

An Analysis of the Lack of Large-Scale Entrepreneurship in IT Industries of India

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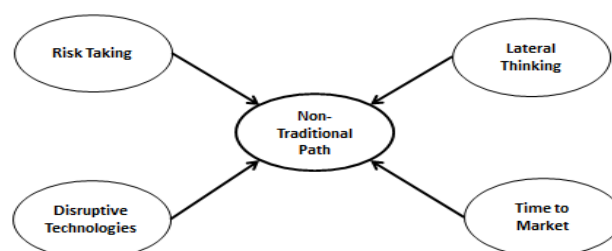
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ABSTRACT: *Entrepreneurship in non-service sectors of IT is critical to India, if it wants to be a player in the ICT world. However, the Indian IT sector is predominantly service based and only recently some efforts have been taken up by some lead players to move to non-service sectors. However, with the ubiquity of smart phones, non-IT sectors are becoming critically important in this ICT world. Thus App development and attractive social site design and development have become important for both security and safety of India, as data and information collection about individuals and organizations – sometimes intrusively – are fast becoming rampant worldwide. This paper presents some of the causes for this state of affairs in India and provides a survey-based analysis of the situation. Besides presenting the test-hypotheses and validating them, this paper makes several recommendations that both Governmental and non-Governmental sectors can take up in order to foster entrepreneurship culture among SMEs in no-service IT sectors.*

KEYWORDS: *Indian IT industry, Large-scale SME entrepreneurship, Employee innovation encouragement factors, Service Vs non-Service startups and Entrepreneurship risk management.*

1. INTRODUCTION

Entrepreneurship may be about encouraging innovation and product development in order to help humanity. It calls for taking significant risks, traversing in paths not traditionally followed, believing in one's lateral thinking and disruptive abilities and being at the right place at the right time (Fig.1).



Indian IT industry is mature, but only in the services sector. Several companies such as, Tata Consulting Services, Wipro and Infosys dominate the IT scene of India. Their presence and impacts are felt worldwide as they service a wide variety of companies and businesses, ranging from Banking, Legal, Accounting, Insurance and many others. However besides services sector, Indian IT companies are far and few; indeed, large scale entrepreneurship in IT is missing in India in non-services sectors, such as new product design and development, innovative technology development and world-dominance in App launching, to quote a few. This is contrast to China, whose App TikTok for example, is the most widely used APP. Unlike many leading countries, India lacks large-scale entrepreneurship initiatives, support mechanisms and other intellectual in infrastructures.

Comparison of Entrepreneurship Funding in OECD countries with India

This paper investigates causes and perceptions that result in the lack entrepreneurship activities in non-service IT sector of India; some indicative solutions are also provided. Several hypotheses have been proposed to test our proposed theory and they are validated through a set of questionnaire. Data obtained from the survey is analyzed and presented in this paper. The results indicate that India needs to foster non-service IT sector very significantly if she wants to have an impact on the world map; fortunately there are many opportunities are available – as TikTok is exploring fast. The rest of the paper is organized as follows: section 2 surveys entrepreneurship across IT industries in India and details large-scale entrepreneurship activities in other countries and their underlying models. The issues relating to lack entrepreneurship in IT industries of India are discussed in section 3, while section 4 provides the hypotheses employed for this study. The description of the survey questionnaire is presented in section 5 and the discussion on the critical results is offered in section 6. The conclusion summarizes the paper and offers pointers for further research in this arena.

