

TITLE:

PROSPECTIVE ENTREPRENEURS' PROFILE – A CONCEPTUAL MODEL

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ABSTRACT:

Questions as to why some people become entrepreneurs have interested researchers for Decades. Growth of engineering colleges in India is exponential. Owing to population explosion, technical institutions are bringing out large number of graduates in all faculties. Viswesvaraya Technological University, Belgaum has more than 150 technical institutions spread across the state of Karnataka. It is the responsibility of universities to measure, rank and record student's competencies and skills. It is necessary to continuously inventory students' attitudes, skills and competencies for an entrepreneurial career and build up a database of prospective entrepreneurs. The study helps for Entrepreneurship Trainer Motivators in designing competency-based curriculum for Entrepreneurship Development Programs.

This paper explains technical education scenarios in detail. Polynomial regression models have been fit for growth in number of institutions and also increase in intake and outturn. Gender, location, employment status and related issues are reviewed, emphasizing the need and importance of Continuous student research for outlining prospective entrepreneurs' profile (PEP). Review of research literature has been detailed. As a research proposal, an empirical conceptual model for determination of students' entrepreneurial personality index (SEPI) has been suggested.

Continuous student research as a soil testing exercise, well planned training program as sowing the right seed, along with conducive innovation eco system reap rich harvest in entrepreneurship culture.

KEY WORDS: Student research, Prospective entrepreneurs profile, Competency-based curriculum.

1. INTRODUCTION

“ The combination of entrepreneurship education in schools and colleges, the hassle free flow of venture capital and evolution of good market will give momentum for national growth” – HE Dr. APJ Abdul Kalam, Former President of India.

There are well over 500 million Indians below 15 years of age today. This number is expected to balloon in the foreseeable future as the global population surges to 8 billion perhaps by 2030. The good news is that young population will provide India with abundant human capital. The bad news is that the massive size of India’s young population confronts her with the challenge of providing jobs at a scale unprecedented in human history.

Entrepreneurs of large multinational corporations have had a distinctly important role in shaping today’s process of globalization. Unfortunately, far too many people have not enjoyed the benefits of economic globalization. The global economy is not generating enough decent work for all who want or need it, nor is anyone predicting a scenario where such growth will occur in the foreseeable future. The International Labor Organization (ILO) estimates that 160 million women and men are officially counted as unemployed and another billion or more people are underemployed or working poor. Moreover, 500 million new entrants to the labor force are expected over the next ten years, mostly women and youth.

Entrepreneurship and entrepreneurs have been a rich source of job creation. Historically, individual initiative and social inheritances have played a dominant role in creation of Indian startups. : Can Individual initiative and social inheritances create massive number of jobs that India needs? What else can India do to scale up the number of successful entrepreneurs that she produces every year? How can India help her entrepreneurial ventures survive, grow and thrive?, are the issues that gain importance given India’s requirement for new Jobs in the foreseeable future. (Susan Davis, 2002)

Small businesses make an important contribution to the success of a country’s economy. They are major creators of jobs, they innovate, and they spot and exploit new

opportunities. Soft skills are the keystones to success. Soft skills like leadership, decision-making, conflict resolution, negotiation, communication, creativity and presentation skills are essential for entrepreneurial success and for maximizing human capital in any enterprise. (Prasad Kaipa, 2005)

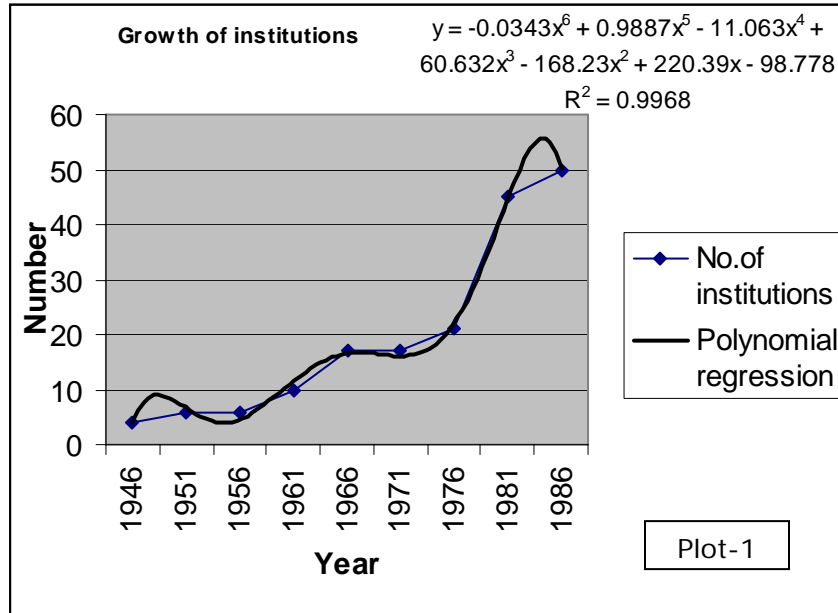
Questions as to why some college-educated professionals choose entrepreneurial careers and others do not remain largely unanswered. Questions as to why some people become entrepreneurs have interested researchers for Decades. Owing to population explosion, universities are bringing out large number of graduates in all faculties. VTU has more than 150 technical institutions spread across the state of Karnataka. It is necessary to continuously inventory students' attitudes, skills and competencies for an entrepreneurial career and build up a database of prospective entrepreneurs.

