 1999-2000 and 2009-2010, among male urban workers, there was an increase in informal employment in trade and construction and a decrease in both formal and informal employment in transport. Among female urban workers, there was an increase in informal employment in manufacturing and non-trade services and a decrease in informal employment in trade and agricultural activities. While informal employment in manufacturing increased among urban women workers, the percentage of urban women who manufactured goods in their own homes decreased by 54 points, which can be explained by decline in export manufacturing much of which was being sub-contracted to women.

Specific Groups: Among both total and informal urban workers, the share of four specific groups namely domestic workers, home-based workers, street vendors, and waste pickers – increased between 1999-00 and 2009-10. As of 2009-10 the four groups combined represented 41 per cent of urban informal employment: 44 per cent of male and 29 per cent of female urban informal employment. Home-based workers represented the largest of the four groups, with eighteen percent of all urban workers being home based. In 2004-05, the percentage of women workers in these four groups was nearly three times as high as the percentage of male workers, amongst both the total as well as informal urban workforce. By 2009-10, 1.5 times as many men as women, in both the total and informal workforce, were in these four groups. The data suggests that, with the decline of self-employment opportunities, a large number of men entered into these occupations, thus pushing women out.

Data presented showed that rather than being increasingly absorbed into modern formal wage employment, the urban workforce in India is becoming increasingly informal. Though elsewhere India has been elsewhere referred to as the “office of the world”, “office” share of the urban workforce in India was found to be small with only 15 per cent of the urban workforce in India was formally employed in non-trade services. The data showed that only one-third of the urban workforce in India worked in a formal factory or firm. Another one-third worked in informal shops or workshops and the remaining third were employed in homes as domestic workers or home-based workers or at open public spaces as street vendors or waste pickers.

Case Study from Tiruppur

A study on the impact of trade liberalisation on garment industry is undertaken by Singh & Sapra (2007) in Tiruppur district of Tamil Nadu. Garment industry is an interesting sector to study the impact as the industry is said to constitute roughly 16 percent of India’s total manufactured exports and 12.5 percent of total exports and employs close to 17.45 lakh people in over 7.8 lakh units, with the informal sector accounting for 83 percent of employment and over 99 per cent of the units in 1999-2000. The number of employed workforce reported is an underestimate as it does not include home-based workers who bring work from factories and workshops and complete it in their own homes.

Trade liberalisation in garment industry basically happened on account of implementation of Agreement on Textiles and Clothing and at the end of the ten-year transition period, which ended in 2005, textiles and clothing products were to be no longer subject to quotas under a special regime outside normal WTO/GATT rules. Implementation of ATC resulted in phasing out of Multi Fibre Agreements and quantitative restrictions in the form of quotas in trade in textiles and clothing were done away with. Phase-out of MFA, along with opening opportunities for entry into global markets also signified heightened competition for shares in the global market among exporting developing countries as also a fear of ‘race to the bottom’ as the competitive edge of most developing countries lay in their cheap labour.

Singh & Sapra (2007) document that prior to liberalisation, Tiruppur enjoyed protection through, both assistance programmes to SSI and the reservation of readymade garments for the small-scale sector, and this protection helped small firms to avail themselves of credit facilities at cheap rates and gain access to subsidized land for starting operations. The new regulatory regime provided policy-induced incentives to certain industrial groups or

clusters representing enterprises based on groups of related products. Success has been achieved through increased flexibility in the organization of production, made possible through several subcontracting firms which “facilitate rapid changes in design, size, and volume of output by distributing the costs and risks of expansion to a large number of small producers and workers”. Two kinds of subcontracting agreements exist namely a) giving part of the demand to other subcontracting units who are responsible for the entire production process and a time-bound delivery of the finished garment and b) dividing the work into different jobs and giving these to job workers who undertake specific operations. The job-work contractors are given both contracts and independent charge of specific tasks. These contractors then act as production managers and are also responsible for the recruitment and working of the labour force. This ‘in-contracting’ helps exporters to rid themselves of the responsibility of detailed production and labour management. Since the exporters deal with only one contractor, they bypass several labour regulations, which necessitate the payment of provident funds, bonuses and employee state insurance (ESI) benefits.

The policy-induced incentives to clusters are said to have greatly influenced production and labour relations in an increasingly fragmented and informalized garment industry.

Conclusion

The impact that trade liberalisation has had on informal sector is summarised well by a paragraph in the book by Harris-white and Sinha. The authors note that various provisions of home, job working, subcontracting and outsourcing have been in existence for decades; used by firms to avoid compliance costs with Factories Act in their respective states and by the state to minimise its infrastructural, vigilance and welfare obligation. The contribution of trade liberalisation has been that numbers of casual labour employed have increased in recent times, and more and more people are now employed in a range of rightless contracts some of whom are working inside factories themselves.

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Application of Neuroscience in Neuromarketing

G. Shanmugam *

Abstract:

The key challenge marketers' face today is high competition and advertising clutter. In each and every market, consumers have a lot of choice when it comes to products and services. Similarly, too many advertisements across traditional channels (e.g. Print, TV, Radio, Billboards) and digital channels (e.g. Internet, Social Media, Mobile) are at times irritating and confusing to the consumers. In this context, companies are increasingly exploring ways and means to catch the attention of the consumers and retain their attention span, to increase the sales conversion rate for their products and services. Companies are investing significant time and effort to understand neuroscience, to study the consumer mind and how it influences their buying decision and behaviour. Neuromarketing involves application of neuroscience technology and techniques to the world of marketing. The main objective of Neuromarketing is to capture the five senses of the consumer towards their brand, advertisements, products and services. The purpose of Neuromarketing is to create memorable experiences for the consumers or customers, which increases the probability of their purchase (in the short term) and their loyalty (in the long run). This paper focuses on the application of Neuroscience in Neuromarketing, in terms of the concept, applications, technology, benefits, limitations and future trends. This is a practitioner's view, shared based on my experience in the industry and learning from academics.

Keywords: Neuromarketing, Neuroscience, Advertising, Consumer Behaviour

Neuroscience and its applications – An Overview:

In simple terms, Neuroscience is the scientific study of the human nervous system. Eric R. Kandel, Nobel Laureate in Physiology or Medicine emphasizes that the "ultimate challenge" of the biological sciences, is the understanding of the biological basis of learning, memory, behavior, perception and consciousness, in human beings (Sharma, Singh, Deepak, & Agrawal, 2010).

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As neuroscience deals with the study of how brain works, the primary applications were focused on healthcare, especially in the diagnosis and treatment of neurological and psychiatric diseases.

Beyond healthcare, neuroscience has been extensively adapted in education, business, advertising and marketing, as neuroscientific research gives us insights into human behavior (West, 2009).

