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ART, TECHNOLOGY, DESIGN AND SUSTAINABLE ENTREPRENEURIAL TRANSFORMATION

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Accepted Abstracts Booklet

The abstracts are shown by sessions. Please note that there may be some changes to the sessions but all presenting authors will be notified of changes at the conference.

Parallel Session 1: Sustainable Economic Development and Growth: Earth and Society Mammon

IEF-18-027: Ecopreneurship: Entrepreneurial Action for Solving Environmental Problems.

Salgaonkar, V

Ecopreneurship also known as Environment Entrepreneurship or Eco capitalism is emerging as an important contributor to the solving of environmental problems. Entrepreneurs are individuals who identify opportunities in the market and capitalise on the same. Ecopreneurs are entrepreneurs who are motivated by commercial as well as ecological goals.

In the quest for economic development, industrial activity has given rise to many environmental problems. The environmental challenges being faced by the society include among other climate change, ozone depletion, global warming, and different forms of pollution like air, soil, water, and noise.

Efforts to reduce these negative impacts include government regulations, stakeholder pressure, ethical motivation and competitive advantage. Scholars have argued that entrepreneurial action can address a broad array of societal issues including degradation of natural environment. When entrepreneurs include such societal goals into their agenda along with profit it gives rise to ecopreneurship.

Thus, ecopreneurship can contribute to solving or reducing environmental problems. However for this to happen it is essential that entrepreneurs expand their entrepreneurial goals beyond profit to ecological safety. However, this may not be happening with all entrepreneurs. This paper tries to identify the motives and challenges for ecopreneurship. So that it serves as a solution rather than the cause of environmental problems.

Keywords: entrepreneur, ecopreneur, environment.

IEF-18-030: Sustainability Issues of Traditional Vegetable and Flower Entrepreneurs in Goa: Need for State Interventions

Amballoor, Rand Naik, S

Introduction: In the wave of globalization and the neo-classical economic doctrine of 'market expansion and state compression', the footprints of traditional entrepreneurs are fast disappearing from our economy. The traditional entrepreneurship provided a wonderful opportunity for inclusive growth narratives in rural areas among the economically and socially challenged sections. The advent Liberalization- Privatization-Globalization (LPG) process robbed even the public space available to traditional entrepreneurs in Goa especially, the women and their death-knell became louder and clearer with every passing day.

Objectives: The objectives of the paper are (a) to identify the sustainability challenges of traditional entrepreneurs, (b) construct a Sustainability Index model based on the factors affecting sustainability (d) identify geospatial clusters of selling location of traditional entrepreneurs and (d) to list the areas for state intervention.

Methodology: The methodology involves a survey done on the traditional vegetable and flower entrepreneurs at various locations in Goa. The questionnaire of the survey contains

probes inquiring about aspects such as the reason for opting the profession, the category and types of items sold, the assets used, nature of land cultivated, type of farming, etc. along with the challenges and factors affecting the sustainability in the business. Based on the inputs, the factors are ranked in the order of the influence on Sustainability. The study also proposes to develop a Sustainability Index for Goa which can be replicated for other states with local modifications.

Findings and Observations: The study has identified different factors influencing the Sustainability Index of traditional entrepreneurs. The need for active state intervention and the utilization of social capital of the civil society for improving the Sustainability Index of traditional entrepreneurs is also brought out by the study.

Outcomes: A policy paper on state intervention will be the dominant output. The outcomes will include (a) a model for measuring sustainability and identifying measures to make the traditional entrepreneurship sustainable, inclusive, diverse and gender neutral and (b) A map depicting selling location clusters.

Keywords: Sustainability, Entrepreneurship

IEF-18-011: An empirical verification of Global Entrepreneurship Monitor's conceptual model

Vyas, Rand Vyas, V

Global Entrepreneurship Monitor (GEM) is a major ongoing international study of entrepreneurship. Based on its distinct conceptual model, GEM collects annual data on elements of entrepreneurship enabling environment, as well as on performance of entrepreneurs in various countries. Though entrepreneurship is widely regarded as a major contributing factor in economic growth, very limited scholarly investigation of determinants of entrepreneurship has been previously conducted. This paper makes such an attempt. Three measures of entrepreneurship, new business formation, creation of high growth firms and the extent of innovation in new firms, as dependent variables and 12 framework conditions, as predictors have been used in this multiple linear regression analysis. This investigation finds, in general, a weak empirical support for GEM's conceptual model. Crucially, entrepreneurial finance, entrepreneurship support programs, entrepreneurship education in schools, access to technology, R&D, commercial-legal infrastructure and internal market dynamics either have no effect or have a negative effect on new business formation. On the other hand, cultural and social norms such as, self-sufficiency, autonomy, personal initiative, risk-taking and creativity, positively influence entrepreneurship in all countries and so does university entrepreneurship education. These findings, suggest a need to modify GEM's conceptual model. There is also need for further research to understand the phenomena of entrepreneurship using a combination of factors both internal and external to the entrepreneur as well as to investigate it in a finer classification of countries.

IEF-18-016: SOMKWAS Medicinal Plants Agricultural project

Stone, R

Executive Summary: Gouda SONKWAS MEDICINAL PLANTS is a farming project dedicated to the production of medicinal botanical perennials. SONKWAS MEDICINAL PLANTS has been formed as a Gouda-based Pty Ltd corporation located inn Gouda, Western Cape. SONKWAS MEDICINAL PLANTS is working hard to become a leading producer of medicinal botanical plants for the natural supplement industry as well as plant nurseries. By leveraging a well thought out business plan executed by a skilled management team, SONKWAS MEDICINAL PLANTS will generate over R5 000 000,00 in year one sales, which will escalate further from year 2.

Keys to Success: SONKWAS MEDICINAL PLANTS has identified three keys that will be instrumental in their success. The first is the implementation of strict financial controls. By having the proper controls, production efficiency will be maximized. The second key will be the never ending pursuit for the industry's highest concentration levels of botanical ingredients in each plant. The third key is the recognition and implementation of the philosophy that 100% customer satisfaction is required to ensure a profitable business.

Products: SONKWAS MEDICINAL PLANTS is a 10 hectare farm that concentrates on the organic growing of medicinal botanicals. SONKWAS MEDICINAL PLANTS has chosen various plant species that have significant market demand as well being well suited for growth in the Berg River Valley. SONKWAS MEDICINAL PLANTS will feature: CBD Cannabis strain for CBD product manufacturing markets, which is allowed for commercial trading without licence, under South African law legislation; THC Cannabis strains will be grown for one of our licensed product distributors; Wormwood -ArtemesiaAfra - an immune system booster; Aloe Barbedensis - a product widely used in health and cosmetic industry; Rosemary - essential oils; Moringa- for its high nutritional values; Blueberries- for its high nutrition and consumer demand; various small culinary herbs and organic vegetable crops to supply small markets, and contribute to the faming community's food resource and sustainability.

