FACTORS AFFECTING RESEARCH ORIENTATION OF ACADEMICIANS IN HIGHER LEARNING INSTITUTES

Dr. Manish Sitlani*

Dr. Jyoti Sharma*

ABSTRACT

Those imparting higher education are expected to generate new knowledge by getting involved in academic research additionally. So, Research and developmental activities are considered as one of the important dimensions of academic profile at global as well as national level. Unfortunately, it has been explored time and again that at large, academicians in higher learning institutes, have failed to work on this arena of their profiles. The applicability of UGC VI pay commission since 2006 making research activities imperative for teachers do not seem to change the scenario much. So, it becomes imperative to explore the factors that motivate the academicians associated with higher learning towards research activities. Considering Indore in the center of the study and drawing a sample from various higher learning institutes of Indore, this research work has attempted to explore the factors affecting research orientation of academicians. Drawing a sample from various higher learning institutes of Indore, this study has attempted to The findings of the study explored certain important factors, including professional environment, affecting research orientation of academicians associated with higher learning institutes.

Key Words: Higher Learning Institutes, Research, Professional Environment, Factor Analysis

* Associate Professor, International Institute of Professional Studies, Devi Ahilya University, Indore, India

INTRODUCTION

One of the much-debated trends in higher education in the recent past or so is the increasing emphasis on research. Of course the very concept of the research is based on faculty members who view research as central to their jobs. But research expectations have grown at many institutions where the missions have been primarily focused on teaching.

Scholarly research is one of three primary areas of engagement for higher education faculty. Expectations for scholarly research vary depending upon the higher education setting, including the type of institution, the discipline, and the policies and practices of a particular campus and department. It is critical for faculty members to set a clear and focused research agenda so that each of the research activities they engage in moves their research agenda forward in some way. Teachers who actively participate in research careers have a responsibility to communicate the real excitement of intellectual creation and the birth of new ideas. Some people think that we would be better off as a teacher, without a research function.

There are many reasons why faculty do not do research, even at a research university. It is not easy to find something new to do. There are personal demands on time and energy that may not have existed earlier in one's career. Along with this, internal environmental hassles also negate the initiatives.

Remler , an associate professor of public affairs at Baruch College of the City University of New York, and Pema, an assistant professor of economics at the Naval Postgraduate School, conducted a research of reviewing the literature and economic theories that might explain the reasons for colleges and departments encouraging their faculty members to focus on research at the expense of teaching time. They contended that higher education would benefit from research orientation. These researchers further noted that the trends appear to run counter to the desire of many experts on higher education who would like to see teaching receive more emphasis and that the research emphasis drives up quality teaching.

There are many factors that affect research aspect among faculty, which are as follows:-

•Faculty gravitates toward research orientations. The authors note, for example, that institutions such as Boston University, New York University and the University of Texas at Austin have gained in popularity and research eminence. And top business schools perceive faculty research as a key measure of institutional attractiveness to students. The business schools have taken competent and quality teaching along with research endeavor. This factor makes institutional and faculty positions class apart from rest of the institutes. As placements are taken as a standard base for any good and reputed institution, faculty research orientation is seen with same respect and quality standard.

• Research makes faculty better teachers. In fields undergoing rapid evolution perhaps only faculty who do research are capable of possessing and communicating up-to-date content. Or, it is said that research could make faculty better selectors of course content, and also better at conveying knowledge in its appropriate context. Specifically, they could be better at spotting and choosing to teach deeper concepts or more important topics.

• Research-oriented professors help sort students by being poor teachers. Research quality would be a proxy for lower teaching quality and consequently a proxy for higher screening quality. Complete scenario or view of things gets positively envisioned when supported by research

impact. It facilitates in making a view point innovative, new theory investigated and establishing prone. The research links builds a constructive connect faculty and students.

- Faculty members like to do research. Faculty urge to do research facilitates faculty to explore new theories and establish new finding in their teachings, which not only make them qualitatively apart from conventional or bookish knowledge but also make classroom teaching interesting and self-satisfactory.