2. TECHNICAL EDUCATION SCENARIOS

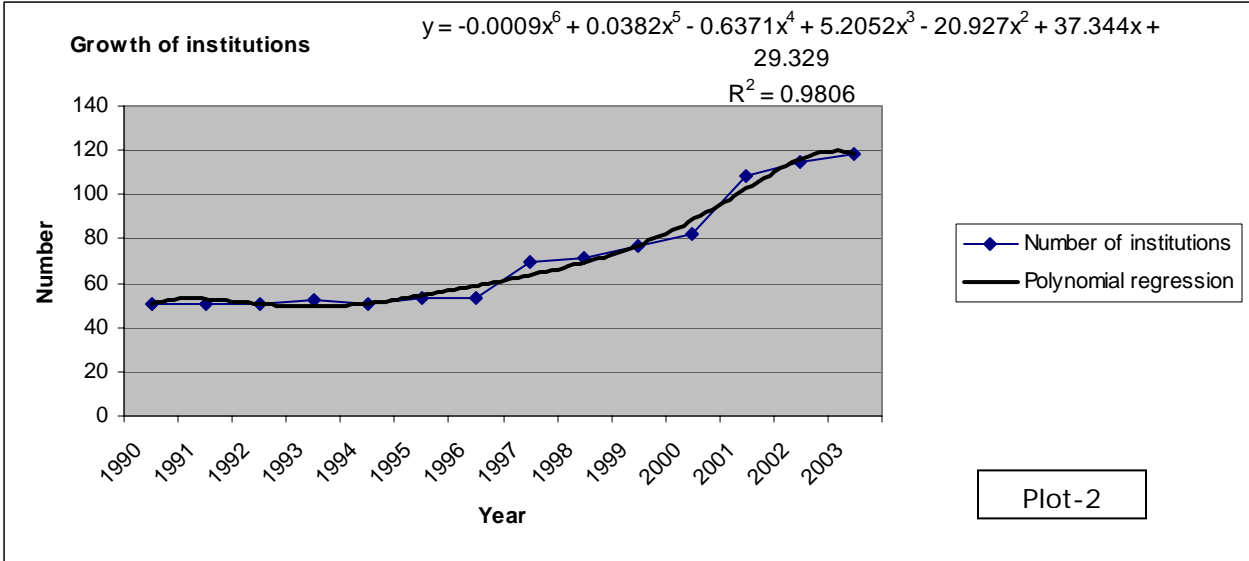
1. Growth of engineering colleges in India is exponential. Karnataka State stands out prominently on the map of education in India due to the large number of institutions imparting technical, management, Hotel management & catering technology (HMCT) and Pharmacy education. It stands presently at 3rd place, next to Maharashtra and Tamil Nadu in terms of total number of technical institutions within the State. An attempt has been made, in the analysis to trace the facilities for technical, management, HMCT and pharmacy education in the State. (Source: <http://nodal.nitk.ac.in>.)