Market: SONKWAS MEDICINAL PLANTS has three distinct customers: supplement companies, processors of medicinal botanicals for supplement companies, and nurseries that resell the plants. The first two customers purchase the plants for use in their products which they ultimately sell to the end consumer. The market for natural supplements is quite exciting. Surveys show that over 30 million consumers (over 55% of SA population) use dietary, nutritional and herbal supplements and remedies. Consumer surveys consistently find that nearly half of all South Africans now use natural remedies and herbs - a statistic that is particularly remarkable when we realize that today's herbal products industry has grown tremendously over last 3 decades.

Management Team: SONKWAS MEDICINAL PLANTS will be led by the business team of, Mercia Isaacs – Financial management and planning, Nico Williams – Risk and security management, Louis Botha, Strategy and planning, Marketing Raphael Stone, Research and Development - plant biology & Natural medicine, and Abraham Maritz, Production and farm operations, growing the highest active ingredient content plants in the country.

Financial Plan: SONKWAS MEDICINAL PLANTS - To finance our growth and full-time production, we need estimated start-up capital investment of R2Million, with future growth prospects requiring financial investment of over R500million rand.

Keywords: Food innovation to relieve hunger for better health

Parallel Session 2: Organisational Culture and Change Management

IEF-18-012: Impact of Organizational Culture on Financial Performance of Listed Deposit Money Banks in Nigeria

Ango, Y and Yahaya, U

The study was carried out to examine the impact of organizational culture on financial performance of listed deposit money banks in Nigeria. Rare studies have examined the relationship between organizational culture and financial performance using the Denison model in the Nigerian banking industry. Organizational culture was the explanatory variable and it was proxied by involvement and consistency. The dependent variable was financial performance and it was proxied by return on equity. The study adopted a descriptive survey design and a post-positivism paradigm. The study made use of both primary and secondary sources of data. Questionnaires were used to elicit information from the sample of the study to measure organizational culture while data on return on equity for the period of 2012-2016 was sourced from the financial reports of the banks. Correlation and regression analysis was conducted to draw the findings from the data. The findings of the study revealed that involvement and consistency had a positive and significant relationship with financial performance. Drawn from the findings, the study concluded that organizational culture impacts positively on financial performance of listed deposit money banks of Nigeria. The study therefore recommends that, the management of banks should have a proper implementation of the organizational cultural traits as showed in this study so as to attain the desired level of profit. The implementation can be achieved when the management of the banks teaches their employees the value of teamwork, capabilities development and the importance of the core values of the firm.

Keywords: Organizational Culture, Financial Performance, Denison Organizational Culture

IEF-18-014: Impact of change withholding on customer satisfaction using ethnicity as a mediator in Kano metropolis

Ango, Y

The study examined the impact of change withholding on customer satisfaction using ethnicity as a mediator in Kano metropolis. Change withholding has become an issue that results to dissatisfaction of customers of a business but has rarely been studied. Change withholding is the independent variable and customer satisfaction is the dependent variable. The study employed descriptive research design and the study had a sample of 400 customers of the SMEs in Kano metropolis. Questionnaires were used to solicit the needed information. The collected data was analysed with the aid of descriptive statistics which includes frequency and percentages, cross-tabulation, Pearson correlation and regression. After the analysis, the study discovered that change withholding impacts on customer satisfaction. The study also discovered that ethnicity mediates between change withholding and customer satisfaction as it impacted on the perception of the respondents towards change withholding. The study therefore concluded that change withholding impacts on customer satisfaction in Kano metropolis. Based on the conclusion, the study recommends amongst others that SME owners should ensure to keep small denominations of change at all times to avoid change withholding. Keywords: Change withholding, Customer Satisfaction, Ethnicity, Psychological Egoism.

IEF-18-028: Closing the Gender Gap in Intellectual Property

Sitaraman, Sand Borde, N

A study by the World Intellectual Property Organization (WIPO) indicates that there is a significant disparity in the ratio of men to women IP rights holders. This disparity is evident right from education, especially in the so-called STEM areas (science, technology, engineering and mathematics) to the work force where women end up facing the glass ceiling as well as significantly lesser income than their male counterparts. Even in a so-called "developed" country such as the United States of America, the number of women patent applicants/inventors will reach parity only in the year 2090. The Indian government has, in an effort to demonstrate inclusivity, brought about changes to legislations relating to innovation and intellectual advancement with the aim of smoothing the way for women entrepreneurs. The Indian Patents Act, 1970 vide its recent amendment in September 2019 allows women applicants to seek expedited examination of their patent applications which will lead to shorter timelines in obtaining a patent. This study attempts to forecast the change in number of women applicants as a result of the new legislation by studying the gender gap in patents worldwide. A study of the number of women as one of the main inventors/applicants from regions with economies, patent legislations and patent filing trends similar to India over the past 20 years as well as any incentives, policies, laws in these regions that caused a change in the number of women applicants/inventors can be analyzed to predict the outcome of the recent changes in the Patent (Amendement) Rules, 2019.

Keywords: Gender, Women, Inventors, Intellectual Property, Patent.

Parallel Session 3: Entrepreneurship Development

IEF-18-032: Relationship between Entrepreneurial Motivation and Growth of Informal Sector Enterprises in Goa.

Chandran, Sand Manerkar, G

Purpose: This study examines the relationship between the motivations of the entrepreneur and the growth of their small business in the informal sector in Goa.

Design/methodology/approach: Based on various theoretical models and pre study interviews with the entrepreneurs, an interview schedule was developed and a survey was carried out among 100 small businessmen operating in the informal sector in Goa. An exploratory factor analysis was used to identify the motivational factors responsible for starting the enterprise and regression analysis was used to test the perceived relationship.

Findings: The analyses show that there are three factors responsible for the growth of small businesses in the informal sector: one factor which is a combination of socio economic background of the respondents along with necessity and opportunity motivations; second factor related opportunity motivation variables and the third which is exclusively related to necessity motivation variables.

Research limitations/implications: The study contributes to the debate in the literature about which motivational factor for the growth of small businesses enterprises in a small state like Goa with relatively higher socioeconomic indicators.

Practical implications: The results drawn from the study have implications on how small enterprises in the informal sector can be supported and stimulated by governmental agencies through appropriate policy measures.

Originality/value: This study shows that motivation of an entrepreneurial should not be purely categorized based on necessity or opportunity driven but also the socioeconomic background of the entrepreneur. This is important for analysing the factors leading to the growth of small informal enterprises in Goa which has received scant attention so far.

Keywords: Motivation, Informal Sector, Entrepreneurship

IEF-18-013: Entrepreneurship under Closure: The Case of the Gaza Strip

Heilbrunn, S

The economic and social situation in the Gaza strip - located between Egypt, Israel and the Mediterranean – has been constantly declining during the last decade. Following assessments of the World Bank, Gaza's economy has endured only due to money transfers from international aid agents and the Palestinian Authority, but these transfers have decreased during the last year due to a number of reasons. Nevertheless, and in spite of these circumstances, women and men are doing entrepreneurship in Gaza. It is the purpose of this paper to analyse why and how people act entrepreneurial under extreme circumstances as prevalent in the Gaza strip over the last decade.

