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From the Desk of Editor-In-Chief

Empirical data highlights that cultural and religious forms are reinterpreted in real life in this material environment. The so-called Hindu value system transformed itself to permit the entry of non-business classes into industrial ventures when the new opportunities were perceived and grasped by these classes. It is well recognized today that entrepreneurial initiative is one of the principal elements in socioeconomic development of society and nation.

Start-up India in 2016, a flagship initiative of Government of India, throughout India, across all the sectors in Tier1,2 and 2 cities, including semi urban and rural area and all includes for promoting entrepreneurship among all communities.

This journal tries to capture latest academic research and practical finding on all aspects of innovation and entrepreneurship. In addition, journal explores why some regions grow and others stagnate; considers the dynamics of entrepreneurship in global context, with an eye toward emerging markets ; and evaluates the effects and implications of innovation and entrepreneurship in a transdisciplinary context that takes both historical evolution and geographical location into account.

To conclude, focus of researchers must be reconnoiter more avenues to fill the gaps in the existing literature in entrepreneurship and create a platform for exploring better business opportunities and innovative ideas.

Let us promote grand ideas!!!

Prof. (Dr.) Balvinder Shukla
Professor of Entrepreneurship and Leadership
Vice-Chancellor,
Amity University Uttar Pradesh

From the Desk of Editor

Entrepreneurship in India contributes to the movement of self-reliance, that is, Aatmanirbhar Bharat. For economic development, any country requires job creators, wealth creators and intellectual asset creators and knowledge creators in different sectors. This requires observing the trends and economic growth sectors in several countries. As the time moves on some sectors and disruptive technologies create new industries and avenues such as mobile industry and payments industry. Some industries become redundant or outdated. Some industries grow horizontally, and the intersection of industries become blur with the advent of technologies and automation.

Previously Entrepreneur, Industry and Labour was the discussion point, but today in 21st century Employee, Incubation, and Success Factors of Start-ups are core point of discussion across academia and industry. Entrepreneurship: comprises innovation management, business model development, emerging technologies, proof of concept, business plan, accounting, managing intellectual property such as patents, trademarks, copyrights; marketing, finance, lean methodology for start-ups and valuation for start-ups. Entrepreneurship evaluates whether team is required, tests product developed and test markets the product as well. Social entrepreneurship is also part of economy.

Happy reading!

Prof. (Dr.) Sanjeev Bansal
Dean Faculty of Management Studies &
Director Amity Business School

A STUDY ON EXISTING BUSINESS MODELS OF SOCIAL ENTERPRISE IN INDIA

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Abstract

The concept of social business derives some concepts from the traditional business literature. However, not much is known about the different business models of social business and how they can be implemented efficiently to optimize their potential (Prabhu,1999; Nicholls, 2006). As the idea of business model is gaining much attention in the field of research, the notion can be reconsidered to study the building of social enterprises. Studying the basic structure of a conventional enterprise and a social enterprise, the paper details into the existing structural and operational business models employed by social enterprises. With application of various arrangements between the elements such as mission, target market, value generation, distinction of various business models can be done. The design structures allow for a typical distinction between different types of strategies. This study brings out the basic fact that the business models are shaped by their design, space or their environmental setting. The setting in which a social business functions levies varied business design constrictions simultaneously opening an array of new design opportunities. This conceptual research integrates and analyses literature on social enterprise, social enterprise business model and business model design to help comprehend the contingencies for business sustainability. The research is concluded by determining the basic requisite conditions for a model to be asserted as a social enterprise business model.

Keywords: Business Model, Social Enterprise, Social Innovation, etc.

Introduction

In every field, specifically social science, growth is equally measured by proliferation of the related terminology. In the field of social entrepreneurship, the situation is intensified as not just the researchers, but managers and entrepreneurs ascertain the evolution of the field, where the conceptual ideology of the groups rarely converges. Such situations require, a logical reformation of the discipline, whether within the conceptual framework, or on the basis of an enterprise ontology, has often helped to unify a field (Munn & Smith 2008; Smith & Ceusters 2010).

The concept of social entrepreneurship has created new business models. This concept is at least as verified as that of social enterprise, and the literature on business models has evolved experientially (Morris, Schindehutte & Allen 2005; Zott & Amit 2010; Zott,; Casadesus-Masanell & Ricart 2007, 2010; Seelos 2010) including its appliance on social entrepreneurship. Also, the literature on enterprise design has developed, which is a result of contribution from several disciplines (Baldwin & Clark 2002, 2005). It is likely that viable business models may have “dominant” design configuration, i.e. specific architectures. The built of social enterprise model must be strong, with an integrated system of nodes and connections maintaining the information of the business constituencies and finding the value of the ecosystem.

This paper focuses on the fact that the essence of entrepreneurship lies in the design of efficient business models of social enterprises (Casadesus-Masanell & Ricart 2007; Brouard & Larivet 2011). In reforming and renovating the essential elements in social entrepreneurship, opting for a design approach seems an appropriate idea. The design model of an enterprise helps to identify the components of a business, the inter-relationship and the processing of functions in regard to the architecture.

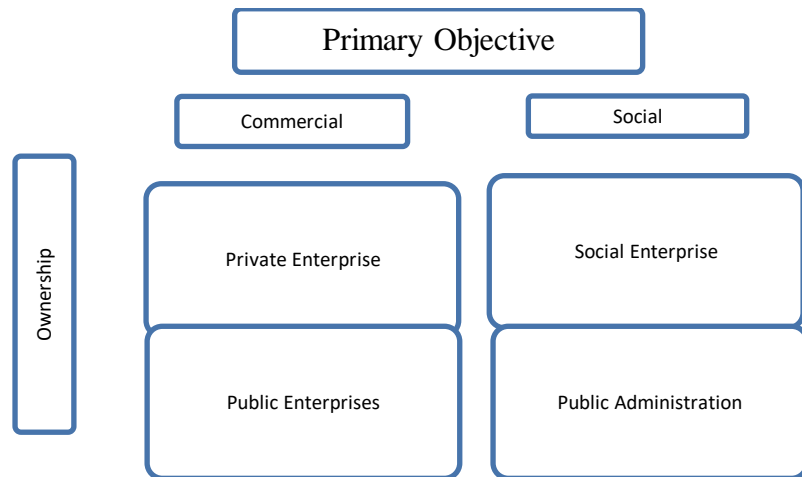
Business models

A business model comprises of two key elements:

- an operating strategy that consists of organization's internal structure and external partnerships that are significant for creating the organization's impact.

- a resource strategy defining on how and what terms will the organization procure its financial, human or other resources, required for its functioning.

Enterprises can traditionally be classified in to two categories as: ownership and profit motives. A typical categorization is represented below:

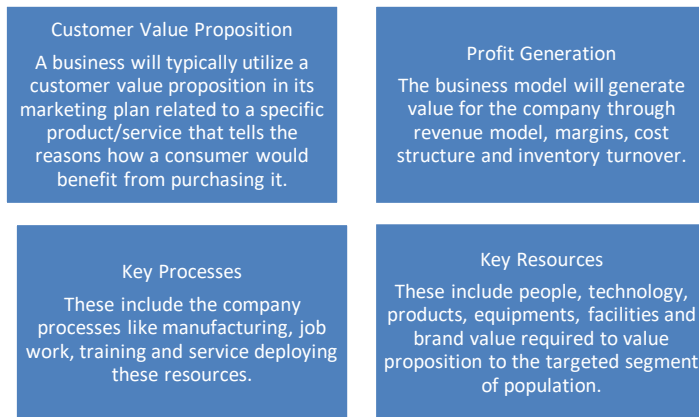


This kind of classification splits economic activity in two categories and on the basis of two business objectives. In correspondence to mixed form of economy including both private and government activities, only a limited number of forms can be envisaged. Over the time, the development of economies has illustrated that the third sector has not been and possibly cannot be lucidly defined. Various classifications and definitions of the social enterprise or non-profit enterprise have been developed. It is not justified to categorize this sector by the goals of enterprises being for-profit or not-for profit. Economically the two sectors have been congregating for some time, and business law is not effective in portraying differences by intended purpose (Dees 1998; Brody 2003; Westall 2009; Boyd et al. 2009; Billis, 2010). Generally categorization use institutional factors as criteria but are still committed to viewing the “third” sector as a “non-market” sector (Gassler 1986: ch. 3; Mintzberg et al. 2005; Westall 2009).

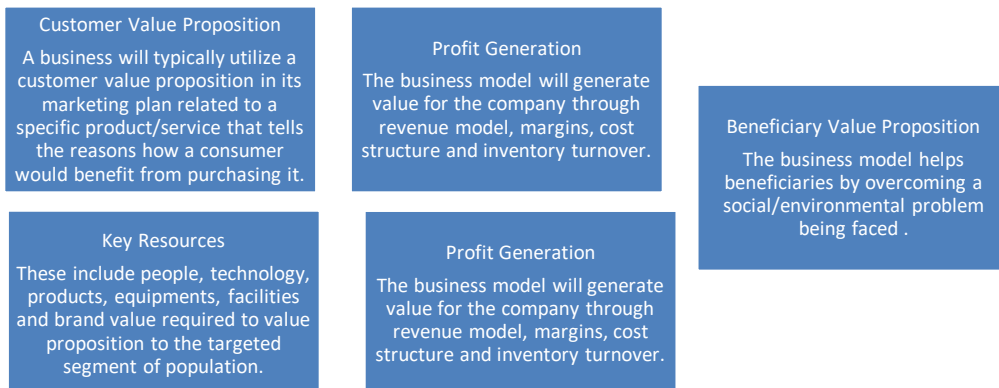
The hybrid nature of social enterprise is not a experiential and reliant fact, but it is an analytical fact, that is evident from the composite term itself. The act of decreasing the multiplicity of the categories and the difficulty faced in comprehensible classification to the

hybridity in this sector is iteration (Laville & Nyssens 2001; Brandsen, van de Donk & Putters 2005; Mair & Martí 2006)

A private enterprise business model would include 4 components as shown below:



A social enterprise business model would include an additional component:



Business models and structures in social business

Another classification of social enterprises can be done based on their mission orientation or based on the integration level between social programs and business activities.

Mission Orientation

Mission Centric	Mission Related	Not-related to Mission →
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When we classify social enterprises based on mission, they can be categorized as shown in the table below:

← **Mission Motive**

Profit

Mission-Centric Social Enterprise	Mission Related Social Enterprise	Social Enterprise unrelated to mission
<p>The enterprise is fundamental to the social mission of the organization. The purpose of establishing these social enterprises is to advance the mission with the help of a self-financing model.</p> <p>An example of this type could be organizations created with a motive to employ disadvantaged section of the population and microfinance institutions.</p>	<p>The enterprise is associated to the organization's mission or primary social activities. Such social enterprises are synergistic in nature, they create social value and generate economic value with a motive to subsidize the social programs and/or operating expenses of the organization</p> <p>One of the most common form of mission-related social enterprise is commercialization of social activities</p>	<p>The enterprise is not associated to the mission of the organization, or intended to progress the mission. It only supports by generating revenue for its social programs and covers operating costs.</p> <p>The business activities may have a social appeal, affecting the marketing or branding aspect, function in a sector that is related to the services of non-profit parent organization, however, in this case profit aptitude is the prime motivation for creation of a social enterprise unrelated to the mission.</p>

Business/Program Integration

Social enterprises can also be categorized on the basis of level of assimilation between social programs and business activities.

Embedded/Fixed Social Enterprises	Integrated Social Enterprises	External Social Enterprises
<p>Enterprise activities and social programs are one and the same thing.</p> <p>The activities of the enterprise are central to the organization's mission, are ingrained within its operations and its social programs. The social programs are self-financed with the help of enterprise functioning and therefore the embedded social unit also operates as a sustainable program strategy.</p> <p>Keeping in focus the organizational mission and to avoid mission shift, generally embedded social enterprises are structured as</p>	<p>The business activities overlap with the social programs, where they share costs and assets.</p> <p>Social enterprises are created by organizations as a mechanism of funding to support the operations and mission related activities of its non-profit.</p> <p>Mission development can be attained by commercializing the social services of organization and selling them over to a new fee-paying market; or by giving new/improved services to existing clients.</p> <p>Integrated social enterprises act as a basis from which to create business by</p>	<p>Social programs are different from business activities. Non-profits create a distinct external social unit to fund their social services or operating costs.</p> <p>The activities of the enterprise are external from the operations of the organization, but the support to social programs is provided through supplementary financing.</p> <p>The external social unit can be structured separately as a non-profit or for-profit subsidiary or in the parent organization as a profit-centre. The regulatory environment of the</p>

<p>non-profits, however they can also be registered as for-profit entity depending on the legal ecosystem.</p> <p>It is a comprehensive relationship between the enterprise activities and social programs: financial and social goals are achieved</p>	<p>leveraging tangible and intangible resources such as expertise, the brand, relationships, program technique, and infrastructure.</p> <p>The integrated social enterprise may be an arrangement of a profit center or it can be a non-profit enterprise , or a separate distinct entity.</p> <p>In this case, the business activities and social programs share a synergistic relationship, where they add social and financial value to one another.</p>	<p>operating external social unit determines it's legal status.</p> <p>Since the external social unit is not related to mission, its business activities focus primarily on generating funds for its social program and is not required to progress the organization's mission.</p>
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Operational models of social enterprise

Operational models are separate from organizational and legal structures. These models are basically configurations used for creation of social value and economic value, which can be implemented in programs, institutions and for service deliverance.

The design of operational models are in conformity with social enterprise unit's financial and social objectives, marketplace activities, client requirements and legal environment.

1. Entrepreneur Support Model: This social enterprise model sells business support and financial services to its clients who are self-employed individuals or firms. These

self-employed units then sell their products and services in the open market. Primary source of income is through sale of services to beneficiaries.

Example:

Kamal Kisan (<http://kamalkisan.com/>) was founded in 2012 by Devi Murthy of Karnataka. It focuses on innovation in agricultural equipment by delivering mechanical devices unique in nature, that offer process efficiency. The aim of Kamal Kisan is to develop a chain of farm equipment's mainly targeted at small farm owners. These equipment's are then provided as a mechanized service directly on the farm. The heavily labour dependent farm activities can be substituted with such equipment's and hence contribute to a significant amount in the total cost of production.

The innovations at Kamal Kisan help in reaping productivity advantages of technology and mechanization to small farmers who were earlier not in a position to afford it. The organization intends to develop products/services that have element of affordability, ease of use and can be integrated into present scenario of farmer practices.

The social organization works on a franchise-based model to deliver farm equipment's that are used as a service on the farms. The organization aims to effectively deliver equipment's on the farm in the form of a variable expense rather than a capital investment hence the rationale of choosing the service model.

Kamal Kisan could set up its service network by making efficient use of outreach centres, extension offices and self-help groups.

The organization employs the entrepreneur support model where the organization sells business support in the form innovative and affordable farming solutions.