Table-1	
YEAR	NO. OF TECHNICAL INSTITUTIONS
1946	4
1951	6
1956	6
1961	10
1966	17

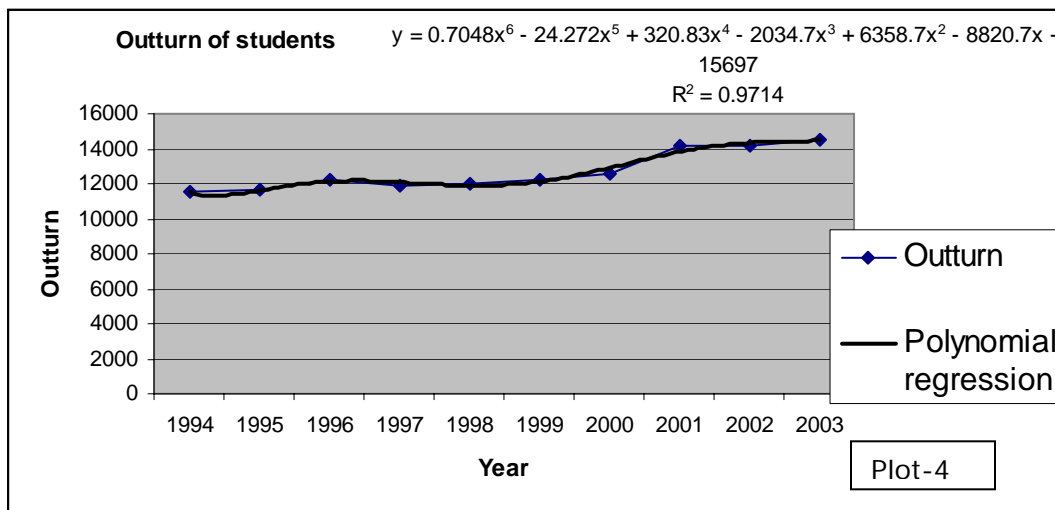
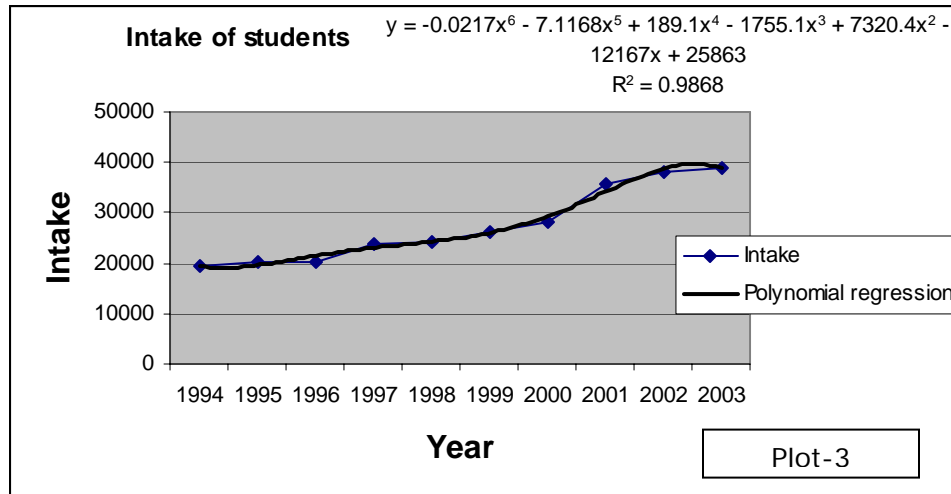
1971	17
1976	21
1981	45
1986	50



YEAR	NO. OF TECHNICAL INSTITUTIONS
1990	51
1991	51
1992	51
1993	52
1994	51
1995	53
1996	53
1997	70
1998	71
1999	77
2000	82
2001	108
2002	115
2003	118



Tale-3		
YEAR	INTAKE	OUTTURN
1994	19331	11494
1995	20158	11616
1996	20302	12182
1997	23801	11932
1998	24384	12036
1999	26159	12259
2000	27996	12526
2001	35591	14173
2002	38057	14195
2003	38897	14550



Owing to population explosion, there has been a rigor of academic activities in educational institutions leading to large intake and outturn of graduates in various disciplines.

Above tables and plots show a polynomial regression model (with high R-squared values) for growth in number of institutions and also the intake and outturn of graduates. The history of technical education in India has a long journey with evolutions and revolutions. The decade between 1994 and 2003 has seen many significant developments, and made a direct impact on the university system in India. In the wake of economic liberalization during the 1990s, significant number of institutions of higher learning has also been promoted by the private sector. There is a

noticeable increase in the number of technical institutions and so also in the intake and the outturn of graduates.

The present Annual Technical Manpower Review (ATMR, Source: <http://nodal.nitk.ac.in>.) is based on data gathered from graduates, diploma holders and post-graduates passed out in the year 2003 from the technical, management, Hotel Management & Catering Technology (HMCT) and Pharmacy educational institutions located in the Karnataka State.

Topics of review:

a) Area of Residential Location: Among the degree holders, it is observed that 77 per cent belonged to urban area and 23 per cent belonged to rural area with respect to the location of their residence. The ratio of urban to rural area with respect to the location of their residence was 1: 0.31. It shows that the students who join for degree course from urban area is more than three times to the number of students who come from rural area.

b) Classification of Social Categories of passed out in different Levels: Among the graduates, 77% belong to general category, 5% SC (Scheduled Caste), 2% per cent ST (Scheduled Tribe) and 16% OBC (Other Backward Caste). The overall ratio of general to SC, ST and OBC together was 1: 0.30. In branches such as Automobile, Ceramic & Cement, Polymer Technology, Transportation and Printing Technology there was no representation by the reserved category students.

c) Gender wise Analysis: It is seen that among the graduates, 73 percent were males and 27 per cent were females. The overall ratio of male to female was 1: 0.38. Discipline wise, this ratio was different for certain branches. In case of Automobile and Mining there were no girl students. In Architecture, Bio Medical Engineering, Printing Technology, and Environmental Engineering branches the girl students were more than the boys. The percentage of girl students was significant only in selected branches such as Information Science, Chemical Engineering, Computer Science, Electrical & Electronics, Polymer, and Textile Engineering.

d) Activity Status of Fresher as on 30th June 2005: It is seen that about 67 per cent of the graduates were having a paid job in India. About 1 per cent of the graduates were self-employed. Nearly 9 per cent were continuing their studies in India and 5 per cent in abroad. About 1 per cent of the total graduates were undergoing apprenticeship training. About 1 per cent of the total outturn was unemployed and interested in self-employment. Nearly 13 per cent were unemployed even after 2 years of passing the examination and almost all were looking for job. More than 70 per cent of graduates were having a paid job in disciplines such as Ceramic & cement, Automobile, Computer Science, Biomedical/ Medical Electronics, Information Science, Metallurgy, Mining, Polymer, Printing, and Transportation. Unemployed was considerable in branches like Environmental (22%) and Civil Engg.(16%).