Entrepreneurship In It Industries In India

The nature of entrepreneurship in IT industries of India is mainly targeted towards: i) body shopping, viz., provide trained IT professionals to other companies, ii) providing service in terms of system maintenance, and iii) managing customer-software interactions. This is in contrast to the nature of entrepreneurship in IT industries of USA, Japan, UK, Korea, China, Canada, and Nordic countries, wherein innovative IT products (e.g., SAP for accounting, Workflow products, Blackboard for educational institutions, etc) and Apps (WhatsApp, TikTok – to name a few) have been successfully designed and productized worldwide. The latter countries could develop and market these products, because of a culture of entrepreneurship that is further fostered by good Governmental support and other non-Governmental mechanisms. While the Hub & Spokes Model is very popular in English countries, the Nordic countries use Spiral Model, wherein entrepreneurship is very much fostered within the educational environment. For example in Sweden, faculty members who want to branch out to product development are given time off or sabbaticals to experiment. Such faculty members work within the same Departmental environment – even using their own offices – and, draw their worker pool from students (who most often work for their theses) and colleagues from various organizations. The process of nurturing entrepreneurship takes place at the undergraduate level itself, if not at the high school level. As the product or

company ‘*matures*’, it can move to next levels – say, to a new building or new premises beyond the University complex or get into the suburbia with Government funding support. A successful example of a company is Sweden’s Erikson Telecom and, Norway’s Nokia is not far from this scenario either.

While USA has large IT product development companies with extended reach, such as Microsoft, Google and Oracle, they also have a large swathe of SMEs which work on a number of novel products and Apps. Microsoft, for example, has become software/IT assembly plant – similar to Japan’s Toyota, which used to manufacture cars, but not anymore. Toyota has become a large assembly plant with various parts being manufactured by some 6000+ companies around Toyota factories . Microsoft and Google are also in a similar situation as Toyota is in the IT industry. What is evident is that companies in USA have a wonderful environment of fostering SMEs in IT so that they themselves get to benefit; note that SMEs can be nimble and can offered to experiment with little restrictions on product design and development, while large companies have to be follow serious product developmental guidelines.

Large scale entrepreneurship initiatives in non-service sectors of IT are required, because of the advent of smart phones. The latter has revolutionized the world in that computing and communication devices have truly merged and further, they offer *anytime, anywhere* data and information access to everyone. Indeed, it is reported that in India only half of the population has running toilets, while the average uses 1.4 cell phones . Along accessibility and availability, Apps and software such as Facebook, WhatsApp and TikTok, have now become ubiquitous over the smartphone environment. These Apps are the ways by which both information spread and data collection are taking place. Indeed TikTok collects so much information from the user – including a large amount of their personal data – that USA has banned its use for all Government and Defense employees. The same Apps have also been used for political, marketing, social and other gains [], []. Thus it is quite evident that entrepreneurship in non-service IT sectors have become critically important and India needs to take a leadership position in this arena.

lack of large-scale entrepreneurship in non-service it industries of india

Historically, the Indian IT sector started with servicing and body shopping activities only. There was little or no long-term vision amongst IT players then. India was merely a follower with no noticeable products in software industry that is world class – this is true to a good extent even to date. The Indian IT industry suffers from service-oriented or servile mentality of industries. Historically the IT sector also had no expectation for Government support and handouts, as they were mostly short-term focused and driven by near-term financial results. Excepting less than a handful of companies, few had deep pockets – risk taking was very less noticeable for a long time. In addition, Governmental support was of little presence (in contrast to China, for example). This is surprising given that Gujaratis, Punjabis and Sindhis are notionally considered to be good business people, yet why don’t India get entrepreneurs that spawn the globe in the non-service IT sectors? It is also surprising to note that as per the Hindu caste system, one fourth of the population is Baniya or traders, yet why can’t they trade at the global level with their entrepreneurship acumen in non-IT sectors? Indeed India’s NASSCOM Vice President said the following:

"For a successful start-up ecosystem there is need for enough angel investors who can support the budding entrepreneurs from early stage. But this is not happening in India and there is a serious lack of it," NASSCOM Vice-President Rajat Tandon told PTI. Mr. Tandon said, "The case is very different in countries like the US. People are just waiting to invest in some good companies. We should also have something like that." India does not have such a risk-taking entrepreneurial culture.....

Mainly, investors (in India) are afraid because there is a high risk of failure in these investments and also there is lack of policy for such investments," he added.....

"Why will investors put money in such companies? They need tax benefit and lot of other things for putting in their money. We have already written about these things to the government I am sure that the government is taking right steps in the direction and we can expect something by this year-end," he said,. 29th Oct 2015.