A number of studies have investigated entrepreneurship in challenging institutional environments, such as unstable institutional contexts of borderlands (Welter et al., 2018), institutional voids (Desa and Basu, 2013; Heilbrunn, 2019; Khoury and Prasad, 2016; Mair and Marti, 2009) emerging institutional contexts (Gupta et al., 2014), conflict environments (Muhammad et al., 2016). Baker et..al. (2005) based on Levi-Strauss, used the concept of bricolage in the framework of social entrepreneurship literature to analyze entrepreneurship in a context of hindering institutional circumstances (Desa and Basu, 2013; Mair and Marti, 2009) that augment necessity, in the face of no other alternative to accessing resources (Desa and Basu, 2013). Based on these theoretical approaches the here presented research contextualizes the relationship between institutional voids and bricolage in the domain of business. The Gaza strip provides an example for a setting characterized by political and economic isolation where Palestinian entrepreneurs are 'bricoleuring' to overcome intentional institutional voids. Drawing upon the interpretive/social constructionist paradigm which takes into account the processual and situated dimensions of entrepreneurship (Gherardi et al., 2014), this study employs a qualitative approach, in order to investigate the "why" and "how" of the entrepreneuring citizens of Gaza (Steyart, 2007). More specifically the author collaborated with an NGO some of whose members have access to the Gaza strip and therefore could interview the entrepreneurs. Additionally, reports and newspaper articles provided information about the economic activities relevant for the study.

Preliminary findings show that shrinking purchasing power, deteriorating civilian infrastructure and the lack of transparency as to Israel's access policy constitute the main obstacles to Palestinian entrepreneurship in the Gaza strip. Moreover, the entrepreneurs have only very limited access to business networks if at all and basically no access to markets in neighboring areas.

The study shows that in the context of an intentional institutional void entrepreneurial practice in form of bricolage can be considered as an economic and political process creating space. The study extends our knowledge of entrepreneurship in challenging institutional environments and answers the call for contextualizing entrepreneurial practices.

Keywords: Palestine, Gaza, institutional voids, bricolage

IEF-18-026: Entrepreneurship and the generation of a moral code for economic and social development.

Mahatme, M

Peripheral tourism is largely being promoted as an effective alternative means of income and employment generation. Specifically, in the context of declining agricultural industries, this can be considered as a viable option for arriving at social and economic development in peripheral areas. Over the last few years the shift to the hinterlands from mainstay mass tourism has been palpable. In a way this allows for product and market diversification. This paper attempts to delve into the effectiveness of peripheral tourism development through the periscope of sustainability, economic and social contributions and the effective role of a passionate entrepreneur engineering this change. A deeper study into the development of peripheral tourism in Goa accentuates the challenges and coping strategies adopted by peripheral tourism entrepreneurs. Less demand, less returns for the investment costs in development, paucity of skilled staff and the looming prevalence of mass tourism are a few of the significant challenges. The paper ends with suggestions on successful peripheral tourism development. Keywords: Peripheral tourism, sustainability, economic and social contributions, entrepreneur, challenges, coping strategies.

IEF-18-029: Productive entrepreneurship through ethical and innovative practices in child food industry of Bangladesh

Hassan, R

Dhaka is the largest city of Bangladesh with the population of more than 18 million, where 34.64% of this population belongs to child category (0 to 14 years of age). In order to fulfil the nutritional needs of these people (includes children) "street food" plays a very important role. According to literature there are more than 300,000 vendors retailing food to people of all ages from the streets within the city. In the contrary, food adulteration is considered to be a national problem for Bangladesh and food adulteration is named as "silent killer" for the society. Food adulteration acts (institutions) in Bangladesh are measured to be very old, which may lower the effectiveness of law against the situation and thus the ill-practitioners (unproductive and destructive entrepreneurs) are getting away with the crime committed. The study investigated and explored productive and unproductive entrepreneurial practices in the child food (0 to 14 years) sector of Bangladesh. In conducting this study, the following objectives are set, a) to explore productive entrepreneurship through ethical and innovative practices in child food industry of Bangladesh; b) to explore factors which acts as barriers for unproductive and destructive entrepreneurship practices in developing economy considering Bangladesh context; c) to critically review role of institutions in promoting or impeding innovative and ethical practices in child food industry of Bangladesh and d) to design a framework that encourages ethical and innovative practices in the child food industry of Bangladesh. In addressing the objectives, the study adopted a mixed method approach, where in phase 1 semistructured interview (qualitative) and in phase 2 interview survey (quantitative) are conducted. Phase 1 of this study enabled the researcher to design questionnaire for phase 2. The questionnaire used in phase 2 had five sections where section 1 captured general information of the child food sector of Bangladesh and other four sections covered the 4 objectives mentioned earlier. This paper analyses findings from the phase 2 of the study with the focus on general information of the child food sector of Bangladesh and objective 'a' set for the study. The study found almost 80% (79.6% to be precise) of the respondents (child food entrepreneurs from phase 2 of the study) are operating in the industry for less than 10 years and 85% of these child food entrepreneurs are involved in producing the food they are retailing. The age of these entrepreneurs can be alarming, yet makes the study more interesting, as the insights from the study communicates results from fairly new business people of the sector. Keywords: Child food entrepreneurship, street food, ethical and innovative practices, productive entrepreneurship.

Parallel Session 4: The Environment, Food and Economic Development

IEF-18-017:Low Cost Aquaponics: A Pathway to Food Security and Economic Development

Cassim, S

Food insecurity and climate change are the markers of this new world we live in, described by scientists as the Anthropocene - the epoch that demonstrates human's indelible mark on the planetary processes. This world is characterized by a number of consequent social and economic problems, for example malnutrition and obesity, inequality and unemployment prevalent in large parts of the world but more especially in the so-called emerging world. The 2019 Global Report on Food Criseshighlight the extent of poverty in 2018 when more than 113 million people from across 53 countries were described as "experienced acute hunger". According to the report, countries in Africa "remain disproportionally affected by food insecurity". While South Africa doesn't experience the same intensity of the drivers to food insecurity identified in the report, namely conflict and insecurity, climate and natural disasters, a World Wildlife Foundation Report on Agri-food Systems (2019) reports persistent poverty, increase in hunger (with 22% of South African households not having adequate access to food). rising levels of obesity and a fast deterioration of the country's natural resources. This report estimates that South Africa's demand for food will double by 2050. The food production systems presently in operation have been critiqued to be the largest contributor to environmental degradation. In this environment it has been maintained that there is a need to find innovative but ecologically sound food production systems that will ensure sufficient food production but in a sustainable way both globally and locally.

Aquaponics has been generating considerable interest in both academic and practitioner circles globally. It is being considered a food production system that holds the potential for fulfilling this requirement of ecologically sound food production in resource constrained environments. Aquaponics may be described as the combination of two mature food production systems, aquaculture and hydroponics in a closed recirculating system. The system simultaneously produces plants and fish through the continuous circulation of water through both systems. Water from the fish tank moves through two filter systems and then to the plant beds and back into the fish tanks. The aquaculture effluent is converted into nutrients for the plants rather than being released into the environment. The water from the plant system is redirected into the fish tanks.