e) Migration Associated With Employment: Among the engineering graduates, about 77 per cent were employed within the State, while 21 per cent were employed outside the State and nearly 2 per cent were employed in abroad for first paid employment. In certain branches like Biomedical / Medical Electronics, Computer Science & Engg, Electronics & Communication Engg., Instrumentation Technology, Information Science, Polymer Technology, Textile Technology, Telecommunication and Transportation more than 80 per cent were employed within the State. In branches such as Ceramic & Cement (100%), Agriculture Technology (74%), Mining (83 %), and Metallurgy (75%) a considerable percentage of students went outside the state for employment.

f) Salary Structure: Average emoluments of fresh engineers was Rs.14, 652/- per month during their first paid employment when compared to Rs. 11, 828/- of previous year. During the period of one year there was an increase of nearly 24 per cent. The highest average emoluments were of those who secured job between 4 to 6 months (Rs. 15,183). Discipline wise, the emoluments was highest in Information Science (Rs.19, 865), Computer Science (Rs.17,976), Metallurgy (Rs.17,938), Biomedical/Medical Electronics (Rs.17,080), and Electronics & Communication (Rs.15,590), while the lowest was in Transportation (Rs.6,500), Ceramic & Cement (Rs.6,500), and Textile Technology (Rs.6,793).

g) Main functions: It is observed that 37 per cent were engaged in software development, 10 per cent in designing/planning, 5 per cent in technical supervision, 7 per cent in production/ operation, 7 per cent each in research & development, 5 per cent in undergoing training, and 6 per cent in teaching

h) Waiting Period For Getting First Employment: Nearly 44 per cent of the graduates got first paid employment in less than 3 months and 15 per cent in 4 to 6 months. About 8 per cent of the Graduates get first paid employment of 22-24 months. Discipline wise in certain branches like Agriculture Technology 79 per cent, Textile Technology 67 percent, and Printing 77 percent got employment in less than 3 months.

i) Pattern of Absorption: At graduate level, 70 per cent obtained first paid employment within first year, nearly 15 per cent in second year, 14 per cent in third year and less than 1 percent took more than 3 years. In Transportation (100%), Ceramic & Cement (100%), Architecture (85%), Information Science (78%), Printing (77%), and Polymer (75%) were the highest absorption percentage to get employment within the first year after passing

j) Size of Unemployment: The total graduates of 2003 batch who would be absorbed during 2007 are estimated to be 32,563. The total outturn (available for job) increased from 2005 to 2006 by 542. The total size of unemployment at the end of 2007 is estimated to remain at 17,123, which exclude the outturn of 2007. The size of unemployment would be rather high in branches like Electronics & Communication (4257), Mechanical (2896), Computer Science (2780), Electrical & Electronics (1473), Information Science (1435), Civil Engineering (1118), and Telecommunication (844).

k) Analysis of Unemployment Data - Excess of Supply over Demand: Excess in branches like Electronics & Communication (4855), Computer Science (3459), Mechanical (3272), Electrical & Electronics (2209), Telecommunication (964) and Civil Engineering (1230).

3. RATIONALE FOR STUDY:

Institutions take pride in claiming 100% pass percentage along with number of distinctions and ranks. IT and other corporates are recruiting students of engineering at the end of their pre-final year. Along with the academic grades, these skills assessment companies and campus recruitment agencies are measuring candidates' creativity, innovation and soft skills during their multiple hurdle selection process. While recruiting, over and above their academic credits scored, companies measure student's employability on certain criteria. Soft skills are the keystones to success. Soft skills like leadership, decision-making, conflict resolution, negotiation, communication, creativity and presentation skills are essential for entrepreneurial success and for maximizing human capital in any enterprise. Soft Skills contribute to Leading People, Managing Activities, Managing Resources, and Managing Information. Leadership is the key. In other words, good leadership presupposes refined 'soft skills.' It is these intrapreneurial skills that help students in their professional career.

Academic campuses as nurseries of creativity have to promote, foster and nurture technical entrepreneurship. The measurement and recording of students' creative and innovative talent is the responsibility of an university. This database of information on students soft skills strengths is the real wealth of an university. In striving for 100% placements every year, some percentage have to be towards self-employment.

It is the responsibility of universities to measure, rank and record student's competencies and skills. The study helps for Entrepreneurship Trainer Motivators in designing courses for EDP.

4. BACK GROUND OF RESEARCH

Entrepreneurship is important because it leads to increased economic efficiencies, brings innovation to market, creates new jobs, and sustains employment levels (Shane & Venkataraman, 2000). However, despite decades of research, scholars currently have only a limited understanding of the factors and decision processes that lead an individual to become an entrepreneur (Markman, Balkin, & Baron, 2002).