Applications of Neuroscience		
Healthcare	Neurology, Neuropsychology, Clinical Neuroscience	Study and treatment of neuro ailments (e.g. Alzheimer's, Parkinson's, Depression, Bipolar Disorder, Schizophrenia)
Education (Lynch, 2017)	Neuroeducation, Neuro-Linguistic Programming	Understanding childhood development Develop innovative learning methods Support children with learning difficulties (e.g. Autism, Dyslexia)
Business (Nelson, 2016; Shaw, 2015)	Cognitive and Behavioral Neuroscience, Computational Neuroscience	Building better Leaders Creating better working environment for employees Nurture creativity and innovation Better customer engagement

Marketing (Humphrey, 2017; Klineckova, 2016)	Neuromarketing, Cognitive and Consumer Neuroscience	Understanding consumer buying behavior Study of consumer decision process Marketing campaigns to capture the 5 senses of the consumers Emotional appeal in advertisements Customer sentiment analysis
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What is Neuromarketing? - Concept, Need and Benefits:

Neuromarketing is the application of neuroscience to marketing. In Neuromarketing, companies use neuroscience techniques like brain activity measurement to measure a consumer’s behavior and response towards external stimuli like advertisements, products, services, packaging, promotions, campaigns, offers and other sales and marketing initiatives and hence their buying decision. Understanding customer perceived value and consumer behavior helps companies to make their advertisements, products, services, packaging, promotions, campaigns and offers attractive to the consumers, to meet their tastes and preferences, which ultimately makes their sales and marketing initiatives productive and successful. In-depth understanding of consumers enables companies to market/sell their products and services in a better way (Humphrey, 2017; Sharma, Singh, Deepak, & Agrawal, 2010). Applying neuroscience techniques in Neuromarketing will augment the traditional marketing research techniques like survey, focus groups and personal interviews; for studying consumer tastes, preferences and hence, their behavior (Netty & Yazdanifard, 2013).

Neuromarketing to address the key challenges in marketing:

The key challenges that marketers’ face today are competition and advertising clutter. The consumers have a lot of choice when it comes to products and services in each and every market. Similarly, too many advertisements across traditional channels (e.g. Print, TV, Radio, Billboards)

and digital channels (e.g. Social Media, Mobile) are at times irritating and confusing to the consumers. So, increasingly, companies are exploring ways and means to catch the attention of the consumers and retain their attention span, to increase the conversion rate for their products and services (Humphrey, 2017; Shaw, 2015). One approach to overcome this challenge is the study of consumer neuroscience and consumer behavior. Based on this, we can apply Neuromarketing to capture five senses of the consumer towards their advertisements, products and services. The objective is to create a memorable customer experience, which increases the probability of purchase (in the short term) and customer loyalty (in the long run). In traditional marketing, techniques like survey are used to know and understand the tastes and preferences of customers. In Neuromarketing, techniques like EEG, fMRI, CT Scan, Eye Tracking, and Facial Coding, to name a few, are used to study the human brain, in an attempt to understand customer attention and perception towards advertisements, products and services. Even study of response of right brain (focused on logic, facts) vs. left brain (focused on emotion, art, creativity) helps advertisers to design impressive ad campaigns, to capture the attention of customers (Netty & Yazdanifard, 2013; McCartan, 2012).

Impact of different types of advertisements on Consumers:

Application of neuroscience in the study of consumer behavior is referred to as consumer neuroscience. For example, while viewing an advertisement video (external stimuli), the consumer goes through different stages of responsiveness, based on the type of the theme and the audio-visual impact it has on them. The overall experience of consumers, say in a retail store or in viewing and advertisement, impacts their buying decision. When the consumer sees a rational advertisement, it provides them required information about the product or service, which helps the brain to take a decision using logic and reasoning (e.g. Ads related to Laptops and Smart Phones). On the other hand, an emotional advertisement is targeted at capturing the viewers' (potential customers) heart, with a small storyline related to family or friends (e.g. Samsung Bixby Voice Assistant Ad). Similarly, how customers react to TV advertisements and programs is measured over a period of time, across time zones, target groups and locations, then analyzed to observe any specific patterns. Based on this analysis and findings, the existing advertisements are repositioned or new advertisements are created, so as to capture and retain the customer attention and influence their buying behaviour.

Applications and Examples of Neuromarketing:

Today, we see application of Neuromarketing across different industries. We will have a look at a few of them in this section, to appreciate its significance.

- **Multiplex Cinema Halls (e.g. PVR Cinemas, Cinepolis):** Multiplex Cinema Halls use all ways and means to capture the five senses of their customers. The movie has attractive lighting and picture (eyes), excellent sound effects (ears), offers snacks like popcorn and other eatables (smell and taste), and texture of seats and sofas (touch and feel), which collectively captures the five senses of the customers. When the customer experience is good, they wish to come repeatedly to the multiplex cinema hall with their family and friends, which results in increased customer loyalty and revenues. Display of ads of food items like popcorn, during movie interval, creates appetite and makes customers buy them; this is also a good example of Neuromarketing.
- **Retail Stores (e.g. Big Bazaar, Shoppers Stop):** In a retail store, customer's mood, profile, tastes and preferences, likes and dislikes, highly impact the way they move around the store (across different floors they visit), products they see (based on brand, price, packaging) and hence their buying decision and pattern. Right from entry to exit, retail stores are trying to make the customer journey really exciting for them. When a customer is welcomed and supported throughout their presence in the retail store, it's a feel good factor. Similarly, the retail store's ambience, lighting, background music, food samples, cloth trial rooms, and courteous store representatives, all make the customer's journey in a retail store exciting. When customers spend more time in the retail store, they examine a greater variety of products, often resulting in an increased purchasing from the customer side. When customers are consistently happy with their visits to the retail store, they become customer advocates and share their good experience (positive feedback) with their family and friends (through word-of-mouth), which progressively increases the foot-fall to the retail stores and its business growth.
- **Hotels, Restaurants and Coffee Shops (e.g. Taj Hotels, Starbucks):** Customer experience is the core vision and mission of the hospitality industry. Hotels, restaurants and coffee shops are investing a lot of time and effort to understand the customer expectations and preferences

and go all the way out to apply Neuromarketing to capture their senses (through ambience, good/tasty food, appropriate pricing) which makes their overall experience memorable.

Right Brain vs. Left Brain – Impacting Advertisement Design:

In human beings, images are processed by the right brain and text is processed by the left brain (McCartan, 2012). What the right eye sees is transferred and processed by left brain and what the left eye sees is transferred and processed by the right brain. This is why in advertisement design (e.g. display ads and banners in print and digital) images are placed on the left and text is placed on the right. This is another good example of applying neuroscience in Neuromarketing.

Emotional Advertisements (e.g. Samsung Bixby, NanhiKali):

Emotional advertisements have always been known to capture customer attention, towards a company's products and services (Dooley, 2009). One of the recent emotional advertisements is Samsung's ad for Bixby Voice Assistant. This campaign is inspired by a real-life story showcasing the use of technology in helping a daughter preserve her mother's voice as she has Motor Neuron Disease (MND) which slowly takes away a person's ability to speak and move. Another example of an emotional ad is the NanhiKali Project, which launched initiative #EducateTheGirlChild, with a heart touching ad campaign with a very strong message about educating the girl child. It shows a little girl cutting her hair and wearing the school uniform of her brother. When enquired about it by her friend, she says that she wants to look like a boy so that she can continue studying in her school. Both these emotional ad campaigns were well received in terms of the content and went viral in the social media.