The benefits of this recirculating system, akin to the circular economy, are being documented in recent research. The positive environmental, economic and social impacts are now being documented widely.

There have been several efforts to document typologies of aquaponics systems in the emerging literature. These generally cover hobby scale; commercial and social projects. A major gap in the literature is in defining small scale, low cost aquaponic systems that may contribute to food security and food sovereignty in poor resource constrained communities. This research project aims to fill this gap by developing a knowledge base on low cost aquaponics that provides pathways to food security and sustainable livelihoods the culmination of which will be evidenced in economic development.

Physical Infrastructure Design and Costs Biomass Production Design and Costs LOW COST AQUAPONICS SYSTEM LOW COST AQUAPONICS SYSTEM Technical Components: stocking density, microbial components, flow rate etc

Based on an understanding of the emerging research and on recent immersion into the practice we develop a framework critical issues that need to be explored to develop the knowledge base on low cost aquaponics systems. This framework is presented in the figure below and informs the direction of research pursued on the topic.

Keywords: Aquaponics, Low cost; optimum microclimate conditions, Biomass production, physical infrastructure, social and cultural dynamics

¹ Global Report on Food Crises (2019), produced jointly by the Global Network against Food Crises, the European Union, the Food and Agriculture Organization of the United Nations (FAO), and the UN World Food Programme (WFP).

²Von Bormann, T (2019) Agri-food Systems: Facts and Futures: How South Africa can produce 50% more by 2050. WWF South Africa, Cape Town.

IEF-18-021: Social and Cultural Dynamics of Low Cost Aquaponic Systems in KwaZulu-Natal.

Mfaniseni, S

This research focuses on the social and cultural dynamics that affect consumer perceptions of food produced in aquaponics systems. South Africa is one of the most food insecure countries in the world (FAO, 2018). It has been documented that most the food insecure people of South Africa reside in rural areas. Aquaponics is an emerging food production practice worldwide and even more recently in South Africa. The consumption of food is informed by cultural and religious values. If products produced from aquaponics systems are not consumed locally due to cultural and social values, aquaponics may be limited in its potential to tackle the food security challenge affecting rural communities.

The assessment of consumer perceptions study has the following objectives:

- Examination of awareness about aquaponics as an innovative food production system.
- Examination of social perceptions towards aquaponics produced food (fish and produce).
- Identification of key cultural values that affect the consumption of aquaponics products.

In introducing new food production methods, culture plays a critical role in the success or failure of such a method. New innovations come with challenges especially in a rural setting where culture is the core of perception. This research will attempt to get a sense of culture's influence on consumer behaviour answering the following questions:

- Do people know about aquaponics in the local community?
- Will the local community consume fish and vegetables produced by the low-cost aquaponics system?
- How does social and cultural factors influence consumer behaviour towards aquaponics?

Research will be conducted in two areas located on the north and south coast of KwaZulu-Natal. Random sampling will be used to recruit participants for two focus groups in both areas. The research outcome will be a documentation of the cultural values that inform community perceptions of food produced in unconventional food production systems. In introducing such a food production method, humans' capability to reshape or remodel it to suite their socioeconomic needs and standards should be valued. This innate capability will contribute and inform low cost aquaponics systems.

IEF-18-018: Optimum microclimate conditions in low cost aquaponics

Mkhize, M

The average increase in the world's temperature alters weather patterns and causes detrimental conditions widely known as climate change. The effect of climate change is strongly felt by poor communities that rely on agricultural production as part of their livelihoods. In this study, low-cost aquaponics farming is hypothesized as the potential strategy to address climate change effect in these poor communities. However, the major factor that may hamper the success of aquaponics in South Africa is the cooler weather conditions that

decrease the average water temperature throughout the year. Water temperature affects critical parameters of the aquaponics system (fish, bacteria, and plants). It is widely known that the aquaculture component requires fairly high temperatures of between 18 and 300 C. Aquaponics water temperature regulators are not financially feasible for poor communities. The first objective of this study is to find the relationship of micro-climatic conditions in relation to aquaponics water temperature. Secondly, the study aims to document low cost heat retention materials that will insulate/heat water to optimal conditions. This research measures the microclimate of an existing aquaponics system operating in a poor local community. The site selected for the study is in Ndwedwe, in the province of KwaZulu Natal. The microclimate consists of air temperature and solar radiation inside and outside the tunnel and water temperature which is measured through thermocouple probes. Air temperature measurement is achieved through the installation of an automatic weather station at the study site. The expected outcome is to find the effects of micro-climatic conditions on aquaponics water temperature that exists in a closed aquaponics operation. The outcome of the study can be used to advise current and future aquaponics site selection and to understand the themes and patterns of micro-climate obtaining in tunnelled aquaponic systems. The study will document the effects of locally sourced easily obtainable material that will assist in creating optimum microclimate conditions in low cost aquaponics that may be adopted by poor communities. The success of this study can contribute to systems that mitigate climate change effects in local communities that are highly vulnerable to food insecurity.

IEF-18-020: Cost of physical infrastructure for a low cost aquaponic system for Kwazulu-Natal

Ngcobo, Z

There is a growing need for climate change mitigation strategies as weather conditions have direct biophysical effects on agricultural production. This has subsequently created high demand for innovations or new strategies that respond to food insecurity challenges that emanated from climate change, especially in the rural developing countries in Africa. The literature has demonstrated many benefits of aquaponic systems. These include properties that are essential in reducing climate change (carbon emission), food shortages, water consumption, promoting fish stocks and decreasing energy costs. Aquaponic system is a closed loop system that circulate clean water through the fish waste and pass it through the grow beds, where the plants absorb the fish waste for nutrients and simultaneously clean the water which is taken back to the fish tank. This study examines the establishment costs of physical infrastructure for a low-cost aquaponic system. This study originates from the existing gap in the literature in developing low cost and affordable aquaponic systems. This is motivated by the lack of low cost aquaponic system models that are feasible, bankable and sustainable. This study aims to plan, analyse, design and recommend a low cost aquaponic system that will contribute positively to research and the practice of subsistence farming. The research proposes to use a cost effectiveness approach to compare different materials and local available resources together with the information from the existing aquaponic systems that has been implemented in KwaZulu-Natal as part of the analysis. The research approach will follow the following systematic steps to achieve its objectives; planning, desktop research, existing aquaponic site visits, data collection, existing aquaponic models' study and analysis, and the re-design and analysis of a low cost locally sourced model. This research aims to create a low cost aquaponic system benchmark model that can be adopted globally and bring new knowledge in the aquaponic research space, especially for developing countries.

IEF-18-019: Financial viability of biomass produced in low-cost aquaponic systems in Kwazulu Natal

Phungula, M

This study seeks to determine the financial viability of low-cost aquaponic systems in KwaZulu Natal. The objectives of the study are to ascertain the financial viability of biomass yield (both fish and plants) in a low-cost aquaponic system and to compare the growth rate of the biomass produced in a low-cost aquaponic system with that produced conventionally on a field on the same site.