Researchers have begun to critically address the processes surrounding venture creation, small business development, innovation, creativity, and intrapreneurship-entrepreneurship within large organizations. Of particular interest to practitioners has been the means through which entrepreneurship is cultivated and its historically uneven distribution throughout demographic segments of society. Specifically, questions as to why some college-educated business professionals choose entrepreneurial careers and others do not remain largely unanswered. Venture capitalists have traditionally placed more emphasis on the personal characteristics of entrepreneurs than on other factors in assessing new ventures (Shepherd, 1999). Moreover, recent research has confirmed that, in the business start-up process, human resources are more important than environmental factors (Rotefoss and Kolvereid, 2005).

It is well established that young people whose families own their own businesses are more likely to intend to start their own business (Krueger, 1993). An understanding of the factors that influence and shape individuals' intentions to start a business is important if governments are successfully to develop policies and programmes to encourage entrepreneurship and an entrepreneurial culture.

A vast literature studying the entrepreneurial personality has found that certain traits seem to be dominant in case of entrepreneurs. They are action oriented and highly motivated individuals who take risks to achieve goals. Such a capability is the outcome of certain personality traits in an individual which are acquired by training and practice.

An entrepreneur possesses distinct qualities like risk dealing, goal setting, decision making, information seeking, problem solving, time planning and maintaining good interpersonal relations in addition to other set of special characteristics like innovativeness, creativity, communication skills, high level of confidence, perception, team building, trust worthiness, hard work, consistency and analytical strengths (Motilal Dash, Umesh Dhyani, 2005). These soft skills are smart skills a person should acquire in order to be successful.

5. LITERATURE REVIEW

Early research into the factors that influence individuals' entrepreneurial activities focused on personality traits such as the need for achievement (McClelland, 1961), locus

of control, risk-taking propensity (Brockhaus, 1980) and tolerance of ambiguity (Schere, 1982).

The GEM report defines entrepreneur activity with an extremely broad definition. However, there is no clear, consistent use of entrepreneur in the research. At least two scales, the Entrepreneurial Quotient (EQ) and the Entrepreneurial Attitude Orientation (EAO) (Huefner et al. 1996) have been developed to identify potential entrepreneurs.

While the GEM studies operate at the global level, there have been several studies that deal with entrepreneurship at more narrow level of analysis. Fleming (1996) looked at the impact of entrepreneurial education in Ireland over a four-year span. Characteristics such as "attitudes toward entrepreneurship" and "personal and family background" were evaluated. The results found that the students surveyed moved slightly toward a more entrepreneurial attitude and the levels of self-employment had increased.

Abbey's (2002) cross-cultural study on motivation for entrepreneurship found significant differences between two cultures, one defined as individualist and the other collectivist, on desire for independence and need for economic security.

Herron and Sapienza (1992, p. 49) stated, "Because motivation plays an important part in the creation of new organizations, theories of organizational creation that fail to address this notion are incomplete". Kuratko (1997) reported that the lack of empirical research into entrepreneurial motivation was still evident. From an organizational psychology perspective, theories of motivation have progressed from static, content-oriented theories to dynamic, process-oriented theories, a framework suggested by Campbell (1970). Content theories search for the specific things within individuals that initiate, direct, sustain, and stop behavior. Process theories explain how behavior is initiated, directed, sustained, and stopped. For over 30 years, psychologists have accepted Mischel's (1968) explanation that behavior results from the interaction between the person and the situation, a dynamic process (Shaver and Scott, 1991). According to Landy (1989), by the mid-1960s process models were preferred, beginning with Vroom's (1964) expectancy theory. Locke's supplanted this (1968) goal-setting theory and later by Bandura's (1977) self-efficacy theory.

McClelland (1961), who argued that a high need for achievement was a personality trait common to entrepreneurs, a great deal of research has focused on characteristics of

entrepreneurs (Churchill and Lewis, 1986; Shaver and Scott, 1991). In spite of the large number of studies examining personality traits of entrepreneurs (Churchill and Lewis, 1986; Timmons, 1999), results are still mixed and inconclusive (Herron and Sapienza, 1992; Shaver and Scott, 1991).

Gilad and Levine (1986) proposed two closely related explanations of entrepreneurial motivation, the “push” theory and the “pull” theory. The “push” theory argues that individuals are pushed into entrepreneurship by negative external forces, such as job dissatisfaction, difficulty finding employment, insufficient salary, or inflexible work schedule. The “pull” theory contends that individuals are attracted into entrepreneurial activities seeking independence, self-fulfillment, wealth, and other desirable outcomes.

Research (Keeble 1992; Orhan and Scott, 2001) indicates that individuals become entrepreneurs primarily due to “pull” factors, rather than “push” factors.

Bird and Jelinek (1988) mentioned the need for a behavioral, process-oriented model of entrepreneurship. Needs for frameworks grounded in well-established theory are regularly heard (Jelinek and Litterer, 1994; MacMillan and Kartz, 1992).

The Vroom model explains that an individual will choose among alternative behaviors by considering which behavior will lead to the most desirable outcome. Motivation is conceptualized as the product of expectancy, instrumentality, and valence. Expectancy is equivalent to measures such as perceived feasibility and self-efficacy used in other models predicting entrepreneurial intentions.