Could the entrepreneurship culture in India be fostered better? Below are some questions for thought.

- Why is that Indian big entrepreneurs do not support well-known Indian institutions towards developing entrepreneurship culture?
- Why is that only now big Indian Institutions are only now making a start for programs in technology entrepreneurship? Why they were sleeping for this long? Is this due to lack of proactivity or expectation for Government handouts?
- Tata recently gave US\$50 million to the Harvard University – but not setting up large-scale entrepreneurship activity center within India – are Indians that poor in entrepreneurship?
- Mr. Narayana Murthy of TCS makes disparaging comments about Indians “Provide actual quote here” (sic) []. What has he done to facilitate Indian IT entrepreneurship (except fostering body-shopping IT business) or elementary product development?

It is noted that Mr. Ratan Tata has (only recently) invested in a number of companies including, Ola, Snapdeal, Paytm, Urban Ladder and Bluestone. Similarly, Wipro’s Mr. Azim Premji has funded (again, only recently) companies such as, Myntra and Amagi, among others, through his investment arm Premji Investments. Are these initiatives too little too late? What can we learn from other dominant IT countries? How can entrepreneurship in non-service IT sector be better fostered in India? What should Government sectors and non-Governmental sectors do in this context? These questions set the context for our study presented in this paper.

2. REVIEW OF LITERATURE

Irwin, D., and J. M. Scott. (2010) explores the reasons for disorder phenomenon in raising finance in banks, i.e., Persevering money Scarcity, Always raising the present proportion model, offensive commitment on value proportions, defaults in repayments to banks, lenders, Government representatives and budgetary foundations.

Soumitra K Mallick, Amitava Sarkar, Kalyan K Roy, Tamal Duttachaudhuri & Anjan Chakrabarti,“ analyzes the various properties of Non – Performing Assets (NPA) in Banks and in this study they identify the Bank loans can be considered as the primary sources of capital to MSMEs. This concludes that the NPA are significantly sticky over time and larger advances are associated with larger advances or vice versa.

Reynolds, P. D., and R. T. Curtin. (2009) explores condensed breakdown reasons for in the Panel Study of Entrepreneurial Dynamics (PSED). These components influence every one of the units, "the clarification for one unit becoming ill ought to be looked for inside that unit with reference to why there was disintegration in its ability to adjust to the adjustments in the earth. Consequently, the qualification amongst outer and inner causes does not appear to be applicable for pivot choices".

Rao, Jagapathi (2010), reveals that the small scale industry (SSI) is a most dominant tool for creating "Productive Employment Opportunities" and achieving "Accelerated Industrial Growth" in the country. The SSI addresses the agents for facilitate mobilization of local resources and skills and extenuating regional imbalances and SSI acts as a producers of consumer goods and absorbers of surplus labour. This study concludes that the SSI sector has emerged as a dynamic and vibrant sector in the varied fields of production, employment and dispersed development of the Indian economy.

Ramdani, B., Kawalek, P. and Lorenzo, O. (2009), examined on small scale ventures different issues and the development dissected. "Advertising has been distinguished as a vital issue range influencing the development of the small-scale units. The focused qualities are past the compass of the small scale modern units. Thus, it is inferred that a legitimate association is fundamental in any type of business to conquer the troubles in the field of promoting". The desires separated, it had prompted deceleration of agribusiness development influencing provincial employment in India. "They have to counter the unfair parts of globalization mutually from one viewpoint and bolster each other, on the other, by expanding intra-creating nation exchange and venture, in spite of the fact that the creating nations are a heterogeneous gathering.

Walsh, M. F., & Lipinski, J. (2009), consider the Marketing is the key function at the times of decisions are made. This study concludes marketing increases the influence of value to the firm and firm's entrepreneurial orientation and marketing departments have a responsibility to market the firm's products and services, the task of marketers marketing themselves to internal stakeholders.