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs (Escamilla, 2017). Food and nutrition security are measured by four pillars, namely, access, availability, utilization and stability (Escamilla, 2017). These four pillars are determinants of food security, they measure whether people have sufficient access to safe and healthy food, and they are the standard by which food security is determined. Access, availability, utilization and stability in food security is influenced by numerous factors such as politics, economic stability, location and dietary preferences (Escamilla, 2017). Aquaponics could enhance food sovereignty for both food and nutrition security, if implemented in communities, thereby serving all food security pillars. As such, aquaponics has the potential for sustainable economic development because, aquaponics is a recirculatory system, hence it saves water whilst producing fish and plant biomass at a quicker rate than conventional farming methods.

This study aims to find the financial viability of running a low-cost aquaponic system. The expected outcome is that the biomass yield in the low-cost aquaponic system will grow at an accelerated rate compared to biomass produced using conventional farming methods. The biomass in a low-cost aquaponic system will also be of better quality aesthetically in comparison to conventionally produced biomass. This study will conduct a financial viability analysis of low-cost aquaponic systems using an excel model. The model will be used to capture the direct input costs of both the fish and plant biomass. The acquired costs from seedling to yield will then be compared to the market value of the fish and plant biomass in order to determine the financial viability of low-cost aquaponic systems.

In this study fish and plant biomass will be monitored and measured over a period of 4 months in a low-cost aquaponic system based in a homestead in rural Ndwedwe. The growth will be measured using a scale for the fish and a measuring tape for the plant biomass. Plant biomass will also be planted in a field outside on a field in the same site the same time seedlings will be planted in the low-cost aquaponic system. This is so that a comparison can be made in terms of growth rate and overall performance of the plant yield in the low-cost system and the plant yield grown conventionally.

This study is imperative in developing innovative avenues to optimise low-cost aquaponic systems. Determining the financial viability of any project is key because, without the knowledge of the costs (fixed, operational and direct) that will be incurred or profited, one cannot conclude whether a project is going to be worthwhile or not. Therefore, this study will add invaluable knowledge to the ongoing developments in low-cost aquaponic systems. This study will particularly determine the fixed, operational and direct costs of the yield in a low-cost aquaponic system. The information acquired will assist prospective aquaponic farmers in calculating the approximate costs they will incur to produce the biomass yield in comparison to the biomass yield produced using other farming methods.

Parallel Session 5: Global Networks, Ecosystems and Cultural Dynamics

IEF-18-022: Diaspora Networks among Japanese Transnational Entrepreneurs in South East Asia

Birchley, S and Yokoyama, K

It is crucial for entrepreneurs to build and exploit social networks, such that this aspect is often referred to as a critical component of 'entrepreneurial DNA' (Dyer, et.al. 2011). An entrepreneur has two basic stages in establishing a company; opportunity recognition and mobilization of resources in order to follow through on the opportunity that has been recognized. Social networks are at play throughout the process of becoming and establishing oneself as an entrepreneur. Entrepreneurs need to have ideas to share with others and knowledge to build on, both of which they develop through their social capital. If we consider resource mobilization as Stuart and Sorenson (2005) do as the process of gaining access to networks, financial capital, skilled labour and knowledge that will facilitate the starting of a business, then we must consider how these elements play out in different regional contexts. Particularly, when an entrepreneur is a Transnational Entrepreneur, they need to build networks outside of their home countries.

This paper presents research on Japanese Self-Initiated Expatriate Entrepreneurs (SIEEs) living and working in South East Asia. It focuses specifically on the influence of social networks on the resource mobilization stage of entrepreneur development and the impact of the geography and context of emerging economies.

Based on an analysis of extensive interviews in Cambodia, Vietnam, Indonesia, Myanmar, China, Hong Kong, Thailand and the Philippines, with over 50 Japanese Transnational Entrepreneurs, we present an explanation and analysis of the networks and brokerage at play at the resource mobilization stage in these contexts by presenting a number of key case studies. We argue that at the stage of attracting financial capital, these Japanese entrepreneurs tend to rely on the networks within their home country, however, when recruiting skilled labor and sharing tacit knowledge, while of course, there is a need to engage in and develop networks between themselves and local people, the entrepreneurs rely heavily on networks among fellow Japanese expatriates. The acquisition of tacit knowledge appears to be heavily influenced by the entrepreneur's work and life experience in Japan, through which they build social networks and capital. Sharing this tacit knowledge during an entrepreneur's resource mobilization stage occurs through well-formed diaspora networks. Diaspora networks of Japanese throughout South East Asia are an essential, yet not often explored, component of resource mobilization. It is through these networks that the entrepreneurs share knowledge and resources that may be difficult to access in their host country due to cultural, political and linguistic barriers. We argue that in order to understand how to become a successful selfinitiated expatriate entrepreneur, the entrepreneur him/herself needs to be embedded into a strong diaspora network. The value of these kind of networks in international business can been seen through the growth of Chinese, Irish, Indian, and Nepalese, populations overseas, to name but a few. Yet studies on Japanese diaspora networks and evidence of how they influence the entrepreneur's resource mobilization are few (Harima, 2014).

This paper will begin by providing an overview of a large-scale study conducted by the authors on Japanese SIEEs in South East Asia. Secondly, it will highlight key research on how an entrepreneur builds his/her networks and knowledge, before focusing on exactly how

Japanese SIEEs harness the power of their diaspora networks in this context, illustrated by eight cases from different countries across the region. It concludes with implications for the development of diaspora networks around the world.

Keywords: Networks, Japan, SIEEs, Transnational Entrepreneurs, Diaspora

IEF-18-025: Improving the Entrepreneurial Ecosystem of CCI sector in BSR

Raats, R; Tuisk, T and Prause, G

The Culture and Creative Industries (CCI) sector comprises a multitude of branches such as audio-visual industries, design, art, fashion, media, publishing, games and tourism and it represents an important driving force of the Baltic Sea Region (BSR) economy. Creative economy is one of the most rapidly growing sectors and CCI sector plays a unique role for sustainable economic growth, innovativeness and (youth) employment in EU. Unfortunately, until now CCI sector does not realise its full growth potential since the majority of companies in the CCI are small or medium-sized, and among these are many start-ups and microenterprises with non-permanent employees. Such enterprises frequently lack the capacities and networks needed to access international markets, therefore the possibilities for export of innovative products and services as well as transnational collaboration remain untapped.

It is widely observed that creative industries seem to thrive in clusters (Potts, 2011). In general, businesses platforms in similar markets gain from spatial co-locations. First, because by attracting skilled workers, there are both greater and more benefits for increasing efficiency and productivity through market specialization and scale. Second, the presence of many similar firms creates incentives for other business to gain knowledge and innovation through competitive learning and cooperative exchange among them, and third, clustering provides a physical point for consumers to access the products of the platform. Take for example festivals and trade fairs as clusters formed from event networks that enables greater specialization and productivity in CCIs. The implication is that if there is a cultural agenda already ongoing, CCIs co-location emerges spontaneously under conditions of competition and cooperation, at the same time the demand and supply side factors interact to generate the spatial agglomeration and clustering specialization (Blien and Maier, 2008).