Mone (1994) discussed two measures of self-efficacy, process and outcome. The former refers to people’s confidence to successfully perform a task, whereas the latter refers to people’s confidence to achieve an outcome.

Douglas and Shepherd (1999, p. 231), using anticipated risk as a predictor, stated, “The more tolerant one is of risk bearing, the greater incentive to be self-employed.”

Bird (1988), emphasizing the importance of entrepreneurial intentions as a precursor to new venture creation, called for development of a behavioral, process-oriented model of entrepreneurship. In a theoretical discussion of the psychology of new venture creation, Shaver and Scott (1991) emphasized that new ventures emerge because of deliberate choices made by individuals; Can I make a difference? (i.e. feasibility) and Do I want to? (i.e. desirability).

The most widely and successfully applied theories for predicting behavioral intention is the theories of reasoned action (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975) and planned behavior (Ajzen, 1988, 1991). The theory of planned behavior (TPB) is essentially an extension of the theory of reasoned action (TRA) that includes measures of control belief and perceived behavioral control. The theory of planned behavior (Ajzen, 1985) was developed to account for the process by which individuals decide on, and engage in, a particular course of action. Kolvereid (1996) demonstrated that the Ajzen (1991) framework is a solid model for explaining or predicting entrepreneurial intentions. Ajzen (1991) states that a person's intention is the immediate antecedent of behavior.

Earlier studies focusing on entrepreneurship have been devoted to evaluating the extent to which a person's traits and personality characteristics (e.g., internal vs. external locus of control, extraversion vs. introversion, achievement motivation, affiliation needs) lead to entrepreneurial actions (Lumpkin & Dess, 1996; Ahmed, 1985; Begley & Boyd, 1987; Miner, et al., 1989; Lumpkin & Erdogan, 1999).

Using a sample of students and small business executives, Chen, (1998) controlled for variables such as age, gender, educational level, the number of entrepreneurial friends and relatives, and the number of entrepreneurial courses that they had taken.

On similar lines, Chandler & Jensen (1992) completed a study in which individuals were queried about their competence in executing skills necessary for effectiveness in not only entrepreneurial, but also managerial, and technical-functional roles.

It is opined that individuals might be more inclined to pursue entrepreneurship if they believed that they possessed the necessary skills to function in such an environment. (Chen, et al., 1998; Golden & Cooke, 1998, Boyd & Vozikis, 1994; Krueger & Brazeal, 1994).

An overview of research literature on student research for entrepreneurial career, intentions, motivations, competencies, soft skills and related areas have been listed below:

Entrepreneurial intentions

Roger W Hut, Barry L Van Hook (1986) have made a comparative analysis on students planning entrepreneurial careers and others. Gerald E Hills, & Harold Welch, (1987) has made a study on entrepreneurship behavior intentions, student independence, their

characteristics and experiences. Tkachev A.; Kolvereid L (1999) has made a study on Self-employment intentions among Russian students. Hao Zhao, Scott E. Seibert, Gerald E. Hills, (2005) , have studied the Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions. C Dunn and H Wharton (2004) have worked on The Decision Making Process of Students Entering Higher National Diploma. Gerry Segal, Dan Borgia & Jerry Schoenfeld (2005) have studied the motivation to become an entrepreneur. Jean Michel Degeorge, Alain Fayolle (2008) have debated and discussed on 'is entrepreneurial intention stable through time? Keith M. Hmieleski, and Andrew C. Corbett (2006) have examined Proclivity for Improvisation as a Predictor of Entrepreneurial Intentions.

Influence of demographics

Jeffrey C Shuman, John A Seeger, & Nicholas C Tebagy, (1987) have studied the effect of educational background on entrepreneurial activity. Peter Rosa, Jean Cachoss (1989) has made a comparative study on entrepreneurial attitudes of graduates from small business background and those from employee background.

Stein Kristiansen & Nurul Indarti (2004) has made comparative study on entrepreneurial intention among Indonesian and Norwegian students. Hinz T.; Jungbauer-Gans M. (1999) has made a study on starting a business after unemployment, their characteristics and chances of success (This is an empirical evidence from a regional German labor market). L. Louw, S.M. van Eeden, J.K. Bosch, D.J.L. Venter (2003) have studied Entrepreneurial traits of undergraduate students at selected South African tertiary institutions. Fiona Wilson, Jill Kickul, Deborah Marlino, (2007) have studied Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions and its implications for Entrepreneurship Education.

Entrepreneurship education

Michael G Scott (1988) has made a study on the UK experience of encouraging graduate enterprise and some aspects of long term supply of entrepreneurs. David A Kirby & David C Mullen (1990) have presented the results of an experiment on developing enterprise in graduates. Lena lee & Poh-Kam Wong, (2003) have made a study on attitude towards entrepreneurship education and new venture creation. Laukkanen M.

(2000) has discussed exploring alternative approaches in high-level entrepreneurship education for creating micro mechanisms for endogenous regional growth.