Per the organization statistics, there are over 83 % small and marginal farmers, who don't have access to mechanized farming. Kama Kisan aims to build efficient solutions and reach five lakh farmers in the next five years with the simultaneous motive of 50% reduction in the labour cost in various agricultural processes.

2. **Market Intermediary Model:** The market intermediary model provides services to small producers such as individual, firms or cooperatives to help them access markets with ease. Social enterprises provide services such as product development,

production and marketing know-how and credit, to add value to client made products. Financial self-sufficiency is achieved through sale of its client-made products.

Example:

Maya Organic, established in 2005 under section 25 of Indian Companies Act and a member of the World Fair trade Organization, is a livelihood development programme which is involved in cultivating a network of artisans, workers and micro-entrepreneurs capable of producing high quality lacware wooden items. The organization not only supports existing art workers with design/product development and order support, but also takes initiatives to train several new artisans, especially women in the handicraft segment, ensuring that the cluster is invigorated with fresh skills, new designs and markets and help build feasible micro entrepreneurial alternatives.

Maya Organic believes that with just inputs of finance/technology or knowledge, people cannot continuously depend on these and hence the change is likely to be small. Building capacities, therefore becomes essential as it the most sustainable and efficient way to alleviate poverty.

Currently Maya Organic is working with the artisan community in Channapatna – a town near Bangalore in India.

Maya Organic follows the market intermediary model wherein it adds value to products and builds inherent capabilities of individuals and institutions and hence makes them competitively able to respond to challenges of markets, social environment and conditions and politics.

Maya Organic also partners with markets and develops designs for products and services so that the efforts of the artisans are dovetailed with professional inputs, backed with contemporary and relevant designs and market approaches.

3. **Employment Model:** This model provides employment opportunities and job training to its client which include individuals like disabled, homeless, and ex-offenders who face high barriers to employment. The social venture runs an enterprise employing such individuals and sells its products/services in the open market enabling it to attain a financial self-sufficiency.

Example:

EnAble India (<http://enable-india.org/new/index.php>), was founded in 1999 by Shanti Raghavan & Dipesh Sutariya, software engineers, who had known disability closely within their family. This is a social enterprise that aims to empower individuals with disability by provision of employment services, pre-employment services, and supplemental education, counselling and support services.

EnAble India also provides consultancy and training for other institutes, NGOs and technology services. The organization firmly believes that the disabled do not need sympathy but a supportive environment to grow, develop and fulfil their needs and dreams.

In the Indian scenario, it is difficult for persons with disability to find employment, the common reasons being lack of awareness of jobs availability, right education, desired skill set and attitude. EnAble India trains, counsels and prepares individuals with disability to join the mainstream workforce with confidence and efficiency with the help of simple technology and assistive aids. The social enterprise is committed to dispel emotions of sympathy and apathy towards the disabled and build awareness for the creation and development of a supportive environment.

The impact of this social venture is evident across the country, where more than 200 companies across Bangalore, Mumbai, Hyderabad, Delhi, Chennai, Kolkata, Pune have employees with disability working amongst them

4. **Fee-for service Model:** The crux of fee-for-service model is commercializing its social services and then selling it directly to individuals, firms or a third party. This is the most commonly used social enterprise model by non-profit organisations. The

enterprises achieve financial self-sufficiency through the fee it charges for its services. Another variation of fee-for-service model is low-income client as market model, where the target population is recognized as the market to sell goods and services.

Example:

SELCO Solar Pvt. Ltd (<http://www.selco-india.com/>) is a social enterprise established in 1995.

The organization provides sustainable energy solutions and related services to under-served domestic households and businesses. SELCO initiated its program with an idea to dismiss the myth that poor people cannot afford and maintain sustainable technologies specifically in rural areas.

The primary aim of SELCO is to empower its customers by provision of a complete package of product, service and consumer financing through cooperative societies, commercial banks, grameen banks and micro-finance institutions.

SELCO has established in an arena by creating products and delivering services based on the end user needs. Another factor contributing to the rising success of SELCO is channel creation for users providing them the capacity to afford and adopt systems based on their usage and cash flow. The organization charges from as less as Rs 10 to Rs 350 a month.

Since its inception, SELCO has sold, serviced and financed over 2 lakh solar systems to its customers and are spread across 45 energy service centres.

This social venture employs a low-income client as market model by providing easy and nominal access to sustainable energy that enhances consumer's health, education, standard of living, quality, productivity and opportunities.

5. Cooperative Model : This social enterprise model provides member services for the products and services produced by them in the form of market information, bargaining power, technical assistance, economies of bulk purchase, access to products/services and external markets hence providing direct benefit. The cooperative members of the group are generally the small scale producers in the same product/service group or a group with common needs.

Example:

Industree Foundation, established in 2000, is a social enterprise that works by creating an ownership based, systematic creative manufacturing ecosystem for micro-entrepreneurs. The comprehensive approach of the organization supports communities in assessing their traditional skill base, organizing it into production units, develop appealing products for the modern market and create sustainable businesses to match regular demand at the best possible costs.

Industree arranges and classifies women micro-entrepreneurs into producer owned organizations and assimilates them into global supply chains which further leads to sustained earnings and wealth creation. This social venture has developed an ecosystem that empowers women to become leader and owners of their fate. Industree envisions creating a self-owned manufacturing environment for artisanal women micro-entrepreneurs in the country.

The impact of the organization is wide and growing with 30,000 women artists across India and Africa through cooperative endeavours of organizations like The Future Group, IKEA, The Commonwealth Secretariat, Grassroots Business Fund and National Skill Development Corporation. Their approach has tripled the earnings of artists in non-farm occupations by shaping and leveraging their artisanal skills and incorporating them into the creative industry sectors.

Industree Foundation firmly believes in the fact that when the poor have access to consistent

and sustainable demand for the products/services within a supportive environment, they will be in a position to lift themselves out of poverty and integrate into the economy.

6. Market-linkage model: The market linkage model facilitates trade relationships between clients, small producers, firms, cooperatives and external market. The social venture acts as a broker connecting the purchasers to producers and vice-versa and charges a fee for this service.

Example:

Agrowbook, a social enterprise started as a social networking platform for the farmer enabling him to see the technology by connecting with other farmers and to connect with research and development taking place in the same sector.

Agrowbook.com is a group managed by 3 individuals with more than 20 **Years of IT, Business Analysis and Management experience** who have **farming background and is** lead by **Subhash Lode** .

The founder believes it is important to have a global platform where all the farmers can post about their work, emotions, learn and develop. The concept of Agrowbook is to catalyse agriculture.

The farmers connect with other farmers to share best practices to get more produce per acre, to take advices from their networking groups, get access to the new research studies that are conducted in agricultural universities. Farmers also get the opportunity to connect with agronomist for implementation of innovative research ideas and trials on the field, and to get know-how of the new launched products.

7. Service subsidization model: This model of social enterprise sells product/service to an external market and utilizes the revenue to fund its social programs. The business activities are designed purely to subsidize and are smaller in scope than business activities.

Example:

Conserve India(<http://www.conserveindia.org/>) founded by Anita and Salabh Ahuja was started as an NGO with the motive to recycle waste in their neighbourhood that local authorities were not able to manage. The founders soon realized that the plastic bags pose the major problem as the quantity was large and recycling them locally was not possible. After trials and experimentation, the Conserve India team derived the solution which lay in upcycling the bags into plastic sheets that were further remodeled into fashion accessories.

Ahujas combined principles from entrepreneurship and social service in a new venture that recycled plastic waste and provided employment to ragpickers (one of the marginalized groups in urban India). It is a unique entrepreneurial partnership, where the organization works with ragpickers, raising their income levels and offering them an alternative from the grime. Conserve India, is thus working towards the environmental issue and building a social venture that is profitable and sustainable.

Conserve India employs around 300 workers and involves them in all spheres of the business, enabling them to build equity and learn new skills. The organization also provides training opportunities for all staff with a motive to upgrade their skills on routine basis. Also loans for Conserve workers are provided in order to support them for their self-employment initiatives. Started with the basic desire to reduce the mount of waste, the organization also contributes to improving energy efficiency, helps Delhi city slums and turns the plastic bags into a more valuable resource.

8. Organization support model: The organization support model of social enterprise sells products/services to an open market and then utilizes a share of its profit to fund a social service organization which serves its own beneficiaries. Business activities are separate from the social program.

Example:

SRIJAN, was formed as a new group in April 1997, with the motive to work for the poor. The full name, Self-Reliant Initiatives through Joint Action, has two themes embedded in it: 'self-reliance' and 'joint action'. The foundation of SRIJAN was laid on the belief that development cannot take place on large scales only through charity and grants; methods need to be found to execute and implement models and strategies for poverty alleviation through encouragement of self-reliance and augmenting self-respect of beneficiaries. The team also believes that an NGO cannot work in isolation to bring the needed development; a joint collaboration between Government and other stakeholders is required to create the change. The support agency is committed to promote sustainable and self-reliant models of rural development through varied interventions of agriculture, horticulture, natural resource management, dairy and livestock.

The revenues from the consultancy services of the organization supports its field initiatives, maintaining the incomes of field workers with industry standards, which further helps to attract talented candidates. The organization promotes self-reliance and alleviation of poverty through sustained livelihoods and water management projects in the poor regions of rural India. As the organization is involved from the basic level of designing to staffing and management of resources and finally execution-its projects have been unusually successful. The organization aims to empower 100,000 rural poor families by augmenting their annual income by Rs. 50,000 by 2020, and with SRIJAN's unique livelihoods cluster approach, enhancing their capacity to demand and access public resources they are entitled to

CONCLUSION

The idea is clear that the concept of social enterprise is not just of a profit-seeking business and it has also been differentiated from a traditional business. The demarcation cannot be done on the basis of personality characteristics or other subjective aspects. The driving force behind the notion of social entrepreneurship has a more intense function of cultivating a synthesis of realms that were traditionally considered as

distinct and disconnected. The crucial difference of social entrepreneurship from other conceptions is in the value proposition it holds. In the light of the analysis done, any likely business model of social enterprise must bear the following (if not sufficient, but) necessary features:

- The enterprise must be driven by a social mission
- The enterprise must impact the society positively
- The enterprise must identify with the criticality of entrepreneurial process and function
- The enterprise through management and efficient planning must function as a competitive player in the market

The implications in this direction are significant. Hence a social enterprise must not be categorized to a vaguely defined third sector or categorized to non-profit business ideology. The motives of creation of social and economic value must not deviate and the social value segment must not be considered to compensate for the economic value creation (Grassl and Habisch 2011; Grassl 2012).

This paper has aimed to explain the various social enterprise models, keeping the focus on the structure of the organizations, operations and revenue generating model. However, the number of fundamental social enterprises are small applying very few of the types of operational models. To initiate and implement such hybrid structure requires energy, as the various realms of market, state, for and not-for profit, producers or consumers have their own laws of functioning that predetermine the movement and resistance to change and incursion. The required momentum can be gathered if the social enterprise is suitably right in terms of the strategy, business model and structure. There can possibly be many configurations, but only certain permutations will succeed owing to the high degree of character and and other might be unsuccessful to meet the conditions.

, since the spheres of the market and of the State, of for-profit and non-profit enterprise, or of producers and consumers, have their own “laws of motion” that make them resistant to penetration and change. To plot a feasible business model in a diverse

business landscape, use of design tools can be made (Morris, Schindehutte & Allen 2005; Brown & Wyatt 2010; Casadesus-Masanell & Ricart 2011). This simultaneously also drives the commencement of unfastening the research streams for creating social value through creative action that may transpose this field of study by combination of social involvement with analytical perceptiveness.

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Reframing the sustainability mechanism with the creative and innovative entrepreneurial practices: Exploratory research for paradigm shift

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Abstract

In the last two decades, emerging economies have witnessed several waves of reforms that have resulted in some markets achieving high rates of growth and others going better than the existing developed economies. Aided by strong fundamentals of the democratic and the socio-capitalist political system, a vast and youthful population, a culture of entrepreneurship and a large cohort of well-trained engineers and scientists, these markets are emerging as a major force to reckon with in the 21st Century and a ground for learning. This has transformed them and their relationships and ways, in which they organize, innovate, sustain and change. This can be seen from the prism of opportunity but they also have their share of challenges. The reasons behind this fact are innumerable and could possibly exist due to a host of reasons. Literature is ripe with studies which claim that organizations are currently grappling with problems at every level.

Developing this sustainable environment requires attentiveness to effective framing and rejuvenation. The research aim was to explore the need for redefining sustainability mechanism with creative and innovative entrepreneurial practices. This study explores 14 variables under three main heads and contribute to the design successful paradigm shift. This paper begins with a summary of literature on the nature of existing recognized opportunities, and then presents themes based on participants' perspectives. It was firstly viewed through the lens of 'inputs'. While offering a useful perspective for further interventions, viewing three extracted factors viz., opportunity recognition, idea generation and gratification as an output offered a practical way for reframing entrepreneurial environment. These findings informed a new practice-based definition on entrepreneurial innovation. The findings support the need for reframing the entrepreneurial practices, for

building a rejuvenated framework for paradigm shift.

Keywords: Entrepreneurship, paradigm shift, innovation, opportunity recognition, gratification.

Introduction

India underwent a process of greater integration with the outside world from the ancient period when the export and import held with due supply chain management from the sea routes. Over the recent past decades, the liberalization, privatization and the globalization (LPG) era has lead enormous growth opportunities with specific reference to Information Technology (IT) and the technology innovation. Though, growth instruments criticized in some parameter when it comes to emerging entrepreneurial activities, imbibing entrepreneurial syndrome. However, the economic crisis, shut down of giant firms, lack of innovation and competency mapping, challenged some of accepted wisdom of practicing entrepreneurial processes in globalization era. The worldly practices, from the tiniest to maximum extent, serve with the purpose of societal welfare in congruence of better supply chain management and soothing supply maintaining sustainability advantage. Though, Society, itself is a concept which is inclusive of all welfare practices, principles and justification theories which makes an entrepreneur able to grow beyond the boundaries.

In addition to entrepreneurial process, a retreat with special attention on existing system, has enthused the entrepreneurial values and focused attention on reinforcement of the manufacturing sector through innovation and productivity enhancement which directly energize the cosmopolitan workforce. Nevertheless, the economic advancements opportune the growth prospects for entrepreneurs, especially in less developed areas which has more chances of development and seeks with optimistic eyes, the creator. Though, it is always beneficial for an economy to exemplify the socially backward regions and inclusively amalgamate the existing tiny or giant enterprises to set frugal access to resources and to rejuvenate.

Especially after independence, India challenged different segment for growth and limiting the poverty through ground level promotional measures while considering entrepreneurial measures. These issues are not alone of single aspect of social development but it applies equally to the shared and inter-linked responsibilities of environmental protection and

human development. The long-term impact of past interventions cannot be wished away but it is only right that development in this new century be even more conscious of its long-term impact. The problems are complex and the choices difficult and limited. But applicably, upcoming opportunities sound the best platform for ever generating changes. The ideologues are convinced that the economic reforms of the early 1990s unleashed economic growth and led to the superb economic performance that is now much admired (Ahluwalia (2002), Srinivasan and Tendulkar (2003), and Panagariya (2004)) the same applies to the entrepreneurial rejuvenation.