- **Consumer Generated Content (e.g. Starbucks, Apple):** In Neuromarketing, advertisements are focusing on 'story-telling' and 'story-making', to capture customer attention and increase their involvement in the marketing campaigns. Story making is driven by consumer generated content. One of the well known examples is the 'Shot on iPhone' campaign, where iPhone customers shoot fascinating photographs on their iPhone and share it with Apple. Apple selects the best photo shots and places them as big billboards, mentioning the name of the customer, who shot the photograph.

This captures customer attention, as it depicts the power of iPhone and the simplicity with which the customers can capture the pictures. Another example is the Starbucks' famous #WhiteCupContest. Starbucks asked its customers to get creative and doodle their best designs on their white paper cups, where the best entry would form a template for new limited-edition coffee cups to hit Starbucks' stores. These are good examples of Neuromarketing, to bring customers closer to a brand.

- **Web Portals and Mobile Apps UI/UX Design (e.g. Amazon, App Store):** When a web portal or mobile app (e.g. Amazon eCommerce, Apple iOS Mobile Apps) is impressive, interactive and user-friendly, the customer engagement increases, which ultimately leads to Conversion Rate Optimization (CRO). Marketers and UI/UX Designers are extensively employing neuroscience in the design and development of web portals and mobile apps, to make it attractive to their customers, to capture their attention. Techniques like A/B Testing is applied for CRO, by exposing customers to different web and mobile content designs (e.g. Colours, Text, Pictures, Features, Form, Functionality) and identifying their preference and continuously updating the design in terms of look and feel, to enhance overall customer experience. Similarly, a detailed study of Customer Journey Mapping on an ecommerce website (e.g. Amazon) helps the company to fine tune different features and functions on the web portal and mobile apps, to make it user-friendly and contribute to CRO, hence business growth.

Psychological Pricing (e.g. Bata, iPhone):

As consumers, we see extensive use of psychological pricing (e.g. Bata Shoe Price at Rs.799, instead of Rs.800; iPhone Price at \$999, instead of \$1000) has a huge impact on consumer behavior and buying pattern. Psychological pricing is a good example of Neuromarketing where prices of products or services are made to look cost effective, from the customer's emotional point of view, thereby contributing to increase in sales of these products and services (Anastasia, 2015).

Testing products/packaging/flavors before launch (e.g. Tea, Wine, Pizza, Snacks):

FMCG companies invest significant time and effort in testing new products for their packaging and flavor, by a sample group of consumers, by observing

their response and by taking their feedback and suggestions. Apart from collecting direct feedback, companies use techniques like EEG (to observe brain response) and Facial Coding (to monitor facial expression), to measure the consumer response to the product pricing, packaging, colors, shapes, taste, flavors. This enables them to design/redesign their offerings, to suit consumer tastes and preferences.

Adaptation of Global brands/products to Indian Markets (e.g. McDonald's, Nestlé):

Preferences of Indian customers, especially when it comes to food products, differ compared to global customers. Companies like Nestlé (e.g. Maggie) and McDonald's (e.g. McVeggie) have customized their global brands/products (in terms of product name, packaging, flavor) to suit the Indian Market. Even within India, the taste and preferences of rural and urban markets vary. In rural markets, the product purchase usually depends on the advertisements and packaging (e.g. colour, text, image) more than taste; while in urban market, the purchase decision depends more on the company/brand/loyalty factors (Dutta & Mandal, 2019).

Neuroscience Technology and techniques used in Neuromarketing:

Different neuroscience/neuroimaging techniques applied in Neuromarketing to study consumer brain, facial expression, eye movements and other parameters, in response to advertisements, products and services are listed and briefly described below:

EEG (Electroencephalography):

EEG is used to monitor and measure brain activity, by placing electrodes in the head, in response to external marketing stimuli like advertisements, product packaging, taste and flavors (Khushaba, et al., 2013).

fMRI (Functional Magnetic Resonance Imaging):

MRI measures the blood-oxygenation-level dependent, using hemoglobin's magnetic properties. fMRI can be used to monitor the brain's function in response to marketing inputs like different advertisements, brands, product packaging, taste/smell of products, by placing the consumer (volunteer for marketing research) in the MRI scanner (Khushaba, et al., 2013; Loijens, n.d.).

Eye tracking and Heat Maps:

Eye tracking (using wearable eye trackers) is extensively used to observe the consumers' vision when they visit a retail store, to study their behaviour from entry to exit, in terms of which section they visit, which racks and products catches their attention. The eye tracking observations are visually represented in the form of heat maps, with different colours like red, orange, yellow, green, representing different levels/intensity of consumer viewing. Similarly, eye tracking is also used to observe the customer's views on web pages and digital advertisements on computers and mobile devices. Study and analysis of customer eye tracking gives a lot of insights to marketers in terms of positioning their products in a retail store or in positioning a digital ad, to ensure maximum attention, hence influence their buying decision (Schaik, 2013; Jones, Gillespie, & Libert, 2019).

Facial Coding:

Here, the consumer is exposed to specific advertisements or different advertisements and their facial expressions are recorded continuously and then analyzed to see their emotion and reaction to different parts of the advertisement or different advertisements. This study is first conducted on a target consumer base, with the required sample size, and then their responses are analyzed. This analysis will help companies and ad firms to fine tune or redesign their existing ads or create new ads in line with the tastes and preferences of the target consumers (Schaik, 2013).

Galvanic Skin Response (GSR):

GSR (also referred to as Electrodermal Response) techniques are employed by marketers to measure the consumer's response to new products (like skin care products), by measuring the change in the skin's electrical resistance. EEG can be combined with GSR to measure the consumer experience, by exposing them to the advertisement of a new skin care product (to monitor the brain response) and simultaneously applying the skin care product (to measure the physical response).

AR/VR (Augmented Reality / Virtual Reality):

Retail stores are doing extensive research in consumer behavior, by selecting volunteers amongst customers and providing them with AR/VR goggles, which they wear and move around the stores(physical or virtual), from entry to exit. The AR/VR goggles continuously transmits detail data on customer movement, what and where they see, what products they pick up, how they interact with support staff in the stores, etc. Alternatively, they also monitor

customer movements and preferences through the CCTV cameras, which help them to generate heat maps on the most crowded locations, most viewed products etc., within the retail stores. AR/VR is also used in retail to give a virtual and augmented reality based 360 Degree shopping experience to customers.

In practice, a combination of these neuroscience technologies and techniques are applied in Neuromarketing to measure and monitor the consumer's response to external stimuli like advertisements, brands, products and services.