Thereby, it is crucial to distinguish between cultural cluster and creative industries clusters because the two concepts run together. Creative industries clusters are frequently constructed about the extant cultural clusters, nevertheless, in creative clusters the firms are engaged in developing and exploiting competitive advantages through innovation. In contrast, cultural clusters while often vibrant, they tend to be more conservative with respect to identities and traditions. These industries are thus recognized as providing creative innovation outputs with cultural services as spill-over benefits (Potts and Morrison, 2009).

When taking a static view of such agglomerations, we see that they mostly target visitors and supporting structures either on municipal, regional or national level, often reflecting the headlines of regional development policies. Yet there is also a dynamic logic to cluster in terms of sharing experiences, as part of this value is contained in the skilled labour markets within the cluster, where the movement of people between the participating firms drives the learning, knowledge and innovation for new ideas and products (Potts, 2011). Bonetto et al. (2014) pointed out how crucial such a sound dynamic interaction is for cluster performance and prosperous CCI development.

The import role of internationalisation strategies for cluster emerge was highlighted already in several studies (Meier zuKöcker 2009). Internationalisation of CCI clusters matters because its economic rationale is the competitive innovation between co-located firms taking part of this kind of agglomerations. To improve the BSR identity through international commercialization of CCI products, is necessary to apply specific strategies for supporting practical ways to encourage collaborative projects and new partnerships. In order to increase funding possibilities for CCI activities, the clustering procedure has to accomplish and realize the goals of sustainable economic growth, innovativeness and youth employment.

According to Potts et al. (2008), this is particularly so for new, small and start-up creative industry businesses that derive much of their search for opportunities from learning through invited or tacit observation, as well as by tapping into and exploiting the social networks that grow and develop within a cluster context. For Potts, it is "situated creativity".

Several studies in the BSR highlight the diverse and attractive cultural life of the area and the potential of its CCI sector to create and facilitate youth employment and trigger innovative spill-over effects also for other sectors. Cultural diversity of the BSR at the same time makes the industry more complex, while its fragmentation creates more challenges for mobility among participants. An in-depth analysis of nine regions around the Baltic Sea reveals that CCI activities and definitions across the BSR countries do not match, also in some countries there exist funding barriers for newcomers to start exporting. Our results confirm that in-built difficulties of CCI concept show that cultural clusters provide less economic growth to local and regional economy, once creative clusters are more likely to function as drivers of innovation spill-overs into broader economy by developing new ideas, businesses, markets and industries.

The authors are members of the EU project "Creative Ports" that strives to foster growth and employment in the cultural and creative industries (CCI) of the Baltic Sea Region (BSR) by enhancing the internationalisation of support organisations and enterprises (Creative Ports 2019). The paper presents the first results of the "Creative Ports" project by giving an inside view into the existing CCI clusters in the BSR together with their entrepreneurial ecosystems and the links between them. The research is based on primary survey data, expert interviews and desktop research and identifies the most effective support services as well as their gaps for CCI in BSR to access to foreign markets.

Key words: International is at ion, cluster building, CCI sector, Baltic Sea Region

$IEF-18-015: Liminality Forging Counter-Narratives in Refugee \, Nascent \, Entrepreneuring \, Advanced \, Advanc$

Iannone, R

This paper draws upon doctoral research undertaken with 40 nascent entrepreneurs (2017-ongoing) in a central European country¹ and examines qualitative data gathered through interviews with nascent entrepreneurs, key figures² in the entrepreneurial ecosystem, participant observations at entrepreneurial events and in everyday entrepreneuring (Steyaert, 2007; Rindova, Barry, &Ketchen, 2009), as well as public documents (e.g. policy, news articles, publications by non-governmental organisations). Four nascent entrepreneurs are being followed through participant observations, re-interviewed throughout a 16-24 month period (two females and two males), and the researcher is also attending regular entrepreneurship meetups³ organised by a non-governmental stakeholder, where groups of 15-25⁴ nascent

entrepreneurs⁵ gather to share knowledge and network (18 months thus far, by-monthly on average).

Nascent entrepreneurs with a refugee background have shared their stories of of this study, in their quest towards inclusion, independence and full participation in the new society in which they live, and in their pursuit of a livelihood they self-describe as "worth". Interviews with them consist of two parts: life history interviews (Mandelbaum, 1982) that take into account pre-flight biographies, including personal, educational and professional experiences; and, thematic, semi-structured interviews (Merriam, 2009) that especially explore the relational aspects of their entrepreneurial processes (i.e. social capital formation in light of apaucity intangible capital, such as financing and other assets, for their start-ups).

From the narratives shared, data triangulation (Merriam, 2009) is continually being undertaken in order to uncover aspects and circumstances of agreement and points of divergence. Relatively early on in the data collection process, I, as the researcher, began to question the extent to which the nascent entrepreneurs were sharing an interpreted or rehearsed history that hinged more towards symbolic or "messianistic visions" (Steyaert, 2010), and also, if there were intentional omissions made so as to uphold a socially constructed—andacceptable—iconicpersonalandprocessofentrepreneuring. Sometimes, I would close an interview with many questions left (and no further time) to clarify about timelines, capital raised, relationships that oiled processes, etc., even relating to the nationalityofinterviewees. Therewasagrandnarrative emerging that echoed the ideological "entrepreneur-hero" (Heilbrunn & Iannone, 2019), where the "entrepreneur is hailed as a cultural hero and self-employment has become an idealized aspiration—combining freedom and independence, wealth and hard work, while creating added value for the economy and society" (ibid., p.3).

¹The researcher has chosen to keep the country nameless so as to add an extra layer of anonymity for participants of the study.

² Key figures are typically nationals who work in formal institutions such as government offices or non- governmental agencies. They have been identified as "helping" individuals to the entrepreneurial processes of the study's participating nascent entrepreneurs.

³These meetups consist of presentations and open discussions between nascent entrepreneurs and stakeholders in the entrepreneurial ecosystem. A typical format is that over lunch (prepared by a nascent entrepreneur with a refugee background who might be practicing catering skills), an entrepreneur (who has a refugee background and a newly running business) will present to an audience of nascent entrepreneurs (who also have a refugee background) and key stakeholders, such as governmental and non-governmental actors.

 $^{^4}$ Attendance changes in terms of numbers as well as attendees.

⁵All with a refugee background.

Because the network of nascent entrepreneurs with a refugee background is relatively small and interconnected in the data collection space, I was able to amass several unintentionally revealed discrepancies to both the life histories and entrepreneuring interview data. Essentially, some participants and stakeholders spoke of others I had interviewed without me having revealed to either that they were both (possibly) participants in the ongoing study. Through informal conversations, face-to-face and over the telephone, written chats (e.g. Whats App) as well as through semi-structured interviews, it became clear that there could be several versions to several of the study's participating nascent entrepreneurs' past and present, leading me to more deeply question why?

Due to the vulnerable position asylum seekers find themselves in ', it is fair to accept that sensitivepartsoftheirhistorieswillremainhiddenfromaninterviewandlikelyfromallwhomare not closely associated with the individual. However, omissions seem to have run more deeply. It became noticeable that some disclosed 'help' from native key figures, without fully disclosing the nature of the relationship between the 'helper' and the nascentent repreneur. Three examples standout.