Peterson K. Ozili (2018) explores the relationship between digital finance and economic crises to determine whether digital finance helps to propagate financial contagion during a crisis. This study determines the Implications of digital finance for financial stability and financial inclusion through Fintech providers in emerging and advanced economies.

Peng Wang, Haichao Zheng, Dongyu Chen, and Liangchao Ding, (2015), reveals the online lending system is a supplement to the traditional financial system which meets the financial needs of small and medium-sized enterprises. In this study trust and perception of information asymmetry are the important factors and also their impact affects the lenders loan process. This study concludes that the There is significant difference between the online lending and online purchasing. Trust is significantly affected by the borrowers' reputation and information integrity & Information asymmetry has various causes, including structural assurance and legitimacy. Traditional e-commerce market cannot be applied in the field of online lending without verification.

Hypotheses Used For Our Study

After carrying out extensive discussions and literature survey, we have formulated eight hypotheses and the rest of the paper is about their validity and applicability to non-IT sector of India. The eight hypotheses are:

H1: Indian IT industries lack long-term strategic and penetrative focus in areas other than service-oriented IT.

H2: The success of service orientation of Indian IT industry is itself an impediment to developing product-based entrepreneurship.

H3: There is an expectation for Government support and handouts for seeding non-service-based entrepreneurship activities.

H4: Lack of deep pockets is preventing large Indian IT industries to invest in non-service based IT entrepreneurship.

H5: There is a fear of failure, lack of supporting mechanism and business alienation resulting in failure of the enterprise initiated for developing innovative IT products.

H6: In the Indian IT industries, there is lack of business and customer focus when it comes to entrepreneurship development.

H7: Unlike California (USA), there is profound lack of entrepreneurial culture and tradition across all cities and states of India.

H8: Unhealthy competition in IT industry and greater rate of attrition are, inter alia, the causes of hindrance for venturing into large scale entrepreneurship in India.

Our hypotheses are based on the presumption that there a bunch of entities that create impediments or non-conducive environment in the Indian IT industry for non-service based entrepreneurship. These impediments are captured thru' the eight hypotheses. We have perhaps worded some of the hypotheses rather bluntly or provocatively, since we wanted to test/tease out the reactions of those whom we surveyed.

Table 1 Hypotheses Validation Scheme

$H1 \leftarrow A - N + \alpha_1 P1/P2 + \alpha_2 P3$	$H2 \leftarrow A - N + \alpha_3 P4 + \alpha_4 P5$	$H3 \leftarrow A - N + \alpha_5 P6 + \alpha_6 P7$
$H4 \leftarrow A - N + \alpha_7 P8 + \alpha_8 P9 + \alpha_9 P10$	$H5 \leftarrow A - N + \alpha_{10} P10 + \alpha_{11} P11$	$H6 \leftarrow A - N + \alpha_{12} P12 + \alpha_{13} P13$
$H7 \leftarrow A - N + \alpha_{14} P14 + \alpha_{15} P15$	$H8 \leftarrow A - N + \alpha_{16} P16 + \alpha_{17} P17$	

Equations for Support for Various Hypotheses

Where α_i are values computed thru' regression from the corresponding survey data.

The study is both descriptive and analytical in nature and empirical analysis appropriate for the study based on survey method. Primary data collected was analysed by using SPSS - 21 (Statistical Package for Social Science), Descriptive statistics, Correlation & Regression.

3. DESCRIPTION OF OUR SURVEY AND ANALYSIS METHODOLOGY

The survey questions have both *affirmative component*, i.e., with questions set up to test the affirmative aspects a given hypothesis and negative component, i.e., with questions set up to tease the negative aspects of a given hypothesis. Various parameters have also been identified (see Table 1) to have an impact on the support sufficiency of a given hypothesis; however, their level of support weightage to a hypothesis may be different and it is shown in Table 1, where the α -values have been calculated using regression of the corresponding survey data. The equations underpinning the hypotheses validation scheme are present in Table-2.