Teachers who conduct research are engaged in ongoing, job-embedded professional learning. Investigating their own questions, rather than waiting for someone to tell them what to do, empower teachers to generate their own knowledge about "what works" in teaching and learning. Teachers sometimes become involved in teacher research through coursework that emphasizes the natural connection between inquiry and practice. Business schools emphasize research similar to that done in departments of arts and sciences (Bennis and O'Toole, 2005).

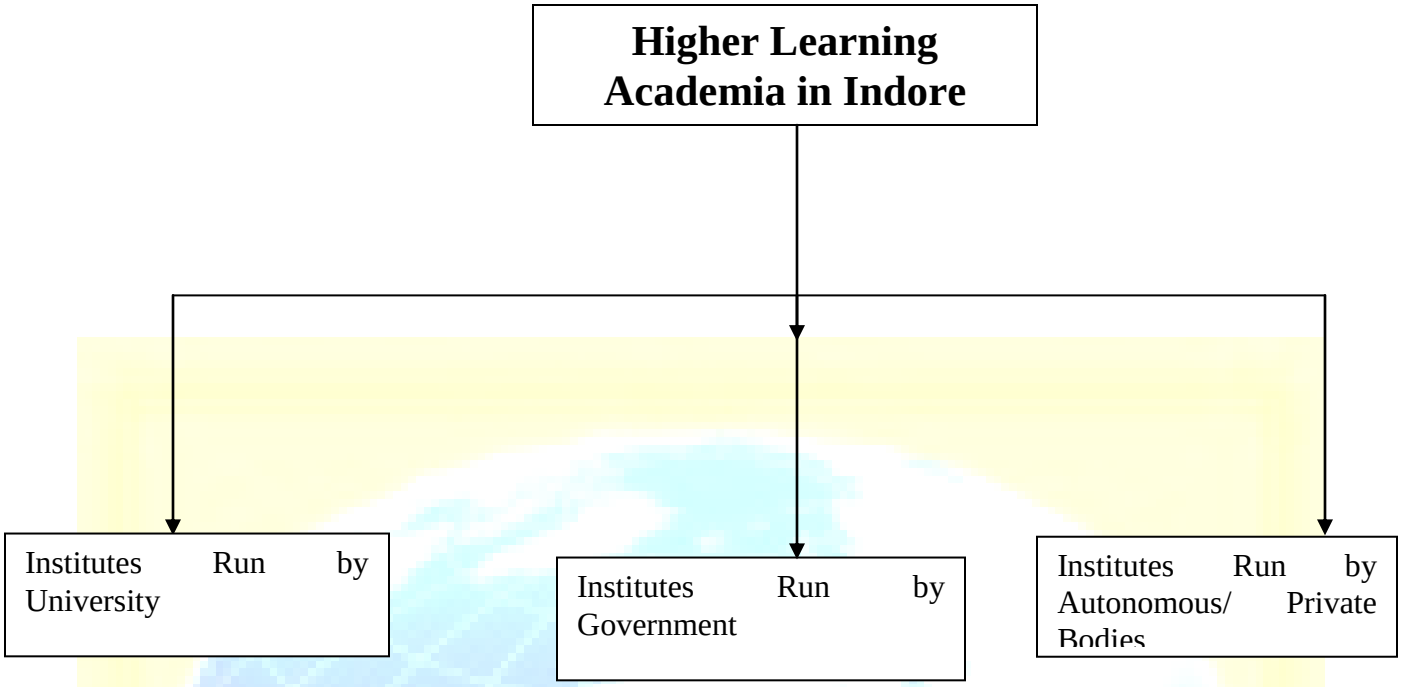
The motivating forces behind faculty research incentives matter a great deal for several reasons. **First**, education creates human capital, and human capital is increasingly central to the productivity and thus wealth of society. Anything that harms the accumulation of human capital harms economic well-being.

Second, higher education is costly and those rising costs may be driven in significant part by the growth of research (Martin 2002; Ehrenberg, Rizzo, and Jakubson 2003). Surely every faculty member faces limited time resources and must decide whether to allocate the marginal hour to teaching or research. If the added costs of additional research do not bring sufficient added benefits, a reallocation of resources from research to teaching would improve society.