In one entrepreneuring tale, the story is told that the entrepreneur⁷ was able to raise a significant amount of financial capital (< 100,000 euro) for the restaurant he opened from a privateinvestorwhowantedto'help',followingaseriesofdiningexperiencestotheowner's prepared food (over a period of 1.5-2 years).

Importantly, the restaurant owner did not recount any educational or professional history of food service accumulated from his country of origin, meaning that his food skills must have been honed from home-cooking. He described his relationship with the investor as purely coincidental and business-related, mentioning that they forged a friendship accidentally and then strengthened it when she would invite him to cook for her private parties and eventually, for her office parties. Then, leading from this, the participant narrated of his hard work, dedication, fairness, business acumen, and the like, attributing his 'luck' to All ah, yet taking ownership of his achievements, and every step taken towards the opening and success of his restaurant. Following the investment tale, the rest of the interview as well as future discussions omitted any mention of the female investor. Was this 'good-friend-turned-business-partner' out of the entrepreneurial process and hislife?

⁶ In the country's context, asylum seekers are awaiting a decision on their request for humanitarian protection and thus, face precarious conditions affecting all aspects of their lives. Once bestowed 'refugee status' individuals are granted permanent residency and thus, are less vulnerable and can benefit from social services, including labour market assistance in the form of welfare and job-seeking support.

⁷Resident of the country with refugee benefits and running a restaurant for less than one year at the time of the interview.

Casting a different quality to this entrepreneurial process, another participant to the study spokeofthisrestaurantowner, explaining how his own process differed from the other "took advantage of a rich woman who was in love with him", rather than 'was able to leverage from a business-savvy investor'. I probed to ask how he could be sure of his own version of another man's entrepreneurial process and he answered that "it was well known" by the (refugee) entrepreneurial community. And, he added that the restaurant owner does not want others to capitalise from this woman in the way that he did—out rightly speaking of an avarice and covetous ness over the social capital.

In a second tale, a veterinarian explained that he was able to raise his financial capital from the bank, despite having no credit history (due to his refugee status) and no financial capital of his own, saying "the bank perceived him as low risk—they were investing in a licensed professional with recognised degrees who had also worked in a veterinarian's office for two years". Yet, as I probed him for clarification, based on my own unsuccessful experiences in trying to access bank loans in the country and using his 'low risk' argument (I have 12 years of European work experience am educated in Europe, also pursuing a PhD), he reluctantly revealed that his "lifepartner", who is also now abusiness partner and an ative of the country with a family history of wealth, helped him secure a large loan for the start-up, close to 200,000 euros.

In a third instance, there is another restaurant in the capital city that opened in 2018 and is scheduled to multiply to three locations within the next 12-18 months, whose manager tells the tale to all (i.e. not just me, as an interviewer) that he owns shares in the company. Yet, when conducting a search through the country's business registration database, only two natives are listed as co-owners. The 'nascent entrepreneur's' name does not appear, meaning, he is—perhaps a managing, but nevertheless—an employee. This restaurant's openingwashighlypublicised in the media and the manager, whom linterviewed as an ascent entrepreneur, participated in several public interviews. His name and image can be found in dozenso flocal and national articles. And, despite himmaintaining the position that he is partowner of the restaurant(s), the refugee entrepreneurship ecosystem's actors know that is currently false. Asking him directly about the inconsistency is tricky and asking others about it fuels speculation and gossip.

However, what all three—among other—stories demonstrate is a personal pledge towards the entrepreneurial-hero persona, the iconic ideal that is celebrated the world over. Qualitativemethodteachesusthatinterviews are imperfect, and that what participants share is a story, "and not 'true stories' either, if by Truthismeant' objective truth' (Miller 2000,

p. 15 quoted in Randall & Phoenix, 2009, p. 128). "It is not 'the facts' that they are conveying tousinsomedirect,unmediated manner. Rather, it is the interpretations of such facts as they have chosen to recount. Another way of putting the point is that it is not their history we are hearing, but their story (Miller, 2000, p. 19) – some portion or version of the underlying narrative they have been telling themselves inside their minds about who they are, where they have come from and where they are headed" (Randall & Phoenix, 2009, p. 130).

There is a dearth of knowledge on both counter-narratives in entrepreneurship studies and refugeeentrepreneurshipstudiesingeneral. Assuch, the current paperaims to contribute to methodological distinctions in qualitative studies in entrepreneurship and with vulnerable populations, and will argue that both the liminality (Garcia-Lorenzo, Donnelly, Sell-Trujillo & Imas, 2018) of the entrepreneurial process and the ideological under currents of the heroentrepreneur within the national setting are important influencers to be taken into account while analysing qualitative data—whatever the overarching theoretical framing.

Parallel Session 6: Social Innovation, Public and Social Good

IEF-18-001: District heating systems and citizen engagement in Sweden, Denmark and Germany

Su-Hyun Bergand Jay Mitra



We follow citizen engagement and shared knowledge creation approach (Weisenfeld and Hauerwaas 2018) and explore the ecosystems of district heating and citizen engagement in Sweden, Denmark and Germany. The study structure considers the market, technical, institutional and user contexts. The fundamental idea of district heating is 'to use local fuel or heat resources that would otherwise be wasted, in order to satisfy local customer demands for heating, by using a heat distribution network of pipes as a local market place (Frederiksen and Werner 2013)'. Essentially, district heating systems make use of heat produced in central locations and distribute it through pipelines to a large number of end users. In this way heat, that has no or very low value in one place, e.g. industrial surplus heat, can be transformed to high value, in places where there is a high demand for heat, such as small towns or large urban communities.

We examine six global case studies of varied citizen entrepreneurial approaches to district heating systems – Stockholm Exergi and Valla Torg in Sweden, VEKS and AlbertslundForsyning in Denmark, and Frankfurt Mainova and Stadtwerke Flensburg in Germany. We use multiple qualitative data generation such as 1) semi-structured in-depth interviews with citizen initiatives, energy suppliers, policy makers and researchers, 2) group interviews with government officials, engineers and investors, 3) site visitings on CHP plants in six cities, and 4) survey data of stakeholders.

We find that engaging citizens as co-designers of the district heating system development facilitate the implementation of integrated solutions with comprehensive learning and introducing new ICT-based energy transition. We conclude with implications for policy development at the community level and suggest a set of propositions for further development as part of future research on the subject.

Key words: district heating, citizen engagement, open district heating, Stockholm, Copenhagen, Frankfurt.

IEF-18-031: Impact and the Challenges of Social Entrepreneurship in the Mental Health Field in India

Madhavi Roy and MeghnaKhatwani

India's National Mental Health Survey conducted by the National Institute of Mental Health and Neuro-Sciences in the year 2016 point out that nearly 150 million Indians suffer from mental health issues, and only about 30 million get the help they need. There are many reasons behind this glaring gap in the mental health field in India: the stigma and lack of awareness surrounding mental health, the scarce availability of affordable services, and the lack of mental health professionals in the country. While anxiety, depression and substance abuse disorders affect over 60 million Indians, the country only has about 1500 psychiatrists and 900 clinical psychologists. Set against this grim backdrop is the slowly growing section of social entrepreneurs in the field of mental health in India who have developed innovative and scalable interventions to get mental health services to the common man, and to raise awareness amongst the masses on the importance of taking care and seeking help for their psychological well-being.