The important is recognition of opportunity and generation of idea accordingly gratifies the whole process of everlasting panorama of growing change while redefining the entrepreneurship aspects. This visionary compliment can be a milestone in achieving common objective by an entrepreneur with a better understanding of our common concerns and shared responsibilities.

In 2011, looking back at the first decade of the 21st century – 2000-2010 - we strongly believe that this decade indeed can be called – India's Decade of Development (Bajpei & Jaffery, 2000) where entrepreneurial activities contribute a significant amount towards nation's growth. The science of economics is much concerned with scarcity of resources. Though physical resources are limited, social, mental, and human resources are not subject to inherent limits. Even if these appear limited, there is no fixity about the limitation, and these resources continue to expand over time if managed in an appropriate way. That expansion can be accelerated by the use of appropriate strategies by an entrepreneurial decision maker, especially with combining the congruent growth for own enterprise and the economy. In recent decades the rate of growth of these three resources has accelerated dramatically (International Commission on Peace and Food- ICPF, 1994).

In view the plans introduced by an entrepreneur, may be termed as social policies enhancing the scope of development. Social policy, or rather, the complex web of related policies, schemes and institutions that are concerned with the social conditions of economic activity, reflects the broad social contract between capital and labour. Especially, in developing economies, this refers to the social contract between capital and labour specifically in the entrepreneurial process and development project. The latter in turn has been defined for much of the past half century, as the project of increasing material welfare for most of the

citizenry through economic development, using the agency of the nation state. For many developing countries, including India, this project, remains partially or largely unfulfilled. Although this state of incompleteness still has not prevented it from being very nearly abandoned in several instances (Ghosh, 2002).

Congruence of entrepreneurial gratification for economic development

Nation's economic development depends on its industrial development which is based on entrepreneurial competencies of its people. Entrepreneurial process involves all the functions, activities and actions associated with perceiving of opportunities and creation of organizations to pursue them (Bygrave & Hofer, 1891). Though, entrepreneurship itself is a practice, thus, it begins with action, creation of new organization with social gratification. The entrepreneurial process needs to be facilitated by interventions from within and outside the system. The venture rejuvenation is one such intervention which may provide temporary respite to the developmental paradigm. But it has only a limited potential for bringing about such change (Shah, 1991, p.601).

Development can be broadly defined in a manner applicable to all societies' at all historical periods as an upward ascending movement featuring greater levels of energy, efficiency, quality, productivity, complexity, comprehension, creativity, mastery, enjoyment and accomplishment (Jacob, 1999). Development is a process of social change, not merely a set of policies and programs instituted for some specific results (ICPF, 1994). In line, the 'Inclusive development' is defined here as the recognisable and fair participation of various communities in the process of economic growth. One consequence of the associated persistence of asset and income inequality was that there were definite limits to the expansion of the market for mass consumption goods in the country (Bhardwaj, 1994).

The other context of development could be viewed as an opportunity recognition and knowledge creation which better fits to entrepreneurial advancements in India. It combines all the aspects from four directions. From the agrarian economy to the industry pioneering, innovations were accepted, imitated, organized, and used by other members of the community. Organizational improvements introduced to support the innovations can take place simultaneously at four different levels—physical, social, mental, and psychological. Moreover four different types of resources are involved in promoting development. The level of people's education, intensity of their aspiration and energies, quality of their

attitudes and values, skills and information all affect the extent and pace of development. These factors come into play whether it is the development of the individual, family, community, nation, or the whole world (Jacob, 1999).

In view of the wide-ranging changes in India's neighbourhood, as has been suggested in the study, India will have to deal with a range of uncertainties over the next 20 years. The region can progress if the countries of the region create interdependencies and cooperate with each other to tackle common challenges. India has a responsibility to promote cooperation as this will be its own national interest (Dahiya & Behuria, 2012). The more significant forms of social policy through entrepreneurial rejuvenation in the Indian context may include: agrarian reform; food procurement and distribution; education; employment creation through public works; affirmative action in the form of reservation for public services employment and educational institutions; antipoverty programmes directed towards small asset creation or micro credit; changes in forms and structures of governance through decentralisation and some devolution of resource (Thomas & Richard, 2000).

Reframing the entrepreneurial practices

India is the world's third largest economy as per Gross Domestic Product (GDP) in PPP terms. In terms of population, India is second in the world, with more than 1.2 billion people, out of which nearly 2/3rd of the population being in their working age. This clearly reveals that India will be a great HR generator for most of the aging, developed world in the coming decades. Recently, the Government of India (GoI) has announced a "Make in India" project for making India a global manufacturing hub which aims at effective governance to help achieve high growth rates and job creation. Both the macro as well as micro view here unleashes the prowess through available regional workforce. The aim to make economic transformations in India includes major new initiatives designed to facilitate investment, foster innovation, infrastructure etc. encountering both problem and prospects here, the focus is more adhered on larger customer base, talent acquisition, developing human capital, retention of generation 'y' to meet long lasting challenges and creating more and more entrepreneurs.

The Indian technical and economic cooperation programme (ITEC) programme is a flagship capacity building programme of GOI, training thousands of foreign officials in India, contributes to the evolution of world community for the attainment of the common goal of

social and economic welfare.

Now, India is moving from the phase of market reforms (1990-2010) to the new era of sustainable development. Thus the priority must be not only on growth, but on the triple bottom line of growth, equity/inclusion, and environmental sustainability (Bajpai, 1999) with the inclusion of more innovative ventures and entrepreneurial transitions. In the Indian context, we believe a four pillar approach, which includes: rural development, urban sustainability, national infrastructure, and human capital and population (Bajpai & Jaffery, 2012) are needed so as to sustain high rates of economic growth which is possible through the public private partnership. More the entrepreneurs start assimilating their ventures with societal and economic benevolence, more the growth in named sectors can be seen.

Entrepreneurial Interventions and opportunity identification

Being a basic nature of the society, change is universal. Social change occupies a foremost place in the consciousness of civilization. Social change may be defined as the process which is discernible in the alteration of the structure and functioning of a particular social system (Kuppuswamy, 1979). It is a term used to describe variation in, modifications of, any aspect of social processes, social patterns, and social interaction within a social organisation or an enterprise. Social changes and variations from the accepted modes of life due to geographical conditions, composition of the population, ideologies and by diffusions/inventions within the group, in cultural equipment possess (Gillin & Gillin, 1950). By social change is meant only such alterations as occur in social organisations, that is, structure and functions of society (David, 1960).

India is the land of villages. The village social life has its own peculiar characteristics and its social life norms strengthen the authoritarian and hierarchical norms in administration and greatly influence the behaviour of civil servants in public organizations. Sociologists think that for defining an Indian village, its population, physical structure, and modes of production are definitely important.

From colonial rule to independence, there was broad social consensus in India on the role of the state as a crucial player in the development process. state intervention in various ways were seen as essential tool for the development of a relatively autonomous Indian capitalism, displacing metropolitan capital from the pre-eminent position it had occupied in the colonial economy. The economic policy regime that was put up in the 1950s had its roots in the

nationalist freedom struggle, which accentuated that freedom meant freedom not only from political control, but also from external economic domination. Over the 1990s, the Indian economy experienced rates of growth averaging between 5 and 6 per cent, and very substantial increases in income accruing to a small minority of the population, which have fuelled the increases in market demand. Also the political contradiction (Patnaik, 1998) was one of the reasons for variations.

In entrepreneurship literature, one can find different types of opportunities identified (Eckhardt and Shane, 2003). The first form of opportunity emerges from changes in five different loci of the value chain and these are: those contingents on the creation of new product or services; those contingent on the discovery of new geographical markets; those contingent on new methods of production; and those contingent on new ways of organizing. In the second form, opportunity are categorized by these sources, and in this category, opportunity can be sourced at information asymmetry and exogenous shocks of information. Drucker (1985) elaborates on four sub-sets of opportunity that emerge from information asymmetries: 1.) Incongruity between micro-level behavior and macro level outcomes; 2.) Incongruity between realities of an industry and generally accepted assumptions; 3.) Incongruity between the efforts of an industry and the particulars of consumption demand; 4.) Internal incongruities within the rhythm or the logic of a key industry process; and 5.) The third form of opportunity emerges from changes on the supply/demand side.

Smith et al (2009) classify opportunities. In a codified opportunity, which is well documented, articulated or communicated profit seeking situation, the focus of the entrepreneur is on the imitated or moderate improvements of products, services, raw material, or organizing methods. And in a tacit opportunity, which is difficult to codify articulate or communicate, the entrepreneur focuses on major improvements or new innovations of products, services, raw material, or organizing methods. Krueger (2003) states that “orientation toward seeing opportunities ” is the “heart” of entrepreneur and the study of opportunity identification is clearly a study about the information individual possess and how they process it (Vaghely and Julien, 2010). Bajpai & Sachs (2000) summarized ten main areas of reform as -

Universal literacy (could be achieved through creative mobilization of new IT approaches,

better school attendance, and other policies, all with a clear focus on inclusion of girls and other traditionally disadvantaged groups.), Aggressive public health campaign to address major infectious diseases, Enhanced family planning policies, to limit the growth of India's population to below current projection (e.g. the UN forecast of 1.5 billion population by 2050), Completion of economic reform agenda.

Lall (2001) says that the appropriate strategy for any country depends not only on its objective economic situation but also on its Government policies and national views regarding the appropriate role of the state. Based on the successful experience of the former Soviet Union, many economists and policymakers concluded that, particularly in a poor country, planning was essential for the efficient allocation of an economy's resources (Panagariya, 1994, p. 194).

India's economic development strategy immediately after Independence was based primarily on the Mahalanobis model, which gave preference to the investment goods industries sector, with secondary importance accorded to the services and household goods sector (Nayar, 2001). Among other things, this strategy involved canalization of resources into their most productive uses (In India, this meant transfer of savings from the private to the public sector). Joshi (2001) and Karunaratne (2001) both say that India's policy of selective capital account liberalization helped it to achieve important economic objectives (and still avoided the crises faced by the East Asian countries). Gupta (1999) highlights the important role played by India's prudent management of exchange rate policy and its tight monetary policy. Bhalla (2000) notes both the privatization of the public sector enterprises and the gradual dismantling of the government planning process in favour of market forces. The GEM Conceptual Model suggests that the social-cultural-political context within a country must foster certain "General National Framework Conditions (Reynolds et. al, 2000). Reynolds, et al. (2000) highlighted as especially important are the availability of financing for new entrepreneurs.

Though, the country India is facing enormous challenges in the areas of rural development, urban sustainability, national infrastructure, human capital and population. It cannot be denied to appreciate the decade over decisions taken by policyholders in good faith of the country. Most important contexts such as - resources allocation for public welfare, access to resources, safety, living standard, infrastructure (water, sewerage, electricity, transport,

etc.), employment etc. were always takes place in every year budget. Briefly put, India needs a revolution in sustainable urban planning. Sustainable cities mean: walk able, mix used areas, public transport, urban planning, public health and other services, and climate resilient especially coastal cities. To be able to create large scale job opportunities will mean solid systems of education-apprenticeship, vocational training, etc., perhaps along the German lines that link schooling with early labour-market entry (Bajpai, 1999).

However, India continues to be hampered by poor business conditions and governance. Almost a quarter of Indian districts have recorded some sort of Maoist violence, and corruption is a major issue. India ranks very low on ease-of-doing-business indicators. Rigid labour laws prevent Indian companies from setting up large factories for labour-intensive exports, as in China. Both governance and economic reforms are needed, but progress on the former lags far behind, is thus more urgent, and can help sustain and promote economic reform. A foreign exchange crisis in 1991 induced India to abandon decades of inward-looking socialism and adopt economic reforms that have converted the once-lumbering elephant into the latest Asian tiger. India's gross domestic product (GDP) growth rate has averaged over 8 percent in the last decade, and per capita income has shot up from \$300 to \$1,700 in two decades. India is reaping a big demographic dividend just as China starts aging, so India could overtake China in growth in the next decade (Swaminathan & Aiyar, 2011). The inability to generate such employment, thus improving aggregate productivity of labour in the Indian economy rather than just in a few chosen sectors, has been the most obvious symptom of the failure of the Indian economic development process over the decades (Bhalla, 1991). The 1980s was a period when, along with a rapid increase in all sorts of subsidies and transfers to households from government, there was a very large increase in expenditure on the rural sector by State and Central governments.

Harish (2012) concluded that the social and political marginalisation of majority (rural poor, socially deprived groups, tribes, women and Muslims) from the public spaces in general and from the institutions of influence (including the economy) in particular has made them the most vulnerable communities. The future of the market economy is dependent upon its capacity to reduce the discrimination and marginalisation of unequal citizens. Lal & Clement (2005) concluded that India can generate additional economic growth by fostering entrepreneurial activities within its borders, particularly within its burgeoning middle class.

Not only has entrepreneurship been found to yield significant economic benefits in a wide variety of nations, but India specifically has reached a point in its development where it can achieve similar results through rejuvenated entrepreneurial efforts.

Methodology, Analysis and Discussion

Data was collected through online questionnaires aimed at measuring indicators for best intervention to entrepreneurial process in terms of social development through self developed Likert five point scale. A total of 211 responses were gathered from small, medium and large enterprises (entrepreneurs and managers from all types of enterprises across India). The results were analysed using the statistical package for social sciences (SPSS). The focus is on reframing the entrepreneurial practices in quest for sustainable development. From the reviewed literature, the indicators were taken as important aspects with reference to three phases while social development in India. This basically phases out the three steps for which the step by step treatment must be recommended for any developing nation.

Table 1: Indicators for - Reframing Entrepreneurial Process			
	Phases	Reframing entrepreneurial practices (No. of Items)	Cronbach Alpha
I	Opportunity recognition (OR)	1.Societal expectations and advanceness 2.Economic Demand 3.To sustain in global competition 4.Building a knowledge hub	0.87
II	Idea Generation (IG)	5.Decision making 6.Research and Development practices 7.Change Interventions 8.Reformed policies and parameters	0.81
III	Gratification (GR)	9. Larger workforce and employment 10.Proactive approach in socio-economic development process 11.Making sound PPP 12.Technological advanceness 13. Viable mechanism for social process 14.Maintaining social and economic value	0.76
<i>Source: Author</i>			

Opportunity recognition (OR) is an important component of the entrepreneurial process where any line and size of the entrepreneurial task characterized. The Table 1 shows the

3	0.71	0.35	1											
4	0.49	0.65	0.49	1										
5	0.20	0.55	0.31	0.24	1									
6	0.37	0.34	0.52	0.1	0.49	1								
7	0.31	0.54	0.32	0.28	0.53	0.49	1							
8	0.36	0.21	0.38	0.26	0.04	0.36	0.39	1						
9	0.1	0.39	0.11	0.54	0	0.01	0.56	0.34	1					
10	0.06	0.14	0.12	0.15	0.04	0.09	0.11	-0.21	0.01	1				
11	0.13	0.26	0.26	0.04	0.23	0.30	0.24	-0.02	-0.14	0.33	1			
12	0.46	0.3	0.49	0.24	0.26	0.50	0.40	0.37	0.1	0.20	0.78	1		
13	0.33	0.39	0.32	0.44	0.2	0.25	0.40	0.40	0.37	0.14	0.22	0.33	1	
14	0.13	0.27	0.06	0.09	0.11	0.19	0.23	0.28	0.20	0.01	0.15	0.20	0.34	1

On the other hand, positive and significant correlation between all the items shows that all three phases with respective items ($p < 0.01$) has some effect on the India's quest. We can look at the correlations between these 14 variables or say predictors for Reframed Entrepreneurial Process and its relevance. Overall the result obtained from this analysis suggested that all the variables investigated for OR, IG and GR had significant positive relationship ($p < 0.05$) among each other.