Third, new information and communication technologies could potentially alter dramatically both the education process and the overall structure of higher education institutions. The research orientation shapes the thought innovation with a dent of challenging aspects explored in research.

INDORE; THE HIGHER EDUCATION SCENARIO

Situated in the malwa region of India, Indore is known for its rich and varied herritage. It is popularly known as commercial capital of the state of Madhya Pradesh in central India. Indore was established by The Holkars and it recognizes the contribution made by this dynasty deeply. The administrative instinct of the rulers of this dynasty are well kwown to the people of this traditional tier two city. Though basically known for its commercial activities, this city has started marking its presence on the academic horizon of the India in recent past. The chart below gives a snapshot of higher learning institutes in this city of pleasant weather:



Academia relating to Higher Learning Institutes of Indore can broadly said to be comprised of three types of institutes, viz. Government colleges, University Teaching Departments and Private and Autonomous Institutes. The local university is named after the dynamic lady rular of Holkar Dynasty, Devi Ahilyabai Holkar. The university runs and manages a large number of UTDs providing traditional and professional education in various disciplines. Higher education institutes run by government include technical institutes imparting education in the area of technology and medical science like Mahatma Gandhi Memorial Medical College, Government Poly-technique, etc. It also includes non-technical institutes like Shri Atal Bihari Bajpai College of Arts and Commerce, Girls Degree College, etc. Similarly, private and autonomous bodies are also running large number of institutes offering almost all types of academic options. The city is also blessed to be one among few cities in this country having both, an Indian Institute of Management and Indian Institute of Technology.

RATIONALE OF THE STUDY

Research is one of the important activities that an academician is expected to undergo in course of pursuing academic profession. But, at large, it is found that majority of the faculties are not involved in this endeavor, which in fact is also expected to add value to the society. The problem seems to be more severe and deep rooted in small cities and towns and institutes lacking professional environment. The situation does nor t seemed to improve even after implementation of VI pay regulations by University Grants Commission, New Delhi, which has made it more or less compulsory for teachers associated with higher learning to keep their careers moving up. So, it is the demand of time to explore factors associated with research orientation of academicians in higher learning institutes.

The rationale behind considering Indore in the center of focus of study is that Indore is becoming education hub of Central India at a very fast pace. The educational opportunities available in the town have increased manifold during recent past. Today, it is witnessing existence of all types of educational institutes in traditional as well as professional fraternities, offering all types of traditional, vocational and professional programmes at under-graduate and post-graduate level including Management, Computer Science, Medical Sciences, Engineering, Commerce, Arts, etc., to name a few.

LITERATURE REVIEW

Below stated is the gist of existing body of knowledge, as explored by researchers, regarding higher education faculty and research orientation:

The rising costs of higher education have enforced specific concerns about the contributions research universities make to the human capital of society (Dill, 2005). Research universities, like many institutions, have to justify their roles in society and prove their effectiveness as educational enterprises for quality teaching (Dill, 2005; Massy & Zemsky, 1994; Boyer Commission, 1998).

Waggaman (2001) states that the faculty workload is one of the most troubling in all of higher education. Many constituents are calling for institutions to work upon the current workload policies and how much time faculty should spend on teaching (Waggaman, 2001). However, according to the National Center for Education Statistics (NCES), a survey of full-time instructional faculty and staff at public doctoral institutions reported 51.6 percent of their principal activity as teaching, followed by research (25.3 percent), administration (11 percent), and other activities, such as community service, clinical service, or sabbaticals (12.1 percent) (NCES, 2006). Furthermore, full-time instructional faculty and staff reported working an average of 55.5 hours per week while their part-time colleagues reported working an average of 42.9 hours per week (NCES, 2006). "Instructional faculty and staff", as defined by the NCES, included only faculty and staff with instructional responsibilities for credit (e.g., teaching one or more classes for credit, or advising or supervising students' academic activities).