Christopher J Creed, Eric M Suuberg and Gregory P Crawford (2005) have worked on Engineering Entrepreneurship, and discussed an Example of a Paradigm Shift in Engineering Education. Andy Adcroft, Spinder Dhaliwal and Robert Willis, (2006) have questioned, Is there really a value in entrepreneurship education? Michael C. Brennan, Pauric McGowan, (2006) have discussed Academic entrepreneurship through an exploratory case study. Ori Eyal, Dan E. Inbar (2003) has examined developing a public school entrepreneurship inventory, through theoretical conceptualization and empirical examination. Richard D. Teach, Robert G. Schwartz (2003) has studied University student e-tailing through a marketing study at the entrepreneurship interface. Claire M. Leitch, Richard T. Harrison (1999) has worked on a process model for entrepreneurship education and development. Ove C. Hansemark (1998) has studied the effects of an entrepreneurship programme on Need for Achievement and Locus of Control of reinforcement. Camille Carrier, (2008) has given a prospective map, a new method for helping future entrepreneurs in expanding their initial business ideas. Davide Moro, Alberto Poli, Chiara Bernard (2004) have discussed on Training the future entrepreneur. Nicole E. Peterman and Jessica Kennedy, (2003) have studied Enterprise Education and its role in influencing Students' Perceptions of Entrepreneurship.

Indian context

Dr.M.K.Sridhar, (2003) has conducted a study on Entrepreneurship awareness among student and non-student youth of Bangalore and Dharwad districts of Karnataka. Narendra C. Bhandari, (2006) has worked on Intention for Entrepreneurship among Students in India. R Krishnaveni (2007) has analyzed Self-efficacy and Professional Competencies among Management Students. M S Balaji (2007) has studied Perception of Students towards Group Work and Group Management Projects. Dhruvad Mathur (2004) has developed Technical and Entrepreneurial Research Information System. He has suggested an applied e-model for Sustainable Entrepreneurship Development. D Nagayya (2005) has studied Perspectives of Entrepreneurship Development and the role of STEPs, Innovation and Business Incubators. Naresh Singh and Ashish Mitra (2007) have studied

Career Aspirations of Management Students with Special Reference to Entrepreneurship as Career.

6. PROBLEM STATEMENT- RESEARCH QUESTIONS:

1. What are the entrepreneurial competencies, perception, orientation, Self-efficacy and self-employment intentions of pre-final final year students of VTU?
2. How to profile prospective entrepreneurs?
3. What is the over all entrepreneurial personality measure for students?

7. RESEARCH OBJECTIVES:

The following specific objectives were formulated to guide in the development of the research instrument.

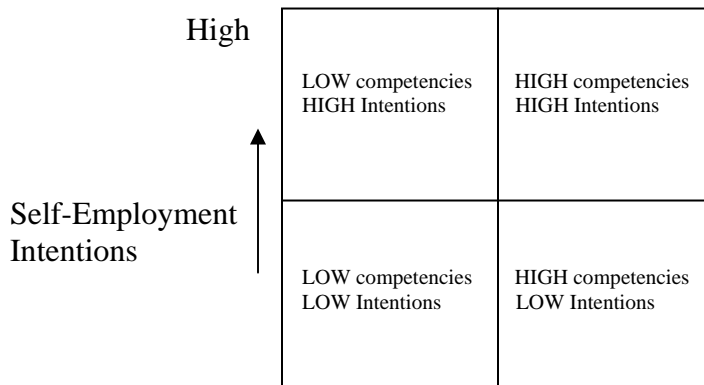
1. To evaluate students with respect to
 - Entrepreneurial competencies.
 - Entrepreneurial perception.
 - Entrepreneurial orientation.
 - Entrepreneurial self-efficacy.
 - Self-employment intentions.
2. To obtain Prospective entrepreneurs' profile (PEP) in the form of a grid showing variation of students' self-employment intentions against their competencies, perception, orientation and self-efficacy, highlighting the skills/competencies necessary to be trained.
3. To develop an overall scale for determining Students' entrepreneurial personality Index. (SEPI)