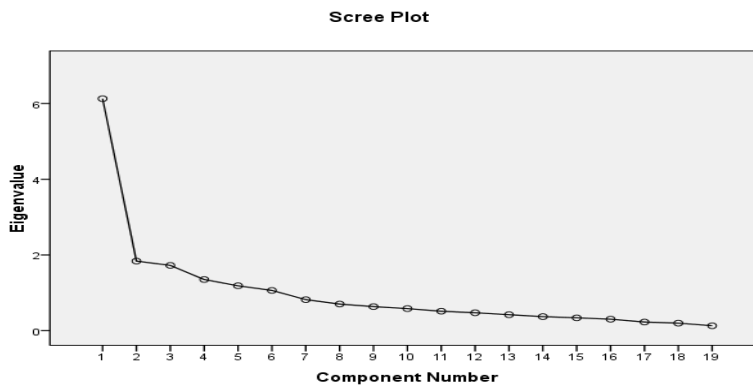


Figure 1- Scree plot for reframed Entrepreneurial Process

The initial Factor Analysis report shows Eigenvalues and the Scree Plot. The number of eigenvalues that appear before the Scree plot levels out can provide an upper bound on the number of factors. Here, the Scree Plot begins to level out after the second eigenvalue. The Eigenvalues indicates that the first eigenvalue accounts for 61.75% of the variation and the second eigenvalue accounts for 17.75%, third is 13%, forth is 2.25%, fifth is 2.00% and sixth is 1.50% for a total of 98.25% of the total variation. The contributions from the

remaining eigenvalues are negligible. Although the Number of factors box is initially set to 1, this analysis suggests that extracting 6 factors is appropriate.

Table 4: Component Matrix^a and Communalities for Reframed entrepreneurial Process								
Sr. No.	Variables/ Factors	Component						Communalities
		1	2	3	4	5	6	Extraction
1	1.Societal expectations and advanceness	.660	.005	-.064	-.511	-.168	-.102	.740
2	2.Economic Demand	.630	-.095	.535	.292	-.184	-.145	.832
3	3.To sustain in global competition	.695	.138	.036	-.458	-.183	-.258	.813
4	4.Building a knowledge hub	.567	-.371	.501	-.230	-.311	.061	.864
5	5.Decision making	.507	.268	.074	.510	-.407	-.169	.832
6	6.Research and Development practices	.669	.322	-.186	.123	.014	-.309	.697
7	7.Change Interventions	.711	.030	.044	.398	-.054	-.028	.671
8	8. Reformed policies and Parameters	.577	-.425	-.272	-.131	.276	-.228	.732
9	9. Larger workforce and employment	.340	-.646	.395	.021	.020	.240	.749
10	10.Proactive approach in socio-economic development process	.146	.484	.484	-.154	.116	.453	.732
11	11.Making sound PPP	.305	.601	.324	.024	.309	-.193	.693
12	12.Technological advanceness	.683	.236	-.124	-.208	.100	.106	.602
13	13. Viable mechanism for social process	.611	-.235	.255	-.042	.342	-.021	.613
14	14.Maintaining social and economic value	.369	-.169	.038	.303	.621	.046	.646
Extraction Method: Principal Component Analysis. a. 6 components extracted.								

Table 5 shows each statement corresponding to the highlighted factor loading which is correlated with the factors corresponding to the factor loading. Higher factor loading for each variable shows stronger correlation between the factor and the statement. On the basis of rotated component matrix the factor extractions has been prepared.

In this study, the factors have been extracted through the principle component factor analysis method. The method partitions the total variance of all original identified variables by finding the first linear combination of variables that accounts for the maximum variance.

The communalities represent the amount of systematic variation for each variable that is accounted for the set of factors in a study and the values ranges from 0 to 1.

From the total variance table as shown in Table 5, we get six extracted factors for the study

which has eigenvalue is greater than 1. These explain nearly 70% of variances for the total variables taken into account. In this study all the values in the communalities (Please see Table 4) are above .50, thus indicating that the variables provide a sufficient explanation for the factor solution. The communalities value shows factors in order of degree of importance.

Table 5: Total Variance Explained^a for Reframed Entrepreneurial Process			
Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	6.130	32.261	32.261
2	1.838	9.671	41.932
3	1.723	9.069	51.001
4	1.351	7.112	58.113
5	1.186	6.241	64.354
6	1.062	5.590	69.944
Extraction Method: Principal Component Analysis.			

Factor 1 is the first and most important factor that accounts for 32.261% of total the variance with great influence. On the other hand Factors 2 (Making Sound PPP), 3 (Proactive approach in socio-economic development process) and 4 (decision making) accounts for considerably less variance (32.26% compared to 9.671%, 9.069% and 7.112%) towards quest for next best.

Reframing Entrepreneurial Process and practices

The Approach paper to the Twelfth Five Year Plan notes that “as the economy gains the capacity to grow rapidly, it will come up against the constraint of limitations of natural resources and then need to exploit these in a sustainable manner (Planning Commission, 2011). Progress is a movement towards an injective, thought to be desirable and the general group, for the visible future (Ogburn & Nimkolf, 1950). In Indian context, some perspectives and approaches towards achieving a sustainable future are- poverty eradication and sustainable livelihood, environmental protection, cope up strategies with changing unsustainable patterns of consumption and production, implementation of law, welfare of all communities, economic wellness and health focus and accessibility of resources to people.

Reframing entrepreneurial practices in congruence with the identified variables show three

levels as opportunity recognition, Idea generation and gratification. In particular context, enormous examples are present to signify the best practices and initiatives, concerning social development with sound and rejuvenated entrepreneurial practices.

Opportunity recognition is the phase where an entrepreneur takes decision in setting up of any plan in lieu of past happening due to mal practices and wrong decisions. For further growth the first selection is most important with careful identification and to cut future cost. While planning something for region and ultimately for national concern, the right identification is must which leads to collect necessary information from different sources in order to identify an opportunity. Though the India has the features of mixed economy and hence the sole public, sole private sectors and the public- private partnership are some of crucial aspects through which the governors takes decisions and implements as and when situation demands. Here the change in polity plays a pivotal role which governs the economic fluctuation and then purposively proposes for best alternatives for benefitting the nation. Also, the opportunity recognition brings advancements for visionary missions and sophisticates the way ahead. The Figure 2 shows the three levels of Entrepreneurial Process with reference to reliability of all scales used.

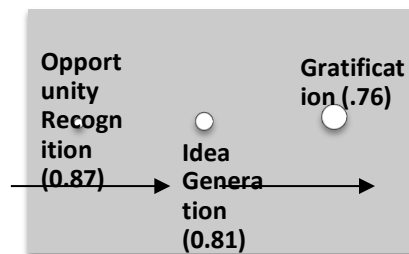


Figure 2: Reframed Entrepreneurial Practices

Idea Generation combines a unique implementation and relates to the starting of a new plan or a rejuvenated old one by an entrepreneur. The idea should be sound and workable which meets the demand of the social welfare and up gradation. For example, the government of India, in collaboration of international agencies initiate with various developmental and change intervention in view of surpassing the rural urban conditions and access to resources. e.g. National Rural health Mission (NRHM), Mahatma Gandhi National Rural Employment Guarantee scheme etc. Social change in India has taken different shapes and dimensions depending on the nature, shape and direction which require mending. Nevertheless, the same can be recommended while strategically planning for entrepreneurial advancements.

Gratification paves the way where the so called objectives stand true in a justified manner and the entrepreneur can actually utilise the entrepreneurial syndrome while implementation.

Conclusion

The reframed entrepreneurial practices show the modifications in the earlier policies and procedures of an enterprise, which can be used now as a benefactor for both the entrepreneur as well as the social decorum. The proposed three levels recommend specific step by step treatment for better future prospects and sustainability by an entrepreneur.

In summing up, the journey with applicable change interventions needs to be redefined as and when it suits to. Indeed, it offers an inspiring tool for concerned people (Entrepreneurs) to align it with better place to sustain and grow. The reframed entrepreneurial practices with reference to the identified variables supports the long lasting phenomenon which could be any initiative, sustainability applications and development interventions which motivates people to grow and to build a social culture for ever changing and delightful interest. The social development is the key to remove social backwardness which could take place only with the right recognition; right fit of idea, right implementation and ultimately towards gratification through rejuvenated entrepreneurial process. Thus the study reaches to the final conclusion that the socio- economic development is associated with the growth of ventures in rural and urban both the areas. Focus should be derived through the specific opportunities with area concerned policies and strategies by an entrepreneur, which could in turn helps to eliminate social evils and stands up for gratifying tool in nation's development. Hence, in addition to entrepreneurial process and activities, the next side would be the social advancement through making policies of research and development.

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A Comparison of Variables Among Physical Education Graduates in Entrepreneurship

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Abstract

The aim of the study is to define the Entrepreneurship traits of physical education graduates at university level. Five different variables were studied to compare the graduates of the different universities. The entrepreneurship self-assessment Questionnaire of Vaidya. S (2014) was used to determine the variables of entrepreneurship traits among physical education graduates. The variables selected for the study were motivation, risk, knowledge ability, personal responsibility, persistence & hard work. The collected data was analysed by the SPSS 16.0 statistical analysis software and Kruskal Wallis test was also used for observing the difference in five Variables i.e. motivation, risk, knowledge ability, personal responsibility, persistence & hard work of entrepreneurship traits among three different universities students of physical education. The hypotheses were tested to find the difference among the university participants on the 5 variables accordingly. The results of the study show the significant difference in four different variables of Entrepreneurship traits and no significant in one variable out of five different variables. ($P < 0.05$).

Keywords: Knowledge Ability, Personal Responsibility, Motivation, Risk, Persistence & Hard work, etc.

Introduction

Entrepreneurship is a word which is derived from the word entrepreneur- Who manages business venture assumes the risk for it as well. Entrepreneurship is defined as a process in which an individual or a person undertake and operate their business as an industrial enterprise. In an entrepreneurship an entrepreneur is a one who invests their own capital to satisfy high need for achievement in innovative activities. That person is self motivated person as he plays a role of an innovator prepared the strategies, scheme, ideas, design etc for execution. (Adeogun 2012) An entrepreneurship is an integral part of sports and physical education. It is also a huge and open domain for all the sports and physical education graduates to facilitate innovation for their better future. Sports and physical education-based entrepreneurship is determined when an individual in sports and physical education acts inclusively to respond to an opportunity to create value for his venture.

Earlier various studies had been already conducted on the characteristics, features, and traits of entrepreneurship in other countries but not in India. Leila Saffari (2013), study stated- Determining the validity and reliability of measuring scale for entrepreneurship in sport. The study reveals that for entrepreneurial tool in sports the priority of areas are confidence, motivation, responsibility, progress, risk taking, seeking opportunities, creativity respectively. Therefore, it is mandatory to do an action for indentifying the significance of entrepreneur's works as because entrepreneurship is the main componenent of innovation and creativity.

Another study stated that Deba (2014), Enhancing entrepreneurial skills of undergraduate science vocational and technical education students the study demonstrate the strength of entrepreneurship education course toward enhancing the entrepreneur skills of undergraduates students though, the entrepreneurial skills of technical education students differ significantly that their counter parts in science and vocational education.

The main purpose of the study is to identify the entrepreneurship trait among physical education graduates. Survey study has been used here. Through Entrepreneurship Self Assessment Questionnaire (Vaidya 2014). In this study we have compare entrepreneurship trait among three different university students of physical education. The variables selected

for the study are Motivation, Risk Taking, Persistence & Hard work, Personal Responsibility and Knowledge Ability. Based on literature review it has been observed that the following traits are an integral part for a successful entrepreneur.



Figure1. Entrepreneurship Traits

Risk Taking stated that every individual who started their venture always starts it with a hope of getting achievement in their venture. Whatever an entrepreneur starts they start it with a confidence of being unique, unusual and out of the box. Through literature review it has been observed that in risk taking there is always a probability and uncertainty of loss.

To become a successful entrepreneur, Knowledge Ability plays a vital role in it. Through this ability an individual can enlarge and strengthen their business. Building up a good knowledge helps an entrepreneur to take “a right decision at the right time and place in the right direction” to heighten the venture from demoting. It helps to analyse the demand of population and create new ideas to provide innovative solution to achieve excellence. It provides an opportunity and stability to be in the ‘Mains’ with new methods and new ways to relish their business proficiency.

It’s the responsibility of an individual entrepreneur to groom their skills along with efficiency and effectiveness for a successful business venture. It is completely not based on destiny or luck as it is a matter of individual interest to take up their Personal Responsibility. An entrepreneur must have faith in themselves so that they can handle the current situation weather the results are favourable or not in a positive way for the betterment of a successful entrepreneur.

We all know that “Persistence and Hard work” always pays off, as the journey of entrepreneur is full of obstacles, they can overcome these obstacles with the help of intense

hard work and persistence. The entrepreneur has to face a lot of difficulties in their venture, but they need to rerun their action to conquered obstacles to maximize their desirable goals. At times the entrepreneur got highly disappointed with their failure in the venture, but they should try their level best for proceeding of successful venture.

Methodology

The survey study was conducted on the undergraduate physical education students (N=72) who volunteered for the study. The Samples were from three different universities which are located at Kalina (24), Wadala (24), and Noida (24) department of physical education and sports. A questionnaire validated by Vaidya, S (2014) Entrepreneurship Self-Assessment Questionnaire was employed to the samples. To collect data questionnaire has been given to the students, wherein the students have to read the statements given in the questionnaire and on the basis of their own knowledge and experience they have mark on the basis of five Likert scale. In Likert scale we have given maximum 5 points to strongly agree and minimum 1 point to strongly disagree.

Kruskal Wallis test was used to compare the scores of the variables between the universities for observing the difference in five variables which were motivation, risk taking, persistence & hardwork, personal responsibility and knowledge ability.

Later the collected data was analysed by the SPSS 16.0 statistical analysis software.

Result and discussion

The collected data was analysed by the SPSS 16.0 statistical analysis software. The *Kruskal Wallis* non – parametric test was used to determine that there are statistically significant differences between the universities among physical education graduates.