Studies have perceived disparities faculty teaching and faculty members commitment to research, publishing, and outside consulting (Newman, Couturier & Scurry, 2004). Similarly, some researchers have also suggested that faculty members are gradually shifting their interests away from teaching and moving towards their own personal research and professional agendas (Massy & Wilger, 1992; Massy & Zemsky, 1994). The research cost has increased the Institutional cost in recent years. Johnstone (2001) and McPherson and Schapiro's (1998) in their study suggests that public and private research universities spend more on public service and research than on instructional services.

Tenure, promotion, and salary decisions facilitate research productivity or by the amount of grants obtained further encourage an emphasis on research activities (Tang & Chamberlain, 1997; Massy & Wilger, 1992). Clark (1989) mentioned his views stating "the reward system of promoting academics on the grounds of research and published scholarship has become more deeply rooted in the universities, and would-be universities, and leading four-year colleges, with every passing decade".

RESEARCH DESIGN AND METHODOLOGY

RESEARCH QUESTION:

What are the factors determining research orientation of academicians in higher learning institutes in Indore?

RESEARCH OBJECTIVE:

The basic objective behind this research work is to explore the factors affecting research orientation of academicians in higher learning institutes in Indore.

RESEARCH ASSUMPTIONS:

This research work is subject to following assumptions:

1. The opinion of the respondents was fair and unbiased.
2. The respondents clearly understood the purpose of the research.
3. The responses were based on the practical experiences of the respondents.

THE METHODOLOGY

POPULATION AND SAMPLE

The universe of this study comprised of all academicians associated with higher learning institutes in Indore. A self-structured scale was developed on the basis of extensive survey of existing literature on a likert type scale with 5 options on the scale of 1 to 5, with 5 representing strongly agree and 1 representing strongly disagree. The scale initially had 35 items (see annexure 1), which was subjected to a focus group discussion comprising of the researchers and 18 other academicians, which were profiled as follows:

Designation	Type of Institute	No. of Males	No. of Females
Professors	UTD	1	1
	Govt. College	1	1
	Private Institutes	1	1
Associate Professor/ Readers	UTD	1	1
	Govt. College	1	1
	Private Institutes	1	1
Asstt. Professor/ Lecturers	UTD	1	1
	Govt. College	1	1
	Private Institutes	1	1

Based on the recommendations of focus group, 10 items were dropped out from the scale and a total of 25 items were considered for pilot study. A total of 30 respondents were considered for the purpose, excluding the experts who were part of focus group discussion. Thereafter the reliability and validity of the scale was estimated by calculating the value of Cronpach alpha using SPSS 17.0 for windows. The alpha value of 0.71 represented a reasonable value of reliability and validity of the proposed scale and not much improvement was seen in this value by dropping any of the items. So, the researchers considered all the 25 items for final data collection.

The target population for the study is all academicians associated with higher learning institutes in Indore. Only those institutes providing multi-disciplinary education were considered for the purpose of the study and the institutes providing education in one particular discipline, like medical colleges, engineering colleges, etc, were kept strictly outside the purview of this study. Similarly, national institutes like IITs and IIMs also did not fall in the ambit of this study owing to the absence of local environment and further due to providing uni-disciplinary education.

Primary Data has been collected for this study. A total of 250 questionnaires were distributed for the purpose during the months of January to March 2012. Sampling method can be best described as quota cum judgmental non-probabilistic sampling. A total of 216 questionnaires were returned back with a response rate of 86%. After considering rejection of incomplete and missing responses, a total of 200 questionnaires have been considered for data analysis. Factor Analysis is the basic tool used for the purpose. Data has been analyzed using SPSS 17.0 for windows.

FINDINGS AND DISCUSSIONS

Table I gives the summary of demographic characteristics of the respondents.