Neuromarketing by Major Companies – Few Examples:

Some of the major companies which employ Neuromarketing are mentioned below:

- IBM – Watson applies Natural Language Processing (NLP) techniques to learn consumer tastes and preferences.
- Samsung – Bixby Voice Assistant, emotional video ads on TV and YouTube.
- Coke – Consumer generated ad content through “Share a Coke” campaign.
- Maggi – Comeback campaign, through 60 second nostalgic story videos.
- Daimler – Car design based on neuro study of customer tastes and preferences.
- PVR Cinemas – Design of different cinema formats like IMAX, 4DX, Play House, Gold, created based on customer preferences.
- CavinKare – Introduced sachet shampoo (e.g. Chick Shampoo), with low cost, but high utility in the rural market, where it saw a huge business potential.
- Microsoft – Uses eye tracking, to learn about customer interactions with computers, in terms of understanding their preferences and feelings (satisfaction or dissatisfaction).
- Google - Employs techniques to read our brain, to understand the response to digital ads and helps companies to customize their digital marketing campaigns accordingly.

- Harvard Business Review (HBR) - HBR sends an email request to its Advisory Council members to help them select a cover design for the next issue of Harvard Business Review, through an online survey.

Globally there are several marketing and advertising firms offering Neuromarketing services to the leading corporate, across different industries like Retail, Banking, Telecom, FMCG, Manufacturing, Automobiles, to survive and sustain in the competitive environment. These companies offer Neuromarketing consulting and market research services, by employing state-of-the-art neuroscience techniques to study and analyse consumer behaviour, recommend different branding, advertisement and product/service positioning and differentiation strategies, to their client organizations.

Limitations and Concerns about Neuromarketing:

Practically applying neuroscience imaging techniques to read customers mind (e.g. EEG, CT Scan, fMRI) involves significant time, effort and cost (Loijens, n.d.).

Some of these technologies are relatively older and may not assure optimum accuracy, in terms of interpretation of results of study of human brain and its impact on consumer behaviour.

We have exponential change in technology and progressive change in consumer behaviour with different generations (say Gen X, Y, Z) and marketers cannot be complacent or static with their Neuromarketing initiatives. This needs to evolve on a continuous basis, with a dedicated team and focused efforts.

There have been ethical concerns expressed on exposing customers to Neuromarketing, by application of neuroscience brain imaging techniques, with regard to privacy and health.

While Neuromarketing can be used to sell a good product or service, it should not be misused to sell an inferior product or service, by just influencing the consumer's mind (Swathi, 2018).

Children getting exposed to Neuromarketing research are also a matter of concern. Similarly, neuro research for commercial purpose is also being criticized.

Future of Neuromarketing:

Neuromarketing is evolving and needs to mature over the coming years, to address all these limitations. Further research in Neuromarketing, especially in applying neuroscience techniques in understanding consumer mind and behaviour will enable us to create more success stories on the application and benefits of Neuromarketing, which will further strengthen its adaptation. Marketers will work more closely with neurologists, for further research and development, in the area of Neuromarketing and consumer neuroscience. In the future, Neuromarketing might be extended to Nanomarketing. Nanomarketing plans to integrate Neuromarketing tools in small, non-intrusive and wireless devices. Nanomarketing technology enables measurement of customer's emotional states in real time (Netty & Yazdanifard, 2013).

Conclusion:

Business is driven by customers; marketing advertisements and campaigns play a significant role in a company's brand recall and in sale of its products and services. Understanding the customer's mind and their tastes and preferences, helps an organization to design their offerings, right from advertisements (say ads in Newspaper, TV, Social Media, Billboards), product and service design, retail store design, eCommerce web portal, mobile app and all the customer touch points to capture and retain their attention. The focus of Neuromarketing is to create an excellent and memorable customer experience, across all touch points, which contribute to increased conversion rate, sales and business growth. Neuromarketing involves working tirelessly in understanding consumer behaviour, their tastes and preferences, by applying learning from neuroscience research and techniques, involving study of human brain. Significant amount of research and investments will go into Neuromarketing to create and offer innovative marketing campaigns, excellent customer experience, and product/service differentiation, to stay ahead of competition and to increase customer loyalty and lifetime value.

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Emerging Business Opportunities in the Future We Want

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Abstract

The priority accent on the future we want is attuned to an ideal pattern of development which is economically efficient, ecologically friendly and socially desirable as underpinned in the goals, targets and indicators of Sustainable Development Goals (SDGs) which replaced the Millennium Development Goals (MDGs). The latter failed to see the light of reality with the deadline for achieving the goals being dead. Amidst formidable challenges, new business niches do stem from the tenets and contours of SDGs. This article attempts to unveil viable avenues of such business niches. Growth without social inclusion entails growth without development. Making growth work for the poor is critical. Making science and technology work for the poor is more critical. Making urbanization work for the poor is equally critical. Emerging business opportunities seized by dynamic entrepreneurs should spread the benefits of growth across all segments of society. It is not an act of charity. It is indeed an act of human justice. New business opportunities should eventually save the people and the planet.

Key words: *sustainable development, business niches, economic efficiency, ecological compliance, social inclusion, science, technology*

Introduction

As said by the famous management expert, Peter Ducker, the best way to predict the future is to create the future. Futurologists make optimistic claims about future. The history of the world economy tells us that each challenge is an opportunity. Energy efficiency surfaced as a result of a series of oil shocks which rapidly escalated energy prices, bearing testimony to the fact that necessity is the mother of inventions. Thanks to a series of challenges, new opportunities emerged to create new sources of dynamic growth. Our challenge is to spread the benefits of dynamic growth triggered by technological marvels which revolutionize the patterns of production across all sectors. I very strongly believe that our formidable challenge is to make scientific and technological marvels work for both rural and urban

poor. While grassroots innovations make a breakthrough in the quality of rural life, making rapid urbanization work for the poor is a big challenge. I am always concerned about rapid urbanization without sustainable sources of livelihoods for the urban poor. Urban peripheries are often eye soars, and urban poverty is the root cause of very high rate of crime and conflicts across countries. I would like to start with my reflections on the UN Secretary General Report titled “The Future We Want”, submitted to the recently held Rio+20 Summit.

Key Messages of Rio+20 Outcome Document: The Future We Want

Calling the Rio+20 Outcome document (UN, 2012) as an all-in-one document in view of the extent of its coverage of all critical issues of sustainable development is wrong. Indeed, a holistic approach to foster sustainable development should encompass all aspects of sustainability ranging from poverty reduction to green economy. We need to exploit the resources for development in such a way that the future generations will not be deprived of what the present generation enjoys. A piece of land owned by us is not something inherited from parents. It is rather a land borrowed from our children who will borrow it from our grandchildren. We have to return the land in tack without spoiling it under the pretext of developmental efforts. We should ensure that the creation of sustainable sources of livelihoods using the technological marvels does not put the ecology environment in jeopardy.