Table No 1 Shows the descriptive statistics of the participants

<i>Descriptive Statistics</i>					
			Std.		Percentiles

	N	Mean	Deviation	Minimum	Maximum	25 th	50 th Median	75 th
Motivation	72	11.0417	1.64820	7.00	14.00	10.0000	11.0000	12.0000
Risk Taking	72	10.6806	1.88266	5.00	14.00	10.0000	10.0000	12.0000
Knowledge Ability	72	10.0417	1.93148	5.00	14.00	9.00000	10.0000	11.7500
Personal Responsibility	72	10.5000	2.12298	5.00	15.00	9.00000	10.5000	12.0000
Persistence & Hard work	72	11.4167	2.09459	6.00	15.00	10.0000	12.0000	13.0000
Groups	72	2.0000	.82223	1.00	3.00	1.00000	2.00000	3.00000

In the above table descriptive statistical techniques like Mean, Std. Deviation and Percentiles respectively were used for analysis of data. The mean for the motivation trait was 11.0417, risk taking trait was 10.6806, knowledge ability trait was 10.0417, personal responsibility trait was 10.5000, persistence and hard work trait was 11.4167 and groups mean was 2.0000. Whereas the std. deviation for the motivation trait was 1.64820, risk taking trait was 1.88266, knowledge ability trait was 1.93148, personal responsibility trait was 2.12298, persistence and hard work trait was 2.09459 and groups std. deviation was .82223.

The maximum value of motivation trait was 14 and the minimum was 7 similarly the maximum value of risk taking, and knowledge ability trait was 14 and the minimum was 5. In personal responsibility trait the maximum value is 15 and the minimum is 5 lastly the maximum value of persistence and hard work trait is 15 and the minimum is 6.

Table No. 2 Kruskal Wallis Test to compare the traits as observed in the questionnaire.

<i>Kruskal Wallis Test</i>						
	University (A) Mean Rank n-24	University (B) Mean Rank n-24	University (C) Mean Rank n-24	df	p	Chi-Square
Motivation	31.23	32.67	45.60	2	.029	7.094
Risk Taking	30.83	31.06	47.60	2	.005	10.483
Knowledge Ability	31.58	31.60	46.31	2	.017	8.115
Personal Responsibility	36.48	30.35	42.67	2	.119	4.254
Persistence & Hard work	33.60	30.79	45.10	2	.039	6.474

The mean rank (i.e. the “Mean Rank” Column) in the rank table of the motivation, risk taking, persistence & hard work, personal responsibility and knowledge ability for each university group was used to compare the effect of the different universities. The university participant’s traits were assessed by using the test statistics table that presents the result of Kruskal wallis test. The Chi-Square statistics (i.e. the “Chi-Square” Column) the degrees of freedom (i.e. the “df” Column) of the test and the statistical significance of the test (i.e. the “Asymp. Sig-p” Column).

Using the data from the above table we could report the result as:

Chi-Square Test was also used to find the significance between the observed and assumed results. The tabulated value of Chi-Square is 5.99 according to Level of Significance and Degree of Freedom (df) wherein level of significance is 0.05 and df is 2.($P < 0.05$)

A *Kruskal Wallis Test* showed that there was a statistically significant difference in four variables Motivation(X^2 - 7.094), Knowledge Ability(X^2 - 8.115), Risk Taking(X^2 - 10.483), Persistence & Hard work(X^2 - 6.474) traits and no statistical significant difference in one variable i.e. Personal Responsibility(X^2 - 4.254).

Prior to the test we have assumed that there is no significant difference among the three universities in physical education graduates Entrepreneurship traits.

Ho₁ There is no significant difference in motivation trait among three universities students.

Ho₂ There is no significant difference in risk taking trait among three universities students.

Ho₃ There is no significant difference in knowledge ability trait among three universities students.

Ho₄ There is no significant difference in persistence & hard work trait among three universities students.

Ho₅ There is no significant difference in personal responsibility trait among three universities students.

CONCLUSION

The study indicated a comparison of entrepreneurship traits among physical education graduates from the three different locations. All these traits will surely play a prominent role in the span of an entrepreneur, as these traits will be helpful in constructing and forming a developed business venture. These traits not only built the performance and growth, but it also enhances and gives the opportunity to the entrepreneur for the betterment of future. Therefore, the above study concluded that there was no statistically significant difference in one entrepreneurship trait i.e. personal responsibility and there was a statistical significant difference in remaining four entrepreneurship traits i.e. motivation, risk taking, knowledge ability, persistence and hard work.

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Affordable Housing and its Sustainability-A review of Critical Success Factors (CSFs)

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Abstract

Rapid urbanization has led to migration of people from rural to urban areas in large numbers. This shift is especially significant in developing countries like India. Our cities themselves are in a state of change, adapting to the advancement in technology and other global influences. These urban centres do not have the adequate infrastructure to accommodate the huge influx of people migrating to cities in search of better job opportunities and living conditions. This group of people is only looking for employment and decent accommodation with basic amenities. The real challenge for them is to manage daily expenses along with the transportation costs and, pay for accommodation; be it owned or rental.

To manage housing costs, government has floated several schemes over a period of time that provides incentives and most importantly, land at subsidized rates to developers. Often, to make housing economically affordable to people, the government and developers compromise on the design, construction quality, location, technology, access to basic amenities and other features, which hold significant value to the consumer. As a result, all the efforts made by the government and the private developers do not bear the expected or desired results.

The literature review highlights the gap in understanding the correct and complete criteria essential for successful housing implementation and occupation. Besides the cost of housing unit and managing other living expenses, there are other factors – easy access to school, medical facility, water, sewerage; accessibility to public transport; sense of community; imageability of housing, social inclusion, value appreciation and use of technology; amongst

others that play a key role in decision making for the consumer in making housing choices. These factors can be categorized under Economic, Socio-cultural and Environmental sustainability, associated with housing.

Keywords - Affordable housing, sustainability, critical success factors, affordability

INTRODUCTION

“Access to decent housing is a fundamental right of every citizen” - as stated by the UN Habitat. ((*Habitat for Humanity India Annual Report: 2012-2013 LIVES*, 2013). All over the world, shelter is considered as one of the basic needs of humanity. It has been accepted as the fundamental right of all human beings, globally. Yet it remains one of the most challenged fields universally. India being a developing country, is especially facing a huge housing deficit. It is expected that by the year 2030, almost 40% of Indian population would be living in the cities. Our cities do not have the necessary infrastructure to accommodate this huge inflow of people from rural to urban, leading to a shortage of basic needs in the cities for its inhabitants. The current housing deficit in India is estimated to be around 18.78 million and is expected to grow to 25 million by the year 2030. Despite continuous, tremendous efforts being channelized in this direction by the policy makers and other government agencies, housing continues to be the hot topic of exploration. The government initiatives towards providing housing to all within their financial capacity, are all covered under the umbrella term of “Affordable housing”. In some countries, the term “Social Housing” is also used instead of “Affordable housing”. (*Affordable Housing in India*, n.d.) Affordable housing units are those which can be bought by the sections of the society whose average household income is less than the country’s average income. Usually, the lower income groups and the economically weaker sections fall in this category. As per the government norms, housing is considered to be affordable if it costs less than 30% of the annual household income or less than 24% of the area median income.

To raise the living standards of low-income households, Ministry of Housing & Urban Poverty Alleviation (MoHUPA) had come up with the “National Urban Housing & Habitat

Policy (NUHHP) 2007, a precursor to the current “Housing for All” by 2022. ((*Ministry of Housing & Urban Poverty Alleviation (MoHUPA) Government of India, 2015*) The size of the affordable housing for different categories Economically Weaker Section (EWS), Lower Income Group (LIG) and Middle-Income group (MIG) as determined by the MoHUPA is as follows –

CATEGORY	SIZE
EWS	Minimum 300 sq ft super built up area
	Minimum 269 sq ft (25 sq m) carpet area
LIG	Minimum of 500 sq ft super built up area
	Maximum 517 sq ft (48 sq m) carpet area
MIG	600–1200 sq ft super built up area
	Maximum 861 sq ft (80 sq m) carpet area

THE “URBAN POOR”

The demand and the deficit in housing is most felt in the lower income group and the economically weaker sections of the society, which are categorized as the “Urban Poor”. The “Urban poor” comprises of -

Category 1 - group of people, who have migrated to the cities from rural areas and are living there under inadequate hygiene conditions. This class primarily left their villages in search of better employment opportunities and living conditions. The initial struggle for them is to get accustomed to the urbanism and the pace of life in the cities. With no monetary backup, they hold temporary jobs, on a day-to-day basis.

Category 2 - comprises of city dwellers who are employed in low-paying jobs. They earn just about enough to fulfill their daily needs. They are accustomed to the rigors of the city life and work in the informal/unorganized sector, which doesn’t require any special skill set, educational qualifications or money.

Category 3 - is the group of young individuals who have just completed their basic formal education and are into their first jobs, trying to settle down in life. This group of freshers is looking to carve out a place for themselves in the social circles and aspire to buy their first

home, somewhere in the very near future. “Status” is the key determinant for this group. Irrespective of which Category of Urban poor is under consideration, they all share some common concerns and requirements. Each of these groups of people are coming from a different cultural and social background and have been forced by circumstances to re-locate to different areas/cities in the hope of a better future for themselves and their families. There is a need to understand the cultural background to which these people belong, in order to provide them a conducive liveable environment in their new forced habitat. But usually, this aspect of sustainability is overlooked or given least importance while discussing the sustainability of urban living. (Sandhu, n.d.)

Looking closely at the different groups, one will observe different behavioral patterns. The Category-1 of Rural migrants have no financial holdings whatsoever. They don’t have any monetary or financial assets when they relocate to cities from their native lands. Their prime focus is on finding a suitable job and basic accommodation, in the city, close to their place of work. A basic roof over the head takes precedence over home ownership or good living conditions. The need to cut down or totally do away with the transportation cost is more pressing than a comfortable home. Hence, this group tends to live in small dense clusters under unhygienic conditions very close to their place of employment, thereby saving on rental and commute costs. In the process, they totally compromise on the living culture they originally belonged to, leading to the proliferation of slums and squatter settlements. ((Menshaw et al., 2016)

The Category-2 of city dwellers are accustomed to the hustle and bustle of city life, running odd-jobs, earning just enough to manage their daily living expenses. They are very much like the Category-1 workers, sharing similar living and work conditions and constraints. Both the groups wouldn’t mind decent formal accommodation but only if it provides easy access to their workplace and can be bought or rented within their permissible financial limits, which is very narrow indeed.

The Category-3 workers are engaged in formal jobs, though not very highly paid, considering that to be their first job. They are the ones who are actually interested in buying their first home at the earliest possible from the little savings they are able to manage. They hope for government support and subsidies and support from financing agencies to help

them invest in their first home. Acquiring a house is more of a symbol of success, progress and stability in life, than just a place to live in. They associate the imageability of the housing with their social status in the society. Hence, this group holds a lot of expectations and perceptions about their future humble abode.

UNDERSTAND THE “DEMAND SIDE”

The group of people comprising the Category 1, 2 and 3 are the ones who drive the demand side of affordable housing. The Category 1 and 2 inhabitants are the main cause behind the proliferation of slums and squatter settlements in the city. UN Habitat clearly supports the human right to adequate housing. Also, as per the SDG goals 11, it is the right of every citizen and the responsibility of government to provide all its citizens with decent hygienic livable accommodation.

However, understanding the Affordability criteria, applicable to the LIG and EWS category, remains to be addressed. By and large, affordability is expressed as the ratio of cost of housing to the annual income of the household. Anything that is available in less than 30% of the household income is financially affordable. But the question remains is, if that is the correct and complete determinant of affordability. There is a need to study and explore if housing options are available in the cost bracket of less than 30% of the total annual earnings of LIG and EWS households, especially in the Category 1 and 2 discussed earlier. Also, the affordability criterion probably needs to include factors like the household size, area of the housing unit, living expenses, transportation costs and accessibility to various basic amenities amongst others, rather than looking at just the housing cost in isolation. (Jaya & Parrikar, 2018)

Housing currently is being exploited as an investment opportunity by the affluent class (upper MIG and HIG), while being looked upon as consumption good by the economically weaker section of the society. The move from rural to urban in large numbers has resulted in widening the gap between the number of people seeking accommodation and the number of housing units available for occupation in the cities. (Arman et al., 2009a)

ROLE OF STAKEHOLDERS

The key players in the Housing industry are the Government agencies, the private developers and the citizens. Since 1957, government has been trying to improvise on the policies and provide other subsidiaries and incentives in-order to tackle the housing problem more efficiently. Various schemes like PMAY (Pradhan Mantri Awas Yojana), RAY (Rajiv Awas Yojana), JNNURM (Jawaharlal Nehru National Urban Renewal Mission), NSDP (National Slum Development Program) etc. have been launched regularly to address the pressing issue. The Modi government launched the “Housing for all by 2022” program in an attempt to provide suitable housing to all the citizens by the year 2022. The government realized that the burden of housing was too large to be handled alone. (Gopalan & Venkataraman, 2015) Hence, it has also sought the support of private developers and is working in collaboration with them to help produce adequate and appropriate housing. Both the Government and the developers have realized that Land remains a major contributor to the overall housing cost, followed by the processing fees and processing time of the various regulations and procedures related to the construction process. To ease this, the government has been trying to provide land at lower rates to developers ; on the outskirts. Also, incentives-based schemes have been floated to encourage the developers to produce LIG and EWS housing as a part of all their high-end ventures as well.

The developers have shown a keen interest in the housing sector as they view it as a potential high revenue generating market. The major portion of this profit lies in the luxury housing projects targeted for the upper MIG and HIG groups. This section of society has enough excess cash flow to invest in housing, not for their immediate personal use but for future securities. And they are also willing to pay the premium price for the extra features that these projects offer. Thereby, the cost of each luxury housing unit and hence, the profit margins for these is much more than that of Affordable housing unit built for the lower income groups. As a result, the private developers tend to be slightly more inclined towards producing high end housing. To curb this practice, government offers many incentives to developers who are willing to develop a part of their HIG project as Affordable housing for the lower income group. The developers are willing to include a percentage of affordable housing as a part of their main projects to avail these benefits offered by the government.

The fact still remains that despite all the measures and policy modifications put in place by

the government in alliance with the private developers, housing still remains an unaccomplished challenge for all. The concerns range from housing left vacant in spite of it being within the affordable limits; to inadequate number of units available to consumer; to financing issues faced by consumer; thereby, making housing inappropriate or unaffordable to all. This points to a major lag in our understanding of the other important aspects related to the housing sector, which are considered desirable by the consumer. (Smets, 1999)

The area where most of the research and studies go weak is in understanding the needs and requirements of the demand side of the housing. Most of the measures are put in place considering the challenges faced by the supply side alone. However, it's important to understand that the needs of both the demand and supply side require to be addressed and issues resolved simultaneously to tackle the problem more effectively.