Table I: Demographic Characteristics of Respondents

VARIABLE	FREQUENCY	PERCENTAGE
Gender		
Female	104	52.00
Male	96	48.00
Age		
> 30 yrs.	35	17.50
30+ yrs. to 40 yrs.	82	41.00
40+ yrs. to 50 yrs.	46	23.00
More then 50 yrs.	37	18.50
Marital Status		
Married	162	81.00
Single	38	19.00
Designation		
Lecturer/Senior Lecturer	108	54.00
Reader/Associate Professor	66	33.00
Professor	26	13.00
Teaching Experience		
Less then 3 yrs.	52	26.00
3 yrs. to 10 Yrs.	124	62.00
More then 10 Yrs.	24	12.00
Industrial Experience		
Yes	90	45.00
No	110	55.00

Household Income (Rs.)		
Less then 4 Lacs	79	39.50
4 Lacs to 8 Lacs	94	47.00
More then 8 Lacs	27	13.50
Qualification		
Post-graduate	77	38.50
Post-graduate with Ph.D.	54	27.00
Post-graduate with Professional Degree	46	23.00
PG with Ph.D. and Professional Degree	23	11.50

The basic objective of this research work was to explore the factors affecting research orientation of academicians in higher learning institutes of Indore. A factor analysis was conducted for the same, the results of which have been discussed hereinafter.

Sampling Adequacy and Method Appropriateness

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.546
Bartlett's Test of Sphericity	Approx. Chi-Square	3207.099
	Df.	300
	Sig.	.000

As seen from the table above, the KMO value of .546 indicates the sample considered for this study to be adequate. Kaiser (1974) recommended the values of KMO above 0.5 acceptable. Further, Bartlett's test statistics of .000 (less than 0.05) indicates a correlational association between variables considered for the study and hence justifying the appropriateness of factor analysis for the study.

Factor Extraction and variance explained

Compo.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Var.	Cumu. %	Total	% of Var.	Cumu. %	Total	% of Var.	Cumu. %
1	4.938	19.752	19.752	4.938	19.752	19.752	4.702	18.806	18.806
2	3.101	16.402	36.154	3.101	16.402	36.154	3.109	16.734	35.541
3	2.641	12.564	48.718	2.641	12.564	48.718	2.505	12.020	47.561
4	2.266	10.590	59.308	2.266	10.590	59.308	2.323	10.992	58.553
5	1.712	9.063	68.371	1.712	9.063	68.371	1.929	9.915	68.468
6	1.099	6.394	74.765	1.099	6.394	74.765	1.089	6.297	74.765

As seen from the table above, a total of six factors have emerged, explaining a total of 75% variation in the collected data. In other words, as high as 75% variation in the research orientation of academicians in higher learning institutes in Indore is explained by these 6 factors.

First factor is explaining as high as 19% of the total variation and the last factor is explaining 6.30% of total variation. One important thing to observe is that variance explained by factor 4 and 5 has increased considerably after rotation.

Factor Rotation

Table below exhibits the rotated loadings of the extracted factors, which have been discussed thereafter:

Rotated Component Matrix

	Component					
	1	2	3	4	5	6
Sitting long for research is comfortable.	.849					
Fun to explore body of knowledge.	.815					
Updates my academic skills.	.798					
Research recognition enforces commitment.	.790					
Satisfies my inner urge of exploration.	.770					
Feel knowledgeable and established.	.724					
Upgrades image and reputation.	.514					
Institutional environment promotes research.		.751				
Faculty and staff support research endeavor.		.731				
Organization rewards the research efforts .		.628				
Family supports in research activities.		.606				
Competitive from colleagues boost research.		.590				
Good to work on research with my colleagues.		.569				
Facilitates the career growth.			.896			
By UGC Sixth pay norms, research has become the pre- requisite for and in academic career.			.851			
compulsion in the organization to research.			.580			
Research promotes off-leak issues to be taken.				.846		
Establish new perception on conventional thinking.				.656		
Elevates the societal thought process.				.604		
Helps in dissemination of knowledge and exploratory facts with a logical base.				.498		
Unfolds many aspects of life and clears doubts and misunderstanding by fact establishment.				.540		
I am skillful with computer and internet.					.751	
Computer and internet are boon for research.					.510	
Research opens new vistas of knowledge and interaction at National and International level.						.755
Research facilitates public relations.						.525

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

As seen from the table above, 7 variables have loaded on factor 1. This factor has emerged as the most important factor and in itself explains approx. 19% of the variation. A close observation to the elements loaded on this factor indicates that these are more or less associated with personality and attitude of the respondents. So, factor one can be labeled as **Attitudinal and Personality Traits**. It seems to be that the attitude and personality of a faculty towards research is most dominant factor in generating his/her research orientation.