In my view, our formidable challenge is to make science and technology work for the poor on a sustainable basis and to rekindle new sources of dynamic growth, with an accent on a high degree of ecological compliance. It is in the light of the above in general and my deep concerns meriting priority focus, I would like to reflect on the key messages of the Rio+20 Outcome Document.

Making urbanization work for the poor

The peripheries of cities and towns are spreading like cancer, without adequate infrastructural base, utility services and job opportunities for the youth living in slums which envelop those cities. The high rate of crime in the cities is often ascribed to the prolonged state of joblessness for the people living in city peripheries. We need to make urbanization work for the poor by making the process of urban expansion as a potential source of creating sustainable sources of livelihoods, jobs and business opportunities.

By 2050, the world population is expected to increase reach 9.7 billion (United Nations, 2015). The population living in urban areas is estimated to be 6.3 billion, implying that the urban areas are expected to absorb the entire rate of growth of world population, with fewer inhabitants in rural areas than today. I very strongly believe that this is the biggest challenge in the future we want. Can fast-growing job-creating green industries observe the swelling urban population? Can the emerging technological marvels facilitate the pattern of development which makes urbanization work for the urban poor?

Making Science and Technology Work for the Poor

We are living in an era of technological marvels. Thanks to those marvels the shift from the carbon age to nano-carbon age reveals the unlimited avenues of using carbon as a potential source of transforming economies, with an accent on economic efficiency, ecological compliance and social inclusion. Opinions differ on the key facets of the new industrial revolution which is triggered by new advances in science and technology. Leading opinion-makers think that the future pattern of development will largely be influenced by renewable sources of energy. Some attach top-most priority to knowledge as a source and innovation as a force. They are also of the view that in an ideal national innovation system, new knowledge is generated by institutions, exploited by laboratories and commercialized by dynamic firms. Such a high degree of interactive framework is set to unlock the development potential of countries. A different school of thought points to the possibility of the digital world ruling the future patterns of development, which will largely be influenced by open innovation and value creation network in a digitalized world.

The new sources of growth stemming from technological upgrading undoubtedly trigger growth. If we are not able to spread the benefits of technology-driven growth among people and get them empowered in the development process, there will be growth without development. Given the critical skills to use modern technology and to commercialize new knowledge, anybody can participate in the global value chain. There are case studies of best practice, where ordinary people make components, complying with international standards and precision norms, for the products of transnational corporations. It is essentially a matter of enhancing the functional literacy rate, which entails the percentage of literates imbued with enhanced adaptive capabilities and skills to use modern technology and to commercialize new knowledge. The lack of such skills and capabilities will push many into the state of joblessness despite holding an engineering degree.

The current transformative shift is underpinned by the need to foster fast-growing, job-creating green industries. R and D and innovation tend to play a key role in fostering the transformative shift from quantity to quality. The digital world and the related open innovation tend to facilitate a shift from mass production to production by the masses as envisaged by Mahatma Gandhi. Thus, the new scientific and technological marvels enable us to make Mahatma Gandhi's dream see the light of reality.

When production by the masses happens in a global value chain, the poor gets empowered in the development process. If science and technology fail to create such an enabling environment for the poor to be part of the developmental process, inequality would become the root cause of many evils amidst technology-induced prosperity. Let science and technology be the job for the jobless, home for the homeless and hope for the hopeless.

It is important to realize that India's struggle to achieve rapid economic transformation is apt to be won or lost in the countryside. Grassroots innovations can serve as new and dynamic growth impulses in rural areas and make a breakthrough in the quality of rural life. Creating an enabling campus environment for innovation and inculcating interest in the minds of budding engineers towards grassroots innovations are critical. As evidenced by such innovative devices designed by students of several engineering colleges across the states of India, engineering students can play a pivotal role in propelling the wheels of socioeconomic transformation for the benefit of all.

Science and technological marvels may eventually enable mankind in the long run to bring the required resources from other planets. It is certainly not a utopian aspiration. Perhaps, Almighty God was well aware of the fact that the resources of planet Earth would one day evaporate. Hence, so many plates and their resources to foster sustainable development for ever. As our spiritual pursuits are attuned to eternal peace, let the scientific and technological efforts of mankind be directed towards exploiting the resources of other planets so that the developmental process be infinite and to the benefit of all.

Assuring in Sustainable Energy for All

Ushering in sustainable energy for all entails determined efforts to convert water, wind and waste into watts and watts into wealth. The following pertinent issues and options merit attention:

1. The development of a sustainable, long-term solution to meeting the world's energy needs is a defining issue of our time. Energy is directly linked with the key global challenges that the world faces -- poverty alleviation, climate change, and global, environmental and food security.
2. Current energy systems are failing to meet the needs of the world's poor. Worldwide, 2.6 billion people rely on traditional biomass for cooking and 1.6 billion people – about a quarter of the human race - do not have access to electricity. The projected cumulative investment required between 2005 and 2030 to meet energy needs is almost US\$20.1 trillion, but even if this investment is secured over the next thirty years, 1.4 billion people will still lack access to electricity in 2030 and 2.7 billion will still rely on traditional biomass for cooking and heating.
3. Global energy-related carbon dioxide emissions (CO₂) will increase by some 50 percent between 2004 and 2030 unless major policy reforms and technologies are introduced to transform the way energy is produced and consumed. Coal has overtaken oil as the leading contributor to global CO₂ emissions.
4. Developing countries will account for three quarters of the increase in carbon dioxide emissions between 2004 and 2030 unless major transformative energy policies and technologies are introduced in the next few years. Effective action will require an unprecedented level of cooperation amongst all major economies.
5. The global economy is currently caught in the worst financial and economic crisis in generations. The economic downturn and the financial crisis in the developed economies has triggered slowing demand in many developed countries and rising inflationary pressures in emerging and developing economies. This is compounded by continuing volatility in energy and commodities prices. The most pressing global challenges such as energy and climate change will now have to be addressed in an increasingly more fragile macroeconomic context, especially in poor developing countries.
6. The global credit and financial crisis could have a major impact on infrastructure financing in general and energy financing in particular. Some sources suggest that the financing for energy infrastructure will be severely affected. For regions such as Africa, where the

provision of electricity is by far the greatest infrastructure challenge,* this is indeed bad news. Compared to other regions of the world, Sub-Saharan Africa has one of the lowest rates of energy access, electricity generation capacity per capita and electricity consumption per year. But Africa will not be the only region affected. Immense investment requirements still exist in most developing countries to build additional generation capacity, extension of electricity grids in urban areas, mini-grids in medium-sized settlements, and decentralized installations providing energy services to remote and rural areas.