The rest of the present paper will focus on the consumer perspective and analyze the critical success factors that are crucial to be considered in order to make any housing a success. Till date, affordability is assessed mainly in terms of financial aspects, with little or no regard to housing quality, imageability, location, availability of basic amenities and other neighbourhood characteristics.

An in-depth literature review has highlighted the lack of adequate research in understanding the factors, besides the economic feasibility associated with housing, which play a major role in acceptance of the housing by the consumer group, comprising primarily of the LIG and EWS category. Identification and implementation of these factors is very important to achieve the social sustainability and liability associated with a housing project. These factors are rightly being called the "Critical Success Factors" (CSFs) for the successful implementation, acceptance, and occupation of the housing by all.

SUSTAINABILITY

Sustainability has broadly been defined as “fulfilling the needs of the current generation, while preserving adequate for the future generations”. In terms of housing, sustainability can be understood as “producing and consuming housing (particularly land) responsibly such that there is adequate left to take care of the housing needs of the future generations”. (Kurian & Thomas, 2018)

The UN habitat describes sustainable and affordable housing from the policy perspective as “sustainability housing development (along the four dimensions of sustainability—environmental, social, cultural and economic) that impacts the environment and climate change, durability and resilience of homes, economic activities in housing and their links with the wider economy, cultural and social fabric of communities, and poverty alleviation, social development, and quality of life.”(Saidu & Yeom, 2020a)

Sustainable housing is a pre-requisite for developing sustainable cities and for the economic stability and prosperity of the nation at large. A thorough exploration, analysis and implementation of the sustainable aspects of housing in building regulations, government policies as well as design and construction processes are important for their better success and acceptability. (Gan et al., 2017a)

Various in-depth studies were carried out in different parts of India and abroad to identify the CSFs essential to achieve sustainable housing. Detailed questionnaires were prepared, and surveys were conducted. Academicians, researchers, policy makers, experts from the industry and most importantly, the consumer group participated in the study. Based on the data collected through the survey, an exhaustive list of CSFs considered important for the success of any housing project was prepared. These factors were then categorized under different sustainability heads – Economic, Socio-cultural and Environmental. (Adabre & Chan, 2019a)

Economic Sustainability

This aspect of sustainability deals with the financial feasibility aspects of housing. The survey highlighted that besides the cost of housing or rental cost being less than 30% of the annual household income, there were other equally or may be more important criteria that the consumer considered before making housing choices and decisions. These included - proximity to job opportunities, transport infrastructure availability, availability of basic

amenities like water supply, sewerage, electricity, accessibility to infrastructural facilities like schools, medical facilities, road network etc., size (area) of house, appreciation of property value, maintenance and management of property, number of rooms in dwelling unit, tenure security, other non-housing related costs incurred by the household, housing density, provision of parking, incremental nature, separate kitchen, permanent roof, motorable access road, dwelling type – flat/independent and sale-ability of the housing units. All these factors impact the direct and indirect costs and expenses associated with the occupation of housing unit by the people; thereby, impacting the spending capacity of the household. Considering that the lower income group has very limited access to disposable funds, their housing decisions are based on a very critical review of each of the factors which comprise the Economical sustainability aspect of housing. (Mulliner et al., 2013)

Socio-cultural Sustainability

This aspect of sustainability defines the qualitative aspects that are more than often ignored in any kind of housing project consideration. Though the stakeholders on the supply side are almost oblivious to the importance of these aspects for the consumer, they in all practicality provide an additional layer of comfort and assurance to the occupants. These factors primarily deal with the culture, lifestyle, behavioral patterns, and social backgrounds to which these people belong. Understanding and implementing these criteria while studying the feasibility of the housing project, can ensure consumer satisfaction to a much higher level. The CSFs under this category have been identified as - open green areas, safety, crime rate, aesthetics, neighbourhood environment, sense of community, community participation, minimizing social segregation, diversified housing types, cultural context of dwelling, noise in neighbourhood, play areas for children, adaptability, equability and fairness of housing distribution, maximizing wellbeing of workers, desirability, inclusive design, recreational facilities, image of the area, accessibility to place of worship, accessibility to commercial places, gated community, presence of RWA and the design of the unit. (Chan & Adabre, 2019a) Each of these affect the quality of living of the people and also the perception of people about the housing itself. Implementation of these factors in still a deep sense of security, stability, and satisfaction in the people's mind; thereby promoting liability,

community cohesiveness and social and mental well-being amongst masses. (Ahmad et al., 2013)

Environmental Sustainability

Environmental sustainability remains the most researched and worked upon criteria in all areas, including housing, worldwide due to rising concerns regarding energy consumption and environmental degradation. The construction industry alone is responsible for consuming almost 40% of energy and contributes to almost 30% of environmental pollution, toxic gases emission, global warming and waste generation, to list a few. Hence, even though producing adequate housing is of prime importance to all, yet it is even more essential for the developers to pay special attention to adopting environmentally friendly materials, technology and practices to minimize the negative impacts of development on the ecosystem. (Saidu & Yeom, 2020b) The factors of highest relevance contributing to environmental sustainability are - construction technology used, construction materials used, use of technology in operations energy efficiency of housing- appliances & fixtures, water efficiency, reduced energy bills, reduced footprint, minimize biodiversity loss, effective waste management, comfortable and healthy indoor environment, disaster resistant, land use efficiency, use of skilled labor, climatically responsive design, use of local construction materials, rainwater harvesting, conservation of vegetation on-site, building orientation and use of renewable energy. Each of these contribute in the overall energy consumption by the building during the construction phase as well as its entire life cycle. Also, sensitivity towards these factors ensure preservation of habitat, a balanced ecosystem and may even result in lowering the overall operational and running cost of the housing unit. (Adabre & Chan, 2019b)

The data thus collected from the nationwide surveys and compiled under different sustainability heads, was ranked by the stakeholders, primarily the consumers, to assess the criticality of each identified factor. The results revealed interesting facts about how consumer viewed housing and what were their main considerations before choosing any housing option. ((Chan & Adabre, 2019b)

The highest ranked CSFs in the Economic sustainability were the Location and accessibility to basic amenities and infrastructure, followed by the saleability and the unit sizes. Cost of

the housing unit or the cost of rental accommodation ranked way lower in the list.

Under the Socio-cultural category, safety, security, and sense of community took precedence, followed by the access to green open spaces and inclusion of all class groups in the neighbourhood. Wellness of workers, recreational facilities and presence of RWA had a much lower priority.

The Environmental sustainability got least attention from the user group. Not many showed interest in construction quality, or the quality of skilled labour employed or the energy efficient technologies used in the construction process. However, factors like use of energy saving appliances and water efficiency did catch the consumer's attention as it would affect their daily living expense in the long run. (Gan et al., 2017b)

So to sum it all up, amongst the three Sustainability heads – Economic, Socio-cultural and Environmental, the consumer response was most streamlined towards the Socio-cultural aspects as it affected the quality of life of people occupying the housing, followed by the Economic criteria which impacts their standard of living, followed by the Environmental aspects which has a more indirect effect on their liveability than the other two aspects.(Adalbertal.,2020)

SUSTAINABILITY ASPECT	CRITICAL SUCCESS FACTORS	REFERENCES
ENVIRONMENTAL SUSTAINABILITY	Construction technology used	(Arman et al., 2009)
	Construction materials used	(Arman et al., 2009)
	Use of technology in operations	(Adabre & Chan, 2019), (Saidu & Yeom, 2020)
	Energy efficiency of housing- appliances & fixtures	(Chan & Adabre, 2019)
	Water efficiency	(Chan & Adabre, 2019), (Arman et al., 2009), (Saidu & Yeom, 2020)
	Reduced energy bills	(Chan & Adabre, 2019), (Saidu & Yeom, 2020)
	Reduced footprint	(Mulliner et al., 2013)
	Minimize biodiversity loss	(Adabre & Chan, 2019)
	Effective waste management	(Mulliner et al., 2013)
	Comfortable and healthy indoor environment	(Mulliner et al., 2013)
	Disaster resistant	(Saidu & Yeom, 2020)
SUSTAINABILITY ASPECT	CRITICAL SUCCESS FACTORS	REFERENCES
ECONOMIC SUSTAINABILITY	Housing price vs. household income	(Kaur & Gupta, 2019), (Adabre & Chan, 2019), (Saidu & Yeom, 2020)
	Rental cost vs. household income	(Adabre & Chan, 2019), (Saidu & Yeom, 2020)
	Location from work	(Kaur & Gupta, 2019), (Riazi & Emami, 2018), (Riazi & Emami, 2018)
	Proximity to job opportunities	(Kaur & Gupta, 2019), (Mulliner et al., 2013)
	Transport infrastructure availability	(Mulliner et al., 2013)
	Local amenities – water supply, sewerage, electricity	(Kaur & Gupta, 2019), (Arman et al., 2009)
	Infrastructural facilities – schools, medical facilities, road network	(Kaur & Gupta, 2019), (Saidu & Yeom, 2020)
	Size of house	(Saidu & Yeom, 2020), (Arman et al., 2009)
	Appreciation of property value	(Kaur & Gupta, 2019)
	Maintenance and management of property	(Adabre & Chan, 2019)
	No. of rooms in dwelling unit	(Saidu & Yeom, 2020), (Riazi & Emami, 2018)
	Tenure security	(Adabre & Chan, 2019)
	Other non housing related costs	(Adabre & Chan, 2019)
	Unit design	(Kaur & Gupta, 2019), (Saidu & Yeom, 2020)
	Timely project completion	(Adabre & Chan, 2019), (Mulliner et al., 2013), (Chan & Adabre, 2019)
	Construction Quality	(Adabre & Chan, 2019), (Mulliner et al., 2013), (Chan & Adabre, 2019), (Saidu & Yeom, 2020)
SOCIO- CULTURAL SUSTAINABILITY	Open green areas	(Riazi & Emami, 2018)
	Safety	(Kaur & Gupta, 2019), (Mulliner et al., 2013), (Saidu & Yeom, 2020)
	Crime rate	(Kaur & Gupta, 2019), (Riazi & Emami, 2018)
	Aesthetics of housing	(Chan & Adabre, 2019)
	Neighborhood environment	(Kaur & Gupta, 2019), (Riazi & Emami, 2018)
	Sense of community	(Riazi & Emami, 2018)
	Community participation	(Riazi & Emami, 2018)
	Minimize social segregation	(Adabre & Chan, 2019)
	Diversified housing types	(Saidu & Yeom, 2020), (Riazi & Emami, 2018)
	Cultural context of dwelling	(Saidu & Yeom, 2020), (Arman et al., 2009), (Riazi & Emami, 2018)
	Noise in neighborhood	(Riazi & Emami, 2018)
	Play areas for children	(Riazi & Emami, 2018)
	Adaptability	(Saidu & Yeom, 2020)
	Equability and fairness of housing distribution	(Adabre & Chan, 2019)
	Maximize wellbeing of workers	(Adabre & Chan, 2019)
	Desirability	(Adabre & Chan, 2019), (Chan & Adabre, 2019)
	Inclusive	(Mulliner et al., 2013)

Table1: List of Critical Success Factors (CSFs) for Affordable Housing

CONCLUSION

Affordable housing remains a topic of interest for architects, planners, developers and the policy makers. A lot has been researched, analyzed and implemented on regular basis to solve the housing crisis that India is currently facing and is expecting to get escalated further in the years to come. However, what needs to be realized is that all the efforts put in this direction by all the agencies will continue to go waste unless the focus shifts from resolving the issues faced by the supply side alone to the consumer side. The sustainability and livability aspects of housing need to be incorporated in our policy making and implementation process for achieving success. Affordability is generally associated with the financial implications but in case of housing, the consumer relates affordability with the overall value the housing has to offer in terms of the quality of life and community experience also, and not just the cost of the housing unit.

The land remains a single largest contributor for the price escalation of housing, a continuous cause of concern for the supply side. There is no land available to develop housing, near the business centers in the city, where most of the employment opportunities exist. Hence, those who choose to live there, end up in slums close to the central business district (CBD). The further away one moves from the CBD, the lower is the land price, but higher is the transportation cost to work. Hence, location and the availability of transport infrastructure near the housing, remain the key decision-making criteria for most consumers. (Arman et al., 2009b)

Besides the above stated concerns, being sensitive to the original cultural background of the user group, the challenges they face in their new habitat, the financial constraints they bear and the sense of stability and security they are seeking, is essential. Addressing these in a timely and orderly manner, will not only enhance the liability and desirability of housing, but also ensure housing sustainability.

Lot of studies carried out in the past reveal that even though all the major stakeholders in the housing sector are working consistently towards improvising various facets of developing Affordable housing; yet the gap in supply and demand continue to exist. A more comprehensive approach towards integrating sustainability with affordability in housing;

focusing on the consumer needs, is probably the right way forward.

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A Survey on Trust Collector Models in Internet of Things

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Abstract

The Internet of Things (IoT) is a large network of smart objects, services and applications. The assimilation of technologies along with smart objects and internet expedite a flexible and robust platform for IoT. These IoT smart objects ranging from a small handheld device to many large applications like smart cities, smart transportations, smart cars etc. Huge data is generated and transferred during interactions of IoT objects. However, these objects needed trust with each other prior to communication or offer services. Trust plays a key role in trustworthy, secure routing and communication. Trust is a subjective, asymmetric, changeable, and temporary anticipation of one object by another and will be evolve along with a particular time or context. This paper is a study of existing trust calculation models in IoT. Classification is done based on five parameters as trust metric, source of trust, trust calculation algorithms, trust architecture and trust propagation. Furthermore, few challenges are also discussed for future research directions.

Keywords: internet of things (IoT), trust, trust calculation, trust evaluation, trust classification.

Introduction

Internet of Things (IoT) is a new computing pattern developed in last decades. IoT is growing rapidly and to allow millions of modern wireless smart communication

technologies and nodes be connected to the Internet. The rudimentary scheme of the IoT concept is the extensive presence of different objects or things like mobiles, smart devices, sensors, actuators and other smart devices. Successful implementation of IoT applications and services relies on trust, security and privacy as dynamic and heterogeneous nature of IoT makes it a crucial challenge.

The unique addressing scheme makes it possible that these things or nodes cooperate and communicate with each other's. IoT devices have 5 characteristics as :

- 1)existence: An IoT device or objects exists in the real world as a car exists in real world.
- 2)sensing itself: Every IoT object has an identity either implicit or explicit such as car number plate is its unique identification.
- 3) Connectivity: To communicate and access services therefore IoT objects create connections with each other's.
- 4) Interactivity: In IoT M2M (machine-to- machine) or M2H (machine-to-human) alliance take place so that wide range of services can have produced and used.
- 5) Dynamic topologies: As heterogeneous and mobile nature of objects in IoT so that objects can interact with each other at any place, any time therefore no fixed structure of network topologies.

A guarantee of security is required for secure and trustworthy communication among objects. Many research have been done on IoT and its security domain but still facing many problems, like

- 1) finding trusted nodes for data security.
- 2) role of IoT technologies in data confidentiality
- 3) secure and trusted routes
- 4) energy and storage saving for sensory nodes in IoT .