Table-2: Support Parameters for Hypotheses

Parameters	Description
P1	Average of IT products emanating from Indian IT companies

P2	Product of Service oriented companies
P3	Perceived lack of long term focus of IT companies
P4	Ratio of average revenue generated from service side to that of non-service side of a given company
P5	Ratio of average Product of employees working on service side to that non-service side of a given company
P6	Ratio of # of service-based startups to that of non-service based startups
P7	# of non-service based startups thru' non-Governmental support
P8	(normalized) Capital spent on Product development
P9	average no of employees working on Product development
P10	average Product developed by the company over a 10-year period
P11	Ratio of perceived risk for starting non-service IT company to that perceived fear for starting non-service IT company

Table 3 Correlations between Hypothesis 1 (H1) and Question1, Question2, Question3, Question4, Question5

Correlations							
		H1	H1	H1	H1	H1	
Spearman's rho	Q1	Correlation Coefficient	1				
		Sig. (2-tailed)	.				
		N	5				
	Q2	Correlation Coefficient	0.462	1			
		Sig. (2-tailed)	0.434	.			
		N	5	5			
	Q3	Correlation Coefficient	0.872	0.5	1		
		Sig. (2-tailed)	0.054	0.391	.		
		N	5	5	5		
	Q4	Correlation Coefficient	0.051	.900*	0.2	1	
		Sig. (2-tailed)	0.935	0.037	0.747	.	
		N	5	5	5	5	
	Q5	Correlation Coefficient	0.359	0.7	0.6	0.6	1
		Sig. (2-tailed)	0.553	0.188	0.285	0.285	.
		N	5	5	5	5	5
*. Correlation is significant at the 0.05 level (2-tailed).							

Interpretations: There is significant positive correlation between the Hypothesis 1 (H1) and Question 4 at 5% level of significance.

Table 4 Correlation between Hypothesis 2 (H2) and Question6, Question7, Question8, Question9,

Correlations

			H2	H2	H2	H2
Spearman's rho	Q6	Correlation Coefficient	1			
		Sig. (2-tailed)	.			
		N	5			
	Q7	Correlation Coefficient	1.000**	1		
		Sig. (2-tailed)	.	.		
		N	5	5		
	Q8	Correlation Coefficient	0.7	0.7	1	
		Sig. (2-tailed)	0.188	0.188	.	
		N	5	5	5	
	Q9	Correlation Coefficient	.900*	.900*	0.6	1
		Sig. (2-tailed)	0.037	0.037	0.285	.
		N	5	5	5	5
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Interpretations: There was significant positive correlation between the Hypothesis 2 (H2) and Question 7 at 1% level of significance and between the Hypothesis 2 (H2) and Question 9 at 5% level of significance.

Table 4 Correlations between Hypothesis 3 (H3) and Question10, Question11, Question12, Question13

Correlations						
			H3	H3	H3	H3
Spearman's rho	Q10	Correlation Coefficient	1			
		Sig. (2-tailed)	.			
		N	5			
	Q11	Correlation Coefficient	1.000**	1		
		Sig. (2-tailed)	.	.		
		N	5	5		
	Q12	Correlation Coefficient	0.8	0.8	1	
		Sig. (2-tailed)	0.104	0.104	.	
		N	5	5	5	
	Q13	Correlation Coefficient	.900*	.900*	.900*	1
		Sig. (2-tailed)	0.037	0.037	0.037	.
		N	5	5	5	5
*. Correlation is significant at the 0.05 level (2-tailed).						

Interpretations: There was significant positive correlation between the Hypothesis 3 (H3) and Question11 at 1% level of significance and between the Hypothesis 3 (H3) and Question 13 at 5% level of significance.