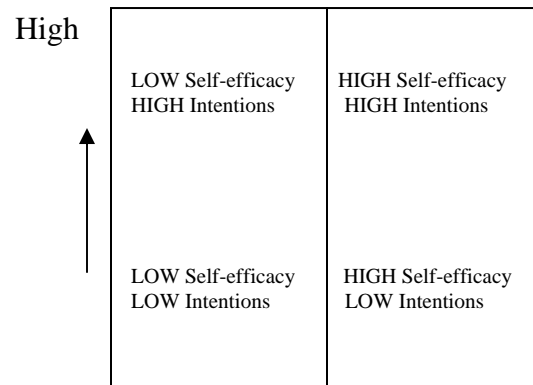
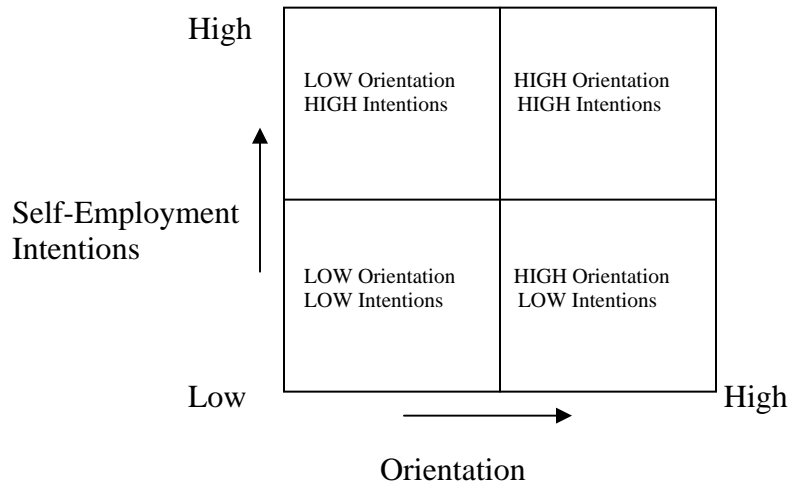
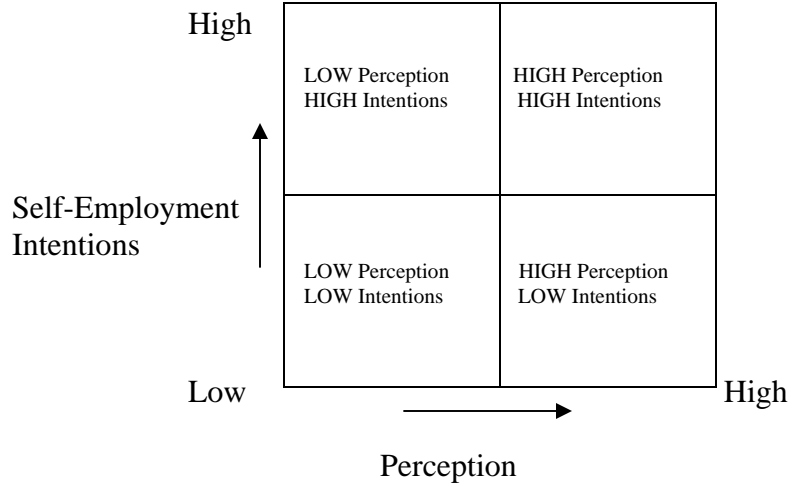
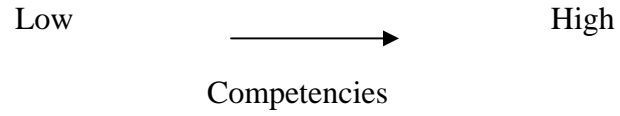
The overall aim of this study is to assess competencies, perceptions, orientation, self-efficacy and intentions of prospective entrepreneurs of the pre final year students of engineering colleges of VTU and obtain their profile, so as to support in designing competency based curriculum (CBC) & modules to be trained during their final year.

8. TESTS FOR MEASURING CONSTRUCTS:

SL.NO	TEST	CONSTRUCTS
1	Self-rating questionnaire	13 competencies: Initiative, sees and acts on opportunities, persistence, Information seeking, Concern for High quality of work, commitment to work contract, efficiency orientation, Systematic planning, Problem solving, Self-confidence, assertiveness, Persuasion, Use of influence strategy.
2	Entrepreneurial perception	Entrepreneurial lifestyle, education and ability, acceptance of risk, Reputation of entrepreneurs and aspiration to become an entrepreneur.
3	Entrepreneurship orientation inventory	Internal to external locus of control ratio.
4	Entrepreneurship self-efficacy scale	Developing new product and market opportunities, Building an innovative environment, Initiating investor relationships, Defining core purpose, Coping with unexpected challenges, Developing critical human resources
5	Self-employment intentions	Time to start, business areas of interests

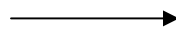
9. FRAME WORK OF ANALYSIS: Students' entrepreneurial personality Index (SEPI); the scores obtained in above tests are prorated, brought down to a common base and an overall index is developed to get a quantitative measure of students' entrepreneurial Personality. With self-employment intentions as the dependent variable, the following grid analysis is appropriate to identify training needs.





Self-Employment
Intentions

Low



High

Self-efficacy

Prospective entrepreneurs' profile (PEP): A database consisting of demographic details along with scores on the above entrepreneurial skills constructs are designed for each student during his pre-final year of engineering. Based on his scores and index, skills necessary to be trained are identified; students are classified for intensive training in different skills during their final year.

Competency based curriculum (CBC): From the above grids, Based on the requirements of training, a competency based curriculum for entrepreneurship can be custom designed which would be more effective than a regular/usual common training modules.

10. CONCLUSION:

This paper explains technical education scenarios in detail, growth models for increase in number of technical institutions, intake and outturn have been constructed, emphasizing the need and importance of Continuous student research for outlining prospective entrepreneurs' profile (PEP). As a research proposal, an empirical conceptual model for determination of students' entrepreneurial personality index (SEPI) to design competency-based curriculum for entrepreneurship education, has been suggested.

Continuous student research as a soil testing exercise, well planned training program as sowing the right seed, along with conducive innovation eco system reap rich harvest in entrepreneurship culture

11. REFERENCES:

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