7. Energy today is at the heart of every economic, environmental and developmental issue. The world needs clean, efficient and reliable energy services to meet its long-term needs for economic growth and development. Developing countries need to expand access to reliable and modern energy services to alleviate poverty and increase productivity, to enhance competitiveness and economic growth.
8. Climate change is an urgent and critical challenge that the international community needs to address now. An effective response to climate change must combine mitigation of global greenhouse gas (GHG) emissions — to avoid the unmanageable — and adaptation at regional, national, and local levels -- to manage the unavoidable.
9. According to the IPCC Fourth Assessment Report, the largest growth in GHG emissions between 1970 and 2004 has come from the energy supply sector (an increase of 145 per cent). During this period, the growth in direct emissions from transport was 120 per cent. From industry it was 65 percent, and from land use, land use change, and forestry (LULUCF) 40 percent.
10. If business-as-usual trends in the global energy mix continue, fossil fuels will maintain their dominant position, resulting in continuing growth of CO₂ emissions. The projected increase in carbon emissions is expected to reach 40 to 110 per cent over the period of 2000-2030. Two thirds of this increase is expected to come from developing regions. Decisions taken today on the choice of energy technology

* The World Bank estimates that Sub-Saharan Africa needs an annual addition of 4 GW in order to power its economic growth and keep up with the demand for electricity, which is growing at about 5 per cent per year or more in many countries in the region. Only 1 GW is being added annually!

will thus have profound consequences for global development over the next 40 to 60 years.

11. The demand for primary energy is expected to increase significantly in the next few decades*. Increased energy demand will give rise to challenges in poverty reduction, development and macroeconomic stability worldwide. These challenges will have distinct economic effects on developing and developed countries.
12. Improvements in energy efficiency and the development of low-carbon sources of energy offer the greatest potential not only for reducing GHG emissions but also for enhancing energy security and lowering the energy bill. The International Energy Agency estimates that policies that encourage more efficient production processes and use of energy could contribute up to some 60 percent of the avoided GHG emissions by 2030. Energy Efficiency will, therefore, be one of the key pillars and most sought-after area in the post Bali climate change regime
13. Economic growth will continue to be powered by access to affordable and reliable energy sources. Accelerated energy efficiency can weaken this link but not it will not change it. Therefore, de-carbonization of the power sector should be another priority component of the global energy strategy. Renewable sources of energy, nuclear and fossil fuels with CCS must all play an important role.
14. An energy technology revolution is needed. Transformational energy technologies have to be deployed within a fairly narrow window of opportunity in order to avoid the “tipping point” beyond which climate change consequences become non-linear and unpredictable in terms of their devastating consequences to humanity.
15. Higher levels of energy efficiency, deployment of renewable energy sources, - such as concentration and harnessing of solar power (CSP), solar photovoltaic (PV), wind (onshore and offshore), hydro-power and geothermal power – and decarbonization of the power sector and transport are all needed on a massive scale.

* According to IPCC, the demand for primary energy in developing countries and transition economies could increase by a factor of three to five by 2050. By 2050 the approximate distribution of projected demand for primary energy among developing countries and economies in transition compared to developed countries will be about 80 per cent to 20 per cent, compared to 53 per cent to 47 per cent in 2000. However, the per capita use will still be higher in developed countries.

16. While global living conditions have improved markedly during the last few decades, yet still some 1.6 billion people have no access to electricity and some 2 billion use traditional biomass for heating and cooking. Ensuring access to energy is a major component of the development challenge.
17. Most of us no longer need to be persuaded that our success or failure in achieving the Millennium Development Goals, and in fighting poverty and climate change are critically linked to the policy choices that we make today on energy issues.
18. Expanding energy access to the poor is a major priority in the fight to alleviate poverty around the world. Energy influences every aspect of people's lives. It is central to practically all aspects of human welfare including access to water, agricultural productivity, health care, education, job creation, and environmental sustainability. Yet millions of households in the developing world still lack access to safe and reliable energy. Furthermore, many households are obligated to spend a bulk of their time in energy related activities. Women and children spend as much as 6 hours a day fetching fuel wood and water, cooking, and agro-processing – time which should be used for going to school and/or productive activities.
19. Energy-related greenhouse gas emissions are the dominant contribution to climate change and are projected to increase by 57 per cent by 2030. The way that energy and environmental challenges are addressed in the next two decades will to a large degree determine sustainable growth, environmental quality and national security.
20. Reducing CO₂ and other greenhouse gas emissions from the burning of fossil fuels is at the heart of current efforts to address climate change. Accelerated use of renewable and more energy efficient technologies can provide 'win-win' options to tackle global and local development challenges. In the current context of rising and volatile energy prices, many developing countries are looking for alternatives to imported energy sources.
21. The International Energy Agency (IEA) in its latest World Energy Outlook notes that one of the biggest challenges of the 21st century is for all countries to put in motion a transition to a more secure, low-carbon energy system without undermining economic and social development.

22. The recent financial crisis has made it more difficult to meet this challenge. But it could also be seen as a unique opportunity to re-direct investments towards a more secure and sustainable path to development. Hundreds of billions of dollars in liquidity support and fresh capital have been provided to economies around the world to counterbalance the economic downturn. An unprecedented global fiscal stimulus package of US\$ 3 trillion has been deployed for economic revival.
- Will this unprecedented deployment of fiscal resources create a post-recessional economy that is fueled by sustainable energy system and is based on a more efficient energy and materials use?
 - Will we be able to use this critical window of opportunity to provide an integrated response to the global challenges that we are facing, including that of long-term sustainability of our energy system?
23. We need to use the unique opportunity presented by the multiple crises. Moreover we need to do that while maintaining development prospects for countries that need energy to sustain their poverty reduction efforts that now face even higher costs due to climate change. A policy response that is needed to make these happen will involve a significant increase in public investment at national and international level in scaling up investment in and the deployment and transfer of renewable and energy efficient technologies.

Saving the People and the Planet

Since the Industrial Revolution, the global economy has been driven by three things: cheap and abundant fossil fuels; the use of those fuels as if they were inexhaustible, and the exploitation of natural resources as if they too were limitless. But the days of cheap oil and limitless resources are gone. The path to prosperity pursued by the rich industrialized countries is no longer tenable in today's world.

The world's population is expected to grow from 6.7 billion today to 7.8 billion in 2020 and 9.2 billion in 2050. Almost all of that increase will occur in the developing world. The middle class in developing countries is the fastest growing segment of the world's population. While total population will increase by over 1 billion people in the next 12 years, the ranks of the middle class will swell by as many as 1.8 billion. As more and more people move up the economic ladder, they begin to buy goods usually associated with the "good life" -- a house, a car, flat panel TV, stereo, air conditioner,

computer, washer and dryer and all sorts of household gadgets and appliances. They also begin to change their diet, adding more meat to their food consumption.

Now, let's look at what this rising consumption and changing lifestyles mean. If the per capita consumption rate of 1.1 billion people in the developed world is about 32 times that of 5.6 billion people in the developing world. If the whole developing world were to suddenly catch up with the consumption rate of the rich countries, world per capita consumption rates would increase eleven-fold. This would be the equivalent of the world's population jumping to 72 billion people.

Put another way, the New York Times columnist, Thomas Friedman, observed that if the developing world were to add another two or three billion people to consume as the Americans do, we would need to colonize three more planets like earth. And if all of the world's people generated greenhouse gases at the same rate as the developed countries, we would need nine planets to survive, according to the latest Human Development Report.