Table 5 Correlations between Hypothesis 4 (H4) and Question14, Question15, Question16, Question17, Question18, Question19

			Correlations					
			H4	H4	H4	H4	H4	H4
Spearman's rho	Q14	Correlation Coefficient	1					
		Sig. (2-tailed)	.					
		N	5					
	Q15	Correlation Coefficient	1.000**	1				
		Sig. (2-tailed)	.	.				
		N	5	5				
	Q16	Correlation Coefficient	.900*	.900*	1			
		Sig. (2-tailed)	0.037	0.037	.			
		N	5	5	5			
	Q17	Correlation Coefficient	0.4	0.4	0.3	1		
		Sig. (2-tailed)	0.505	0.505	0.624	.		
		N	5	5	5	5		
	Q18	Correlation Coefficient	.900*	.900*	1.000**	0.3	1	
		Sig. (2-tailed)	0.037	0.037	.	0.624	.	
		N	5	5	5	5	5	
	Q19	Correlation Coefficient	0.821	0.821	.975**	0.205	.975**	1
		Sig. (2-tailed)	0.089	0.089	0.005	0.741	0.005	.
		N	5	5	5	5	5	5
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

Interpretations: There was significant positive correlation between the Hypothesis 4 (H4) and Question 14 at 1% level of significance and between the Hypothesis 4 (H4) and Question 15 and H4 and Question 18 at 5% level of significance.

Table 6 Correlations between Hypothesis 5 (H5) and Question20, Question21, Question22, Question23, Question24, Question25.

			Correlations					
			H5	H5	H5	H5	H5	H5
Spearman's rho	Q20	Correlation Coefficient	1					
		Sig. (2-tailed)	.					
		N	5					
	Q21	Correlation Coefficient	0.821	1				
		Sig. (2-tailed)	0.089	.				
		N	5	5				

Q22	Correlation Coefficient	0.4	0.821	1			
	Sig. (2-tailed)	0.505	0.089	.			
	N	5	5	5			
Q23	Correlation Coefficient	0.7	.975**	.900*	1		
	Sig. (2-tailed)	0.188	0.005	0.037	.		
	N	5	5	5	5		
Q24	Correlation Coefficient	0.7	.975**	.900*	1.000**	1	
	Sig. (2-tailed)	0.188	0.005	0.037	.	.	
	N	5	5	5	5	5	
Q25	Correlation Coefficient	.900*	.975**	0.7	.900*	.900*	1
	Sig. (2-tailed)	0.037	0.005	0.188	0.037	0.037	.
	N	5	5	5	5	5	5
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							

Interpretations: There is significant positive correlation between the H5 and Question 23 and, H5 and Question 24 at 1% level of significance. There is significant positive correlation between the H5 and Question 23 and, H5 and Question 24 at 1% level of significance also.

Table 7 Correlations between Hypothesis 6 (H6) and Question26, Question27, Question28, Question29.

Correlations						
		H6	H6	H6	H6	
Spearman's rho	Q26	Correlation Coefficient	1			
		Sig. (2-tailed)	.			
		N	5			
	Q27	Correlation Coefficient	0.7	1		
		Sig. (2-tailed)	0.188	.		
		N	5	5		
	Q28	Correlation Coefficient	1.000**	0.7	1	
		Sig. (2-tailed)	.	0.188	.	
		N	5	5	5	
	Q29	Correlation Coefficient	.900*	0.5	.900*	1
		Sig. (2-tailed)	0.037	0.391	0.037	.
		N	5	5	5	5
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Interpretations: There is significant positive correlation between the Hypothesis 6 (H6) and Question 28 at 1% level of significance and, between the Hypothesis 6 (H6) and Question 29 at 5% level of significance.

Table 8 Correlations between Hypothesis 8 (H8) and Question30, Question31, Question32, Question33.

Correlations				
			H8	H8
Spearman's rho	Q34	Correlation Coefficient	1	
		Sig. (2-tailed)	.	
		N	5	
	Q35	Correlation Coefficient	0.1	1
		Sig. (2-tailed)	0.873	.
		N	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

Interpretation: There is no significant association between the Hypothesis 8 (H8) and the questions.

Table 9 Correlations between Hypothesis 7 (H7) and Question30, Question31, Question32, Question33.