A wide range of research have been done as a solution of these above said problems. for e.g. Authorization and Authentication, private and public key infrastructure schemes for secure communication, trust-based routings. For the IoT, trust can be described as the desire a thing will do what it claims without conveying any damage to the clients in network.

The contribution of this paper can be summarized as:

- 1.) Understanding of trust and its characteristics in IoT.
- 2.) classify existing trust models used in IoT system.
- 3.) In addition, we also present the results of research from other studies related to the trust-based security model in the IoT system.

The rest of the paper is organized in sections as section 2 defining trust and role of trust in IoT system with its characteristics. Section 3 is describing pre-existing work previously published by many researchers. Section 4 evolve classification of existed trust models for IoT. Section 5 is a summary for existed works and challenges for future research direction. Section 6 is concluding this paper.

Trust and Internet of Thing

A new level of security is needed for IoT as the participating nodes should be trusted and secure. Although various risks, issues, threats and vulnerabilities found in IoT as it is next generation of conventional communication system networks like WSN (wireless sensor networks) and Mobile Ad-hoc networks etc. Privacy, security, and trust are the key factors for developing IoT networks .

Huge amount of data is generated and transferred by IoT nodes during interaction. For security of data and information nodes must be trustworthy. A lot of methods have been implemented by researchers to attain this objective. Trust is a requirement and interesting topic in the field of IoT networks. Trust is a desire or a thing that will perform what it claims without conveying any loss to the clients or data in network.

Trust itself have influence of non-measurable and measurable factors. Reliability, availability, strength, and goodness of communication also decides the trust of a particular node. Trust management relies on how to create, provide, assure and maintain trust while nodes of IoT are interacting with each other. In addition, trust management activities makes it a challenging task. This section imposing trust definition and features, or characteristics of trust based on pre-existing published research.

What is Trust?

The term trust has already been defined by several researchers. The scope of trust is much

bigger than security. However, trust is related to security as ensuring user safety and system security is a prerequisite to attain trust. Managing trust is more complicated than security. Many researchers have defined trust as below:

One definition given in oxford dictionary, “Firm belief in their liability, truth, or ability of someone or something” is known to be as Trust.

According to author [9],” Trust can be characterized as subjective, dynamic, temporary, disproportional and asymmetric.”

In real world scenario, this is often cited that in an organization, while moving from downward to upward level trust value is high and while moving from upward to downward, it is low [9].

For example, in an organization, it is usually seems that the level of trust is higher, of subordinates towards their bosses but the level of trust is low, of bosses towards their subordinates.

Trust values are continuous, and risk is an intrinsic property of trust. However, level of trust may different, depends on risks in it [9].

For example, A and B work together in a company, A and b may or may not trust on each other. If in a scenario where they needed to involve in some decision making their trust towards each other will depend on risk. If high risk factor the A will not trust on B and vice versa, with low risk factor they can have trust on each other.

Hence, trust is context dependent that is depends on current context in different scenarios and may be asymmetric. Let’s consider[9] $T(v)$ is as a trust value and may be ranged from -1 to 1.

-1=Not Trusted

0= Neutral

1=Trusted

Trust values in an Organization may be:

Asymmetric

top to bottom and vice versa

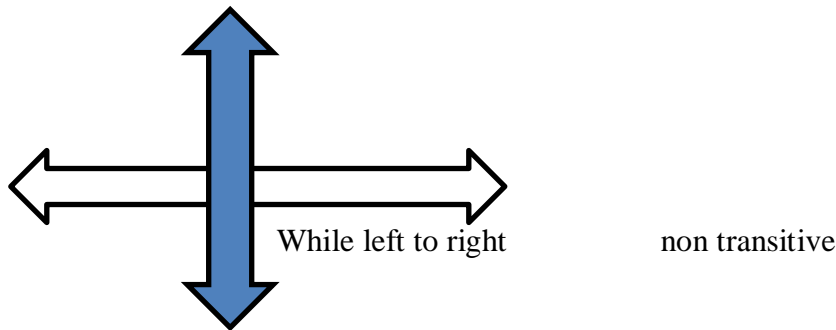


Fig. 1 Describing level of trust in any organization

a. Trust Characteristics

Based on our survey of the existing literature [10, 11], we found that trust has various key characteristics, as below:

- i. *Asymmetric.* The trust is not bidirectional applicable at the same time between trustor and trustee. For example, node X trusts on node y but it may be node Y does not trust on X.
- ii. *Dynamic and time-variant:* Trust applies for a specific time. for example, lets for the last one-month X is trusted node for B. But now, A does not trust B anymore based on its previously behavioral patterns.
- iii. *Subjective.* Trust depend on a trustor's attitude towards it. For example, node B can be a trusted node for node A, but on the other hand, node C does not trust node B.
- iv. *Context based:* Level of trust may differ significantly for different context. For example, A may trust to a bank manager for financial advices but not for medical guidance, so as context is changing as well as trust level varies.
- v. *Trust is continuous:* Trust level values lies between 0 to 1. As 0 means no trust and 1 means strong trust.

Subjective

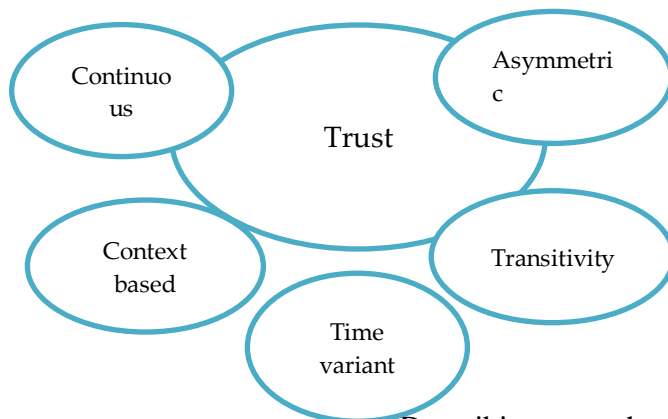


Fig. 2 Describing trust characteristics

- i. *Transitivity*. In Case of trust if node X trusts Y, and node Y trusts node Z. Transitivity concerns the extent to which device A Trusts C.

Influencing Properties for Trust

The properties influencing trust can be classified into following 5 main categories [7]:

- Trustee's purposes properties: Like as a trustee's dependability, security etc.
- Trustee's subjective properties: For example, as goodness, honesty, altruism, of trustee.
- Subjective properties of Trustor: such as trustor inclination, habit and enthusiasm to trust.
- Objective properties of a trustor: some criteria that is decided for trust decisions.
- Context: Context is role player in trust. Context means environment of trust, time, activity, purpose, situation that is it describes any information that is used to identify and characterized situation of involved devices or entities.

RELATED WORK

Many papers have been presented and published that included trust as an important topic in IoT field. As well as IoT framework is also one of the important research topic in the IoT field. Researchers in [12], a survey have been conducted of recent publications. They suggested a categorization IoT framework based on security features, architecture, programming language, hardware and software dependency, hardware compatibility, communication protocol.

Author have developed a classification of trust model based on five categories: i) composition of trust, ii) trust propagation, iii) aggregation, iv) formation, 5) updates of trust. Researcher also found future research challenges and issues related to each category [13]. Researchers in [14] surveyed security issues and threats of the IoT middleware and explore the challenges and approach in IoT security. Keeping in consideration the security and privacy issues, they surveyed, analyze and evaluate the currently available middleware solutions and describes how security is super scribed by each model. This paper also presenting requirements for a secure and reliable middleware in IoT domain. They found few open issues and suggesting direction for future research. This paper [13] presented classification of existing research challenge and which were classified in eight categories in the field of IoT security: i) trust, ii) privacy, iii) middleware, iv) confidentiality, v) authentication, vi) policy implementation, vii) access control, and viii) mobile security. They introduced some open issues and recommending direction for future research.

TRUST PARAMETERS

In this survey, we identify five parameters that must be used as a common factor while discussing trust in IoT:

1) trust evaluation metric, 2) trust source, 3) trust algorithm, 4) trust architecture, and 5) trust propagation.

Trust evaluation metric

In IoT lots of devices produces and transfer huge amount of data. As security of data and information is important so that it is necessary that in communication only trustworthy nodes are participating. Researchers have been developed various methods for trust computation:

a) **Social trust:** Combination between peer-2-peer network with social network is social trust. One from various trust calculation methods is centrality-based trust [16]. Friendship, similarity, and community-of-Interest are few parameters used for trust calculation. Researchers introduced access control method for wireless sensor networks (WSN) that is based on trust and centrality (TC-BAC) .

b) **QoS Based Trust:** As Quality of Service (QoS) is the most widely used parameter assimilated in trust calculation. The quality of requested service by IoT devices in interaction is use as trust computation parameter . In transactions performance is used as a QoS trust computation method.

Trust algorithm

Trust evaluation based on either prior-experiences, self-observations or feedback from other IoT devices, is called trust algorithm. From various trust evaluation algorithm, the main are, Artificial Neural Network (ANN) based, Fuzzy Logic (FL) [23] based, Bayesian inference approach [20], particle swarm optimization (PSO) and Ant Colony that is biological inspired [21-22].

Architecture of Trust:

Architecture is the role player in trust Evaluation. Various architectures of trust in IoT have been identified by many researchers like cloud-based architecture [24], centralized [25] and decentralized [26,27] architectures.

Sources for Trust

Based on the sources of trust, researchers proposed three names for trust, direct trust, indirect trust and hybrid trust.

- a) **Direct Trust:** A measurable value that is result of capacity of the devices to fulfill required services and which is maintained and shared between two devices as interactive records.
- b) **Indirect Trust:** Trust values is not exchanged directly else it is obtained by a device from another device based on their prior interaction experiences, ratings, reputations and feedbacks with other devices [1].
- c) **Hybrid trust:** In IoT combination of direct and indirect trust is hybrid trust.

1.1 Trust propagation

It's an approach in which how to send and receive evaluated trust value by the IoT nodes is decided.

- a) Node-to-node: In this approach, one node directly send calculated trust value to other nodes in IoT system.
2. Node-to cluster head: In this system, evaluated trust value is send to cluster head and cluster head circulates this value to other nodes.

Role of Organic Farming in Emergence of Sustainable Development in India

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Abstract

Viewed as a periphery development of questionable dishonor, organic farming began from rather pitiful roots; but then has figured out how-to pick-up regard and spread worldwide with deals in the request of about US\$40 billion every year. Today one of the discussions in such manner is whether organic farming is only a materialistic trifle, or is it truly better for us? Disappointments of green revolution, fall in biodiversity and harvest yields, decaying levels of human end natural wellbeing and so on make us reexamine horticulture when all is said in done and feasible agribusiness specifically. For example, the farmers, earthy people and approach creators in the year 2010 in Kerala made the exceptional stride of authorizing an arrangement that requires all Kerala cultivators to cultivate organically by 2020. Like Sikkim, Kerala's model demonstrates that when done right, this sort of farming can be useful for everybody in our worldwide nourishment framework. Sikkim after successfully implemented organic farming practices on around 75,000hectares of agricultural land now has become the first fully organic state in India. Sikkim also won the “Oscar for best policies” conferred by the Food and Agriculture Organisation for the world’s best policies promoting agroecological and sustainable food system. This study expects to give an assortment of points of view to look at nature and significance of organic farming and clarify the example of development of the organic nourishment framework, with reference to India. Surprisingly, the paper additionally addresses a portion of the issues, and a couple of vulnerabilities about its future

advancement.

Keywords: Sustainable, Organic food, Organic Farming, India, Kerala

Introduction

India's growth story is administration part driven. Assembling segments growth staying stale, importance of agriculture is quickly declining. Despite the fact that commitment from agriculture to national pay and financial growth is quick subsiding still agriculture is fit for driving our growth way. For the sake of uncommon monetary zones and super tasks, gigantic prolific rural terrains are in modern use today. Land accessible for development is declining. Regardless of every one of these India can accomplish independence in sustenance generation. The financial and exchange progression and appropriation of sustenance security bill are applying substantial weight on India's territory resource parceling in parts, for example- ranger service, agriculture, field lands, human settlements and industries. In this manner, the coupled impact of gathering nourishment request under restricted territory and poison free agrarian produce have turned into a significant factor constraining nations like our own to investigate potential outcomes for picking traditional agriculture to the predominant farming methodology called organic farming, an all-encompassing creation the board framework which is steady to environment, wellbeing and supportability. Development ought not be at expense of destruction of nature. Sustainable development is the need of great importance. With the expansion in population our inclination would be not exclusively to balance out farming generation however to expand it further in sustainable way.

Through organic farming a solid interface between human asset and regular assets by and large and lodge specifically can be guaranteed. A sympathetic way to deal with agronomy will mean a quality confirmation for individuals and the environment [2]. Therefore, a characteristic parity should be kept up at all expense for presence of life and property for the present and future age moreover. The undeniable decision is organic

farming. Organic farming developed as a potential option for gathering sustenance request, keeping up soil ripeness and expanding soil carbon pool. With increasingly more training, inarrangement and awareness of individuals are going in for green products

The protection of environment via sustainable consumption is feasible best via inexperienced products. With growing concern of health problems and food protection, many consumers have twist their taste towards organic/ natural products. The multiplied purchasers' interest in natural food products has been attributed amongst others to the developing call for food products free from insecticides and chemical residues. Organic food products elevate balance amongst people, other living organisms and the nature. It additionally promotes no synthetic preservatives and high-quality continues the originality of food products. This prevents excess use of dangerous elements and thereby guarantees fitness .

According to Bello, "Agricultural improvement strategy for growing countries wishes to be geared closer to growing the productiveness of land under cultivation, with decreased value, higher efficiency makes use of inputs with very little harm to both human and the surroundings. The prime needful is the promotion of a healthy soil-plant-surroundings gadget to reduce Land degradation and abuse of the inputs. A new method of promoting green farming is through the amendment of the prevailing systems of farming within the place of soil nutrient repair to encourage using natural substances, termed as organic farming." This paper discusses the problems and prospects of adopting this machine in India.

What do you mean by organic farming?

"Nobody would almost certainly offer a basic response to the inquiry: What is organic farming? As indicated by Veeresh, The common answer to this inquiry is that organic farming will be farming without syntheticsor chemicals. The organic farming guidelines preclude utilization of manufactured composts, pesticides, growth controllers, domesticated animals feed added substances and, weight on long tenure soil management, however there is no single global guideline for organic creation. The principles of organic farming is to

produce all the required plant supplements inside the homestead and embrace crop insurance utilizing local resources, limiting outer contributions to the absolute minimum, if not totally abstaining from them.