SDGs and Business Opportunities*

In July the 2017 Sustainable Development Goals (SDG) Business Forum recognized the critical role of business in delivering on the promise of sustainable and inclusive development (SDG Resource Centre, 2017). It elaborates how businesses can engage with the SDG framework; driving business growth and productivity, whilst contributing to the better world.

"The SDGs provide all businesses with a new lens through which to translate the world's needs and ambitions into business solutions. These solutions will enable companies to better manage their risks, anticipate consumer demand, build positions in growth markets, secure access to needed resources, and strengthen their supply chains, while moving the world towards a sustainable and inclusive development path."

In a recent [interview](#) with Eco-Business, Unilever CEO Paul Polman shared that Unilever's whole business model is attuned to SDGs, and that all 300 brands they have globally are to suit the purpose of the SDGs.

According to a [report](#) by the Business & Sustainable Development Commission (2017), the SDGs could generate US\$12 trillion in business savings and revenue across four sectors by 2030: energy, cities, food and agriculture, and health and well-being. It points out the 60 biggest market

* This section draws largely on the SDG Resource Centre report.

opportunities related to delivering the SDGs, such as sustainable aquaculture and mine rehabilitation, leading to an estimated 380 million new jobs.

Sustainability risk profiles are the deep concerns of companies when they endeavor to support the achievement of SDGs. Indications are that the Dutch financial sector backs the SDGs: 18 financial institutions, managing around EUR2900 billion in assets, are collaborating to invest in the SDGs. Two of these institutions seem to have developed a standard methodology to identify investment opportunities linked to 13 SDGs. Global research by PwC found that 78 percent of customers are more likely to buy the goods and services of companies that had signed up to the SDGs. Understanding the change in the pattern of consumption is critical for the business community.

Seventeen sustainable development goals range from poverty reduction to partnership for development. In the sphere of achieving the targets stipulated under each goal, business stakeholder can contribute a lot by capturing niches for doing business. The fabrication of improved versions of traditional agricultural tools could dramatically increase agricultural productivity and create sustainable sources of livelihoods for the poor in the rural areas. Agribusiness is yet another potential source of wealth creation. Attuning the pattern of production to suit the patterns of consumption by the poor could enable both business stakeholders and the poor become better off. There is a fortune at the bottom of the pyramid (Prahalad, 2004) for the dynamic entrepreneur to capture niches and make them as potential sources of wealth creation. As rightly said by Bill Gates, the book written by Prahalad, titled *Fortune at the Bottom of the Pyramid* offers an intriguing blueprint for how to fight poverty with profitability.

In combating climate change, business avenues are unlimited. It is indeed a big business. Recently the World Bank President Jim Yong Kim said financing climate action could offer a more lucrative home for \$8.5 trillion in negative interest rate bonds, \$24.5 trillion in very low-yielding government-type bonds and a further \$8 trillion in cash. It is being increasingly proved that there is a high degree of compatibility between ecological compliance in turning out products and enhanced global competitiveness.

Conclusion

Achieving SDGs is a formidable challenge. Converting challenges into opportunities and opportunities into sustainable sources of wealth creation is a discovery process. A dynamic entrepreneur will need to discover the process by capturing emerging market niches, the development of which makes an inedible impact on profitability and inclusive and sustainable

development. SDGs are more than philanthropy as they are expected to create a \$12 trillion opportunity for the private sector, covering four economic systems, food and agriculture, cities, energy and materials, and health and well-being (Business and SDG Commission, 2017). Seizing such opportunities will require dynamic business leadership, which business schools will need to develop.

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The Econocracy – On the Perils of Leaving Economics to the Experts; by Joe Earle, Cahal Moran, Zach Ward-Perkins; Manchester University Press, 2016

M. N. Jaffer

War is too important to be left to the generals, we are told often. The three young authors of the book under review (economists themselves), passionately argue that the economy is too important to be left to narrowly trained (meaning only in neoclassical economics) economists. To a large extent they succeed in convincing the reader that the mainstream neoclassical economics has huge theoretical weakness and is responsible for framing many of the most distorting economic policies which led to devastating problems like financial instability, unemployment, rise in income inequality and even climate change. The book makes a strong case for “pluralistic” economics to address such issues. In a way, the reader gets a chance to know the defects of the mainstream economics by reading just about 200 pages written in simple language with a powerful style.

Democracy is a familiar word but not ‘econocracy’. In chapter 1 of the book ‘Econocracy’ is defined as “a society in which political goals are defined in terms of their effect on the economy, which is believed to be a distinct system with its own logic that requires experts to manage it.” This may be restated to convey the essential meaning of the term. An econocracy has all the formal institutions of a modern representative democracy (political parties, basic rights of the citizens and regular elections) but the goals of the elite (in politics and business) are narrowly defined (with less concern for people and environment), framed in narrow economic terms (like GDP, BOP, external value of money, etc.), explained in mathematical terms (models in neoclassical economics) and implemented with the help of advanced technology and business management techniques. In a way, econocracy as a political system has spread across much of the world today. Econocracy needs an economics and that is mainstream neoclassical economics. Econocracy needs an economics education and that is provided in universities and especially in elite business schools.

The famous statement of John Maynard Keynes that “the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else” is mentioned in the beginning of chapter 2 of

the book under review. The authors call economics a form of indoctrination. The three major aspects of indoctrination of the mainstream neoclassical economics are individualism, optimisation and equilibrium. Individualism in neoclassical theory focuses on behaviour of individual economic agents such as consumers, producers, sellers, etc. Neoclassical economics builds on atomistic view of the world in which the economy is understood in terms of decisions of individual agents. These agents 'optimize' the use of resources with increasing help provided by advancements in technology, especially in recent years. Equilibrium is another powerful concept. Individual agents make decisions about what to produce, consume, buy, sell etc. based on their judgements, all resulting in a stable equilibrium.

The mainstream neoclassical economics has two pillars to support its theoretical structure. They are 'Marshallian cross' for microeconomics and 'Hicksian cross' for macroeconomics. Individualism, optimization and equilibrium of economic agents in microeconomic decision-making is explained through 'Marshallian cross' given in Figure 1.

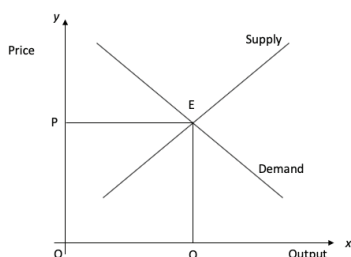


Figure 1 Marshallian Cross

Stable and optimal equilibrium is obtained at point E when the decisions of consumers and producers balance. Macroeconomics is a study of economic aggregates such as national income, price level, employment, etc. This macroeconomic equilibrium is explained through 'Hicksian cross' given in Figure 2.