Correlations						
			H7	H7	H7	H7
Spearman's rho	Q30	Correlation Coefficient	1			
		Sig. (2-tailed)	.			
		N	5			
	Q31	Correlation Coefficient	0.5	1		
		Sig. (2-tailed)	0.391	.		
		N	5	5		
	Q32	Correlation Coefficient	1.000**	0.5	1	
		Sig. (2-tailed)	.	0.391	.	
		N	5	5	5	
	Q33	Correlation Coefficient	.900*	0.3	.900*	1
		Sig. (2-tailed)	0.037	0.624	0.037	.
		N	5	5	5	5
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Interpretations: There is significant positive correlation between the Hypothesis 7 (H7) and Question 32 at 1% level of significance and, between the Hypothesis 7 (H7) and Question 33 at 5% level of significance.

4. DISCUSSION OF THE RESULTS

The inferences therefore out of the analysis are the following:

- 4.1 Positive correlation between Q4 and H1 implies that Indian IT industries lack long-term strategic and penetrative focus in areas other than service oriented IT is confirmed. The question that begets the reader is: How can the Government (both local and Central) work to infuse a sense of strategic and penetrative foci in the Indian IT industries?
- 4.2 Positive correlation between Q7 & Q9 and H2 implies that the success of service-oriented companies have limited innovation in #-based companies; this implies that new impetus must be provided for innovation in non-service sectors. Further, the ratio of employees working on service side to that non-service side of a given company plays a role in innovation. The question that begets the reader is: How can the entrepreneurship impetus be provided effectively to non-service sectors?
- 4.3 Positive correlation between Q11 & Q13 and H3 implies that other than service-oriented IT sectors, all other industries expect Government support for entrepreneurship activities. Further, even in non-governmental arena, service-oriented start-ups far outnumber non-service start-ups. The question that begets the reader is: How can Government support entrepreneurship in non-governmental sectors?
- 4.4 Positive correlation between Q14, Q15 & Q18 and H4 implies that a sound investment infrastructure and climate has to be seeded to encourage entrepreneurship activities. In addition, entrepreneurship in non-service IT sectors can be developed relatively easily. Furthermore, the average number of #s developed by IT companies is very low. The questions that beget the reader are: What are the different ways by which service and non-service IT sectors be fostered for entrepreneurship? Given the need for less capital for non-service IT-sectors, can entrepreneurship in this sector be carried out quickly? How can the number of IT #s – particularly internationally recognized IT #s – from these companies be increased? In contrast, China's IT #s are captivating the world – particularly in the APP development sector, while Indian #s are languishing.
- 4.5 Positive correlation between Q23 & Q24 and H5 implies that significant business alienation and depression prevails among failed entrepreneurs. In addition, encouragement and promotion of successful entrepreneurship is missing. The questions that beget the reader are: How can the experience of failed entrepreneurs be harnessed and used effectively? How can the promotion and advertisement of successful entrepreneurs (thereby encouragement of young entrepreneurs) be achieved?
- 4.6 Positive correlation between Q28 & 29 and H6 implies that recognition mechanisms are rather poor and that when customer-focus is already present, entrepreneurship can be relatively easily introduced. The questions that beget the reader are: How can recognition and/or awards mechanisms be introduced and publicized to the people at large? How can customer-focus be enhanced in all business climates?
- 4.7 Positive correlation between Q32 & Q33 and H7 implies that NGO-operated entrepreneurship activities are not much prevalent in India and that there is inadequate number of Venture Capitalist and Angel Investors in India as compared to Western countries. The questions that beget the reader are: How to foster NGO- operated entrepreneurship activities in India? How to enhance Venture Capitalist and Angel Investors in India? What would be security and defense implications of the IT sector in such cases?

5. CONCLUSION

The present study concludes that the IT industries in India are having lack of long-term strategic and penetrative focus in their areas and new impetus must be provided for innovation in non-service sectors. The employees working in a given company play a role in innovation at a ratio of service side & non-service side of a company. The results of this study show China's IT #s are captivating the world – particularly in the APP development sector, while Indian #s are languishing and NGO-operated entrepreneurship activities are not much prevalent in India and that there is inadequate number of Venture Capitalist and Angel Investors in India as compared to Western countries.

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