The methodology adopted in the work reported comprises qualitative analysis of interviews conducted on social entrepreneurs in this field, and a thematic analysis of the experiences and challenges faced by these entrepreneurs during the inception of their ventures. As a follow-up, real-world outcomes and impact of their social entrepreneurial innovations have also been delineated. The paper further delves into aspects of technology use and the gaps thereof in the field of mental health, especially in countries such as India, with massive populations and limited resources. The factor of technology as an important dimension in the treatment of mental health issues has been acknowledged in recent literature on the subject as well as in institutional studies. For instance, the Brain and Behaviour Research Foundation points out in their 2018 report that social media and internet applications could go a long way to help people monitor themselves, their symptoms and the level of functioning thereby proving beneficial to mental health treatment. Based upon user reviews, the present study discusses the impact of social entrepreneurships rooted in technology as cost-effective, community-based mental health interventions. The findings of this study shed light on the plethora of challenges faced by social entrepreneurs in the mental health sector in India due to the lack of infrastructure to promote these interventions. At the same time, the entrepreneurs themselves are found to be constantly engaged in innovation despite resource limitations and are found to have developed solutions that are both sustainable and transferable onto a larger base. Technology-based social entrepreneurship applications are found to help users build their self-efficacy and resilience.

Keywords: Social Entrepreneurship, Mental Health, India, Technology, Applications

IEF-18-024: Value creation by entrepreneurial groups in cultural industries

Yoshinari. A

Purpose: This paper connects with the idea that entrepreneurship is a collective action undergone by entrepreneurial groups in cultural industries. The purpose of this paper is to examine how individual entrepreneurs obtain comparatively some high evaluations from market critics as they act collectively in cultural industries.

Methodology: To meet the objectives of this investigation, research data has been 113 entrepreneurs have made handmade outdoor knives and belonged to Japan knife guild. The entrepreneurs are evaluated by market critics and compared with other entrepreneurs in their evaluations from domestic and international product reviews. The evaluation period is 22 years from 2003 to 1981, and the evaluation period is the subject of this paper.

Findings: The collected data have been analyzed by using quantitative text analysis. This study has measured interest group influence using quantitative text analysis. An analysis of reviews over a long period of time found that There are two periods: the first and second periods. The first period was a period that some particular entrepreneurs among the 113 entrepreneurs obtained comparatively some higher evaluations from market critics. And second period was a period that a variety of other entrepreneurs obtained comparatively some high evaluations from market critics. In the second period, an entrepreneurial group have influenced individual entrepreneurs.

These results show in the first period, there were entrepreneurs who play a central role in acting collectively in an entrepreneurial group, and when the core entrepreneurs of the group are active in some foreign markets., and the second period, the core entrepreneurs focused on developing young other young entrepreneurs. Therefore, it was found that there are loose apprentices in this group of entrepreneurs in the second period.

Practical implications: Entrepreneurs should value acting collectively. Entrepreneurs should focus on building networks and benefiting and contributing within them.

Originality: By treating entrepreneurs as a group, this study provided a new perspective on the enterprise or research, with two periods in which the group was formed.

Keywords: Entrepreneurial Groups, market critics, product reviews loose apprentices, cultural industries

IEF-18-010: Factors Influencing the Development of Light Engineering Workshop Entrepreneurs in Bangladesh

Islam, N; Chowdhury, T; Medha, K; Samiha, Z; Maliha, M and Hossain, R

Light Engineering Workshops (LEW) in Bangladesh is a very important industry that meets about thirty percent of the total domestic manufacturing and service demands of the country. About 40,000 light engineering workshops or enterprises are found scattered in major cities and towns of Bangladesh. As these workshops are scattered throughout the country, it can be assumed that this industry generates employment in a wider span of areas all over the country. This industry is currently producing nearly 3,900 types of quality machinery, spares parts, and accessories for helping different industrial sectors of Bangladesh. The light engineering industry can mainly be categorized into three types such as, domestic manufacturing, domestic

servicing, and export-oriented manufacturing and the enterprises are comprised of three major groups such as, foundries, machine shops, and repair workshops. Most of the raw materials of this industry are extracted from ship scraps or imported from India, Thailand, Japan, Turkey, Malaysia and China. This industry has been contributing to the growth of other industries namely, food processing, railway, shipping, garments, cement, paper, textile, vehicle spare parts manufacturing, and so on by supplying various types of machineries, spare parts, and repairing services. This industry contributes 2.20 percent to the GDP which is higher than the foreign aid Bangladesh receives every year. Hence, this paper aims at identifying the factors that influence the development of light engineering workshop entrepreneurs in Bangladesh. A sample of 211 entrepreneurs was surveyed using a structured questionnaire. Data were analyzed using the Exploratory Factor Analysis and Multiple Regression Analysis techniques. The results show that the factors influencing the development of light engineering entrepreneurs in Bangladesh are concerned with legal facilities, financial facilities, logistic supports, technical and technological assistance, capital support and training and educational assistance. This study suggests that both government and non-government organizations can help developing light engineering workshop entrepreneurs in Bangladesh by providing stimulatory, supporting and sustaining supports to these enterprises.

Keywords: Light Engineering Workshops, Domestic Manufacturing and Services, Export Oriented, Manufacturing, Technological Support, Financial Support.

18th International Entrepreneurship Forum (IEF) Conference

Time	Session	Room
Monday, 16th December 2019		
10:15 am to 11:00 am	Inauguration	Plenary Hall
11:00 am to 11:15 am	Introduction to the 18th IEF	Plenary Hall
11:15 am to 12:45 pm	Panel Session I : Migration and Transnational Entrepreneurship	Plenary Hall
12:45 pm to 2:00 pm	Lunch	
2:00 pm to 3:30 pm	Parallel sessions on sharing of research paper	Session Halls
4:00 pm to 6:00 pm	Panel Session II: Start-Ups and Social Gains	Plenary Hall
Tuesday, 17th December 2019		
9:30 am to 11:00 am	Panel Session III: Transformative Education and Entrepreneurial Capabilities	Plenary Hall
11:30 am to 1:00 pm	Panel Session IV: Policy, Institutions and Inclusive Entrepreneurship	Plenary Hall
1:00 pm to 2:00 pm	Lunch	
2:00 pm to 3:30 pm	Research writing for referred publications	Lecture Hall
2:00 pm to 3:30 pm	Special session on SME networking	Plenary Hall
4:00 pm to 5:30 pm	Panel Session V:Technology and the Social Mission in Entrepreneurship	Plenary Hall
Wednesday, 18th December 2019		
9:30 am to 11:00 am	Panel Session VI: Gender, Entrepreneurship & Social Transformation	Plenary Hall
11:30 am to 1:00 pm	Concluding Session - Best Paper Awards - Review of Conference - Closing ceremony	
1:00 pm	Closure Lunch	Plenary Hall