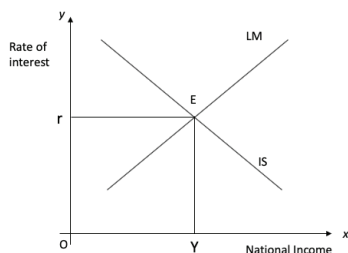


Figure 2 Hicksian Cross

Stable and optimal equilibrium is obtained at point E where the market for goods and services (the IS curve) and the market for money (the LM curve) are in balance at a particular rate of interest and level of national income. These two set of curves play a central role in text books and university lecture halls in order to uphold and spread the ideology and indoctrination that go with the mainstream neoclassical economics. There are models associated with this reasoning built with mathematical abstractions. The authors of the book under review say that neoclassical economics advocates a disruptive ideology hidden inside a mathematical wrapper. In the film 'Modern Times', Charlie Chaplin plays the role of a worker who like a robot does the same task over and over again without much thought about what he is doing. The authors of the book say that modern economics students have become like Chaplin's worker, robotically working on economic models. Students feel let down because of the near total absence of the real world in the economics classroom.

A case for pluralism in economics is presented in chapter 3 of the book under review. Albert Einstein's famous statement that, "Whether you can observe a thing or not depends on the theory which you use. It is the theory which decides what can be observed" is mentioned to show that economics is a contested discipline. Neoclassical economics has shortcomings and blind spots and as a result many important issues are left unaddressed or wrongly explained. The limits of neoclassical economics are reflected in its failing to resolve three important issues namely, global financial crisis of 2008 and slow and uneven recovery from the crisis, environmental degradation and increasing income inequalities. The book mentions a few major alternative paradigms which the reader finds highly useful.

The book mentions alternative economic perspectives such as Keynesian, Post-Keynesian, Austrian, Marxist, Institutional, Evolutionary, Feminist and Ecological. This section of the book is very informative. The sad aspect of economics education today is that students in universities and business schools are introduced to neither of the perspectives mentioned above and are not explained the reasons why they should be considered wrong compared to the mainstream neoclassical economics. These perspectives, needless to say, have valuable insights for the economics student who wishes to understand the functioning of the economy of the real world. In order to illustrate this point, two of the alternative perspectives, namely Marxist and Feminist may be discussed briefly.

Karl Marx was the most powerful of the critics of capitalism. The three constituents of Marxist paradigm are dialectical materialism, economic interpretation of history and the theory of surplus value. Hegel's dialectical idealism was transformed into dialectical materialism by Marx. Apart from ideas, all matter developed in the sequence of thesis, antithesis and

synthesis. Change is inevitable. All history is in fact history of class struggle between the bourgeoisie and the proletariat. Marx said, “The mode of production in material life determines the general character of the social, political and spiritual process of life. It is not the consciousness of men that determines their existence, but, on the contrary, their social existence determines their consciousness.” Bourgeoisie and the proletariat are the products of capitalism. The bourgeoisie produces, above all, its own grave diggers. Its fall, and the victory of the proletariat are inevitable. The basis of Marxian economics is the theory of surplus value. In pre-capitalist societies, the sequence of exchange was C-M-C where C stands for commodity and M stands for amount of money. In this exchange money remains only as money. In capitalism the sequence is M-C-M' (where M' > M) and the commodity exchanged is labour power. The only commodity in the world whose use value leads to exchange value is labour. The value of a commodity consists of three parts – constant capital (C), variable capital (V) and surplus value (S). Thus, value is equal to C+V+S. It is this surplus value (unpaid labour) which supports all the structure and superstructure of capitalism. Such powerful Marxist insights are necessary for a student of economics to look at the world in a proper perspective. The authors of the book under review go on to explain the power of feminist economics in explaining local, national and global events.

Feminist thinkers take an alternative epistemological position and interrogate social sciences in general and economics in particular. Neoclassical economics is partial in the sense, it presents only an androcentric view of social and economic reality. Feminist economics begins with women's experience of women's social reality. Feminist research explores, “the basis of our (women's) everyday knowledge as women, as feminists, and as social scientists, economists . . . what women spend most of their time doing must obviously be the subject of feminist research.” One major area of feminist economics is the importance of work done in the home (largely by women), in feeding, cooking and raising the children (future workers) who produce the goods and services (including models of mainstream theoretical economics) that the whole society consumes. Neoclassical economics has historically failed to capture the contribution made in home by women. One should remember that economics, in a broad sense, since its inception has been dominated almost entirely by men. Feminist writers say that mainstream economics is androcentric, sexist, racist and elitist. A feminist researcher says, “As women, we see the world in a different way, different experiences happen to us, people relate to us differently.” Feminist discourse is an engaging area of study. The authors say that the framework for theoretical and methodological debates in the mainstream neoclassical economics, in a broad sense, fails to accommodate feminist concerns and to that extent it is an incomplete effort to explain social and economic reality.

Economic thought today is dominated by a single perspective and that is provided by the neoclassical school of economists. Economic policies at national and global level are made under the framework of mainstream neoclassical economics. Most policies fail to bring about promised outcomes. Sometimes they cause harm to the economy and misery to the ordinary people. It is increasingly realised that neoclassical economics is in crisis. There is a struggle to capture the soul of economics as envisaged by Adam Smith, Karl Marx and John Maynard Keynes. Unfortunately, in recent past economics exhibits dangerous trends towards homogenisation and silencing of dissenting perspectives through exclusion. The 4th and the 5th chapters of the book under review elaborate this trend and its outcomes. Economics education does not expose students to alternative perspectives. It does not allow them to be critical. The failure of economics to predict or explain the global financial crisis of 2008, and the failure of economics as a discipline to reduce some of society's most pressing problems like instability, unemployment, poverty and inequality have not gone unnoticed. One can hear dissenting voices coming from different directions. A plea for pluralistic economics is made and a group of activists have the following to say:

We, the underprivileged are concerned with the threat to economic science posed by intellectual monopoly. Economists today enforce a monopoly of method or core assumptions, often defended on no better ground than it constitutes the 'mainstream'. Economists all advocate free competition, but will not practice it in the marketplace of ideas.

These words were a part of an open letter signed by 44 leading economists (including four Nobel Laureates) and published as an advertisement in the *American Economic Review* in May 1992.

The book under review, as already stated, makes a forceful plea for a new spirit of pluralism in economics involving critical conversations between different approaches. The reviewer of this book holds the view that a similar plea can be made in the case of management education also. The rise of econocracy and the narrowing perspective of economics as a discipline support each other. A similar trend is found in the case of management studies. Americanisation of management education is widely reported as well as dissented. As a result, Critical Management Research (CMR) has emerged. American pragmatism is behind the development of modern management studies. There is a view that alternative perspectives such as critical theory, postmodernism, deconstructionism, post structuralist feminism and queer theory should find a place in discussions.

To conclude, the book '*Econocracy*' (2016) will surely give a lot of insights to students of economics and business management.

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(A Journal of XIME)

Xavier Institute of Management & Entrepreneurship

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