Organic farming is basically a soil structure instrument; to keep the soil 'live', make the soil 'alive' and continue ripeness. Building 'live' soil is the essential worry of all organic farming. In organic farming, soil and not the harvest is strengthened. Improving soil wellbeing is the foundation of organic farming [5]. The soil needs to hold the organic issue and make conditions for microorganisms to chip away at it to discharge supplements. In this way, organic farming is neither only supplanting the synthetics with organic issue in it, nor is it returning to customary agriculture. It is the transformation of soil from 'non-living' to 'living'. To continue life in the dirt, a few techniques are included, for example, transformation of soil and dampness, and support of least soil organic issue. Ranchers must practice green manuring, manure making, vermicomposting, and utilization of bio-composts and bio-pesticides. When that is accomplished, the dirt will deal with itself with least upkeep cost and least outer sources of info".

Organic farming framework underscores on the utilization of organic issue for improving soil properties, limiting natural way of life related wellbeing perils, and accomplishing shut supplement cycles, the key variables for sustainable agriculture. Organic agriculture is a generation system which incorporates agriculture with biodiversity, environment and natural cycle and bars all concoction and engineered inputs. It keeps away from compound composts, hormones, feed added substances and pesticides and advances normal techniques like harvest pivot, creature fertilizer, off-ranch squander, crop deposits, plant security and supplement assembly.

According to the International Federation of Organic Agriculture Movement [8] the main targets of natural farming include: production of excessive fine food in sufficient quantity in concord with natural systems and cycles, improving biological cycles in the farming machine involving microorganisms, soil plant life and fauna, plant life and

animals, retaining long time period soil fertility and genetic variety of the manufacturing machine and its surroundings along with plant and natural world, selling healthful use with proper care of water sources and growing harmonious balance among crop manufacturing and animal husbandry, and minimizing all kinds of pollutants. It includes ecological control techniques that keep and decorate soil fertility, prevent soil erosion, promote and decorate biological range, and reduce hazard to human and animal health and natural assets. Today, many sorts of farm products are produced organically which includes vegetables, fruit, herbs, grains, meat, dairy, eggs, fibers, flowers and so on.

The International Federation of Organic Agriculture Movement (IFOAM), that is the global umbrella company for organic agriculture. The extensive principles and practices which can be predicted to be observed in organic farming as per IFOAM Standards are as follows:

- o To inspire and enhance organic cycles inside the farming system;
- o To growth, beautify and maintain long term soil fertility;
- o To mobilize natural remember and nutrient factors locally within closed structures;
- o To use, as far as possible, renewable sources in domestically organized agricultural systems;
- o To avoid all forms of pollutants;
- o To maintain genetic diversity;
- o To permit good enough returns to the producer; and
- o To produce qualitative food in enough quantity that is ideal socially and economically.

Organic farming although is a contemporary exercise is in a way going returned to Nature Farming. It is a subset of Ecological Farming.

Organic Vs. Traditional Farming

Organic farming is exceedingly small-scale, with impartial operations, will no longer use

bought fertilizers and other inputs; low mechanization of developing and harvesting process regularly local, direct to purchaser. Conventional farming is massive scale, frequently owned via or economically tied to predominant food groups in depth chemical packages and reliance on mechanized production, the usage of specialized equipment and facilities wholesale, with products disbursed across massive areas and sold via high-extent stores.

Also, being hard work-in depth, organic farming entails high wages [10]. With clean environmental benefits, natural farming can make a contribution a bigger share in sustainable feeding the sector. It is notably more profitable than traditional agriculture and may extend globally [7]. Organic farming as a concept is extra intrinsic than the traditional agriculture. Traditional agriculture does now not absolutely match into natural agriculture as it did no longer contain maneuvering of oil, plant, environment and people to reap sustainable manufacturing [12]. Punjab Agriculture University's Prof Dr. D.K Grover and Sh. I.P Singh has discovered that withlessexpenditure on organic manure we can increase the productivity of food grains [11].

Worldwide Situation

The worldwide organic food enterprise was worth US\$88.3 billion in 2015 and is expected to develop at a CAGR of 12.1 percentage to attain US\$155.Four billion by way of 2020. The market research company Eco via Intelligence estimates that the global market for organic meals reached 89.7 billion US bucks in 2015-16 or more than 80 billion euros.

The United States is the main marketplace with 38.9 billion euros, observed china with lowest(5.9 billion euros) then France (6.7 billion euros), and Germany (9.5 billion euros), The maximum in line with capita spending turned into in Switzerland (274 Euros), even as Denmark had the very best organic marketplace proportion (9.7 percentage of the total food market).

In Russia the natural quarter has been regularly developing on the grounds that the beginning of 2000s. It might be advanced as part of safety- ist approach. Already ecologization of Russian agricultural policy is taking location. By 2015 the full amount of land underneath natural farming nearly doubled to a total of 385,000 hectares and the natural marketplace

value grew via 10 instances. One component that allows marketing is the ‘well known’ categorization. In the Russian Super markets (basically “top class” shops) - together with Azbuka Vkusa and Globus Gurme - there aren't any unique shelves for organic meals in such shops and natural products are placed in the “healthy foods” section of the supermarket. Consumers’ interest isn't focused on particular labels; it's far instead on the concept of a healthful way of life [13,14], specific characteristic has a whole lot relevance for India in which paradigm shift in marketing is taking region in which etail marketplace has taken a firm foothold. For organic merchandise there are already hypermarkets. Himalaya Herbals has attempted used to boom visibility with the aid of investing in save-in-shops machine, which lets in the brand to installation a stall inside a departmental store. [16].

At a time while we are discussing so much approximately international warming and the unwell outcomes of weather change on surroundings in popular and agriculture particularly, it is suitable that we also discuss alternative structures of farming like organic, incorporated, blended, perennial grain and conservation agriculture , Organic agriculture is the maximum famous of these with growing income

Table 1

INDICATORS	WORLD	TOP COUNTRIES
Organic Agriculture Land	1999; 11 million hectares 2016; 57.8 million hectares	China(23 million hectares) Australia(27.1 million hectare) Argentina(3.0 million hectare)
Producers	1999; 200,00 producers 2016; 2.7 million producers	Mexico (210,000) Uganda(210,352) India (835,000)
Organic market	2000; 17.9 billion US dollars 2016 ; 89.7 billion US dollars	France (7.5billion US dollars,6.7 billion euros) Germany(10.5billionUS dollars,9.5billion euros) USA(43.1billion US dollars,38.9 billion euros)
Number of affiliates with organic international	2017; 1003 ,127 countries	China-56 affiliates US - 63 affiliates Germany- 88 affiliates India- 111 affiliates

In 2016, 2.7 million organic manufacturers had been said. India continues to be the country with the highest variety of producers (835'2 hundred), accompanied by way of Uganda (210'352), and Mexico (210'000).

An overall of 57.8 million hectares have been organically controlled on the end of 2016, representing a growth of seven.Five million hectares over 2015, the largest growth ever recorded. Australia is the most important natural agricultural area (27.2 million hectares), accompanied by using Argentina (3 million hectares), and China (2.Three million hectares). Almost haft of the global organic agricultural land is in oceania (27.3 million hectares), followed by means of Europe (23 percent;13.Five million hectares), and Latin America (12 percentage; 7.1 million hectares).

The nations with the biggest natural proportion of agricultural land in their overall farmland are the Liechtenstein (37.7 percent), French Polynesia (31.3 percentage), and Samoa (22.Four percentage). In fifteen countries, 10 percentage or extra of all agricultural land is natural, a new document [8].

Current Trends of Organic Farming in India

Growing attention approximately health and environmental problems paved way for growing demand for organically produced agri- products internationally. Globally 1.6 million farm manufacturers use organic methods and approximately 80 percent of these producers are in growing nations. The expected worldwide marketplace for natural products in the year 2012 changed into about 70.1 billion US bucksunderneath organic cultivation is 4 percent.43 million hectares and is growing at consistent fee. India is home to 30 percentage of the whole organic seasoned producers in the international, however debts for simply 2.59 percent (1.5 million hectares) of the overall natural cultivation vicinity of 57.8 million hectares, in keeping with the World of Organic Agriculture 2018 record [16].

India is the world's biggest organic cotton grower with more than 50 percent of total global's

organic cotton. India exported more than 300 organic merchandise for an extent of 69837 MT figuring out value of USD 157 million in 2010-11. The fundamental products exported have been cotton and textiles-17363 MT (25 percent), basmati (5243 MT) and non-basmati rice (1634 MT) (10 percent), Oil plants-17966 MT (26 percent) except sesame-2409 MT (three percent), Process ingredients-8752 MT (13 percent), tea-2928 MT and espresso (fivepercent), honey-2408 MT (three percent), dry fruits -1472 MT (2percent), spices, medicinal plants and their processed products, miscellaneous (thirteen percent). The different products categories (5 percent) are cereals, spices, medicinal and natural flowers, espresso, vegetables, fragrant oil and pulses. 44 percent of the natural products had been exported to Europe followed via Canada (22 percent), USA (19 percent) and Asia (13 percent).

Currently, India is rising as a key player within the international arena, exporting over 300 products in 20 distinct categories to over 20 countries. Additionally, India is the biggest exporter of natural cotton and houses the biggest quantity of organic manufacturers within the world. Alongside the tendencies touching on the worldwide markets, the domestic markets are growing at a rate better than the global average and are expected to preserve growing at a 25 percent CAGR through 2020. Sikkim became India's first fully natural nation in 2016 with 75,000 ha underneath natural cultivation, thereby providing impetus to other states to pursue similar objectives. Meghalaya, for example, goals to make the switch with the aid of 2020 [18].

The controversy facilities on the overall fee and safety of chemical agriculture, with natural farming popularly seemed as the opposite of cutting-edge, large-scale, chemical-primarily based [17]. In latest decades, food manufacturing has moved out of the general public eye. In developed international locations, where most of the world's wealth, intake, and agricultural policy-making are focused, many are blind to how their food is produced [21]. If the strategies used to produce meals are unexpectedly destroying the potential for persevered manufacturing, then sustainable, natural farming has a critical position to play [22]. This proposition is on the center of most natural farming problems. Organic farming does not result in the release of artificial insecticides into the food deliver or the

surroundings, but it does permit positive so referred to as herbal insecticides, together with those derived from flowers [23]. Organic farming is now gaining popularity and is being widely wide-spread by way of humans everywhere in the world. A developing purchaser marketplace is naturally one of the foremost factors encouraging farmers to transform to organic agricultural manufacturing. Increased purchaser awareness of food protection issues and environmental worries has contributed to the growth in organic farming over the last few years [22].

Sustainability

Although it's miles common to equate organic farming with sustain- able agriculture, the two are not synonymous. Sustainability in agriculture is a large idea, with concerns on many tiers, inclusive of environmental health, economic profitability and many others. Organic farming techniques moves balance among what is taken out of the soil with what's back to it, without relying on out of doors inputs. Organic farming these days is most effective a small part of the rural landscape, with a extraordinarily minor effect at the surroundings [22].

Message from Kerala

In God's very own city Kerala, whichever party got here to power, the nation agricultural policy persisted to be colourful and active to- wards natural farming. Farmers, political parties and coalitions, universities, NGOs, Biodiversity Board, Agriculture Department all contributed. They realized that they were fighting a losing warfare with the "high yield variety fertilizer-pesticide ." of the Green Revolution. They have also realized that the degradation and disruption of the delicate ecosystems of the kingdom are the leader culprits for the water scarcity, nutritional insecurity, lack of primary productiveness and agrarian disaster being faced via the State [23]. They desired an evergreen revolution.

The farmers have been convinced that the most effective way is to go back to the conventional sustainable approaches of cultivation without harming the surroundings via

organic farming, a machine with the wide principle of “stay and permit live” diagnosed nationally and the world over. Agreeing in this language and forging the coverage, but, turned into no smooth feat, and it took four turbulent years to come to fruition, with backward and forward debate. The Kerala State Biodiversity Board does now not have any regulatory authority. It is handiest a statutory body that advises the state government. Yet it succeeded in making its organic farming coverage formally a part of nation’s regulatory structure within the Agriculture Department and in getting it funded. The National Biodiversity Bill turned into carried out in actual spirit inside the kingdom. NGOs like the Kudumbashree are running tough. The rest is history. That is Kerala’s contribution to Incredible India. The well-known Gadgil file indicates the adoption of Kerala’s natural farming policy across kingdom lines: “The Organic Farming Policy of Kerala. Could be adopted as a version not handiest for the Western Ghats, but additionally for all of the six States benefitted by using the mountain machine.” The Gadgil Report, therefore, gave the proponents of Kerala’s organic farming policy a car for protesting the Green Revolution and scaling up organic agriculture nationally, the usage of Kerala as an exemplar. It is now encouraged by way of the equally well-known Kasturirangan Report. The sustainable food advocacy within the USA and the agrarian policy in Kerala - the success tales convey messages of suggestion for the rest of the world.

Problems/Challenges to be faced

Developing countries are already generating a wide variety of natural products are regularly confronted through a number of constraints, along with lack of technical understanding, as an instance organic farming practices and manufacturing methods, and absence of marketplace statistics like which products to grow, which markets and distribution channels to select, opposition, market get admission to poses not most effective a technical trouble however provides significant fees to the product, which ought to be borne by means of the customer in a single manner or any other. Further importers, meals manufacturers, retail corporations and purchasers also search for guarantee of Organic beginning. Organic products are expensive. Organically produced meals have to adhere to strict rules like certification and intensive management. Organic farming remains confronted with the

problem of better labour input in its operation. In-addition, natural farming is still hampered with the aid of loss of readability: Consumers have been no longer always certain about what was virtually covered by way of natural farming. Despite all constraints, Organic farming has in the main come from small farmers and is gaining acceptability in developing international locations which include India.

In India one of the fundamental issues is the economic constraint confronting the farmers in the initial ('conversion') segment of a switchover from non-organic to natural farming. Another problem is the tremendous amount of obligatory documentation concerned that influences the illiterate farmers. And then there is the trouble of lack of ability to promote the produce at a premium rate due to the fact at the transition length the goods can't be sold as 'natural'. Further, domestic marketing is underdeveloped in India [25].

Suggestions

Organic farming in India desires both technical and institutional support. Systematic training with a robust community across regions is the want of the hour. Low price and trouble-free certification want to be put in vicinity. Even institution certification can be encouraged via cooperatives and self-help groups. Well-developed domestic market circuits contacts, contracts, statistics, pricing should be set up. The Indian Council of Agricultural Research (ICAR and the National Project on Organic Farming (NPOF) should play dynamic function in promoting organic farming not sincerely as a supply of export sales but as an alternative model of agricultural improvement.

Conclusion

For several years, traditional agriculture has been increasingly challenging to strict environmental and animal welfare regulations. The organic farming quarter desires to look in which it stands with regards to these new developments. From learning nature to nurturing its sources, there's already a paradigm shift. Organic farming can provide exceptional food without adversely affecting the soil's fitness and the surroundings. There is need to perceive appropriate plants/ products for natural

production that has international marketplace needs. It will offer enough possibility for employment and convey prosperity and peace inside the country. So, there is the pressing want for favorable coverage tasks to reinforce this quarter. Such rules lay a strong basis to promote sustainable improvement and the dream of sustainable development can be a fact.

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