Factor 2 has a loading of 6 elements considered in the study. It is second important factor, which explained approx. 17% of variance. These six elements are talking about the environment that a faculty receives, may be at office, or at home or from colleagues and staff. So, this factor can be labeled as **Environmental Traits.**

The third important factor that has emerged in the study is been loaded by three variables only, but this factor is explaining more than 12% of the total variance. This factor can be labeled as **Compulsion** as the three variables are indicating a mandate to conduct research work, institutionally or otherwise.

The fourth factor might be labeled as **Sundry Societal Issues**, which explains more than 11% of the total variance. This factor indicates that orientation of faculty towards research is also affected by a faculty's perception towards its contribution to society

Factors 5 and 6 each have a loading of two variables each. Factor 5 is associated with skillfulness and attitude of respondents towards computer and internet, so it can be labeled as **IT Skills.** This factor is explaining approx. 10% of the total variation in dataset. On the other hand, factor 6 seems to be associated with role of research in public relations. So, this factor can be labeled as **PR Impact**. This factor is explaining approx. 6% variation in the data set.

Astin (1993) contends his views on basis of single-institution studies that there are no contradictions in faculty being both research-oriented and effective in teaching. They are capable enough to take both the challenges of best teaching and research together successfully. In fact, in some studies, faculty members expressed that they view teaching and research as complementary activities while others studies found that teaching effectiveness and research productivity are virtually uncorrelated (Clark, 1997; Colbeck, 1998; Volkwein & Carbone, 1994; Marsh & Hattie, 2002).

Beside faculty research orientation some of the studies assessed college environments and disclosed that strong research cultures and climates impact student outcomes (Astin, 1993; Chickering & Reisser, 1993; Volkwein & Carbone, 1994; Pascarella & Terenzini, 1991). Strong faculty research orientation is specifically regarded as a significant influential factor in student development. In fact, Astin (1993) indicates that the research orientation of the faculty has a number of significant effects on student development, including some of the strongest effects of all environmental measures. Strong faculty research orientation, according to Astin's findings, is positively correlated with student involvement in faculty research.

Rewards associated with research productivity influence the priorities of faculty members, which may also be a reflection of the values and norms of a department. Departmental values and norms that emphasize research activities also influence faculty research and teaching preferences (Amey, 1999; Tang & Chamberlain, 1997).

Empirically, the link between research and teaching quality has been found to be weak at best. A meta-analysis of 58 studies by Hattie and Marsh (1996) finds that there is no relationship between research and teaching. The studies reviewed were published between 1949 and 1992, included mostly research universities, and were conducted across disciplines and schools. While the overall relationship between research quality and teaching quality appears slightly positive at first, Hattie and Marsh note that the effect has diminished over time.

A stated by (Light, 2001) faculty research may play a role in the value of higher education as a consumption good, and through this channel affect the overall quality of education produced. Students could enjoy learning about research or participating in research themselves. This is clearly important to some students but is probably not common among large numbers of students. When students get to know about faculty research orientation and they get something out side bookish material this generates a positive image of faculty among students. Faculty research contribute to higher education as a consumption good if students like to be around "celebrity" researchers, just as people like to be around television personalities (Cowen, 2000).

Faculty research could be critical to the enhancement human capital. Researchers may be better at teaching higher order skills, such as the ability to learn for oneself. Engaging in academic research requires complex skills in identifying and making sense of otherwise muddled information. Research may serve as proof that some faculty have acquired the necessary skills to think and research independently, making them better able to teach such skills to the students. Faculty engaging in research may be better at teaching more specialized general human capital. This is especially true for fields undergoing rapid evolution, where perhaps only faculty who do research are capable of possessing and communicating up-to-date content promoting quality education. Moreover, the growing complexity of many fields could be making the specific, cutting-edge knowledge of research faculty more relevant in "real world" applications. This connect of real world is made possible by research investigation done by faculty.

Active researchers would also be continuously changing and improving their course content, not simply in response to changes in the subject matter, but also in response to the exchange of ideas with colleagues in conferences. Conferences make researchers meet at a platform where investigated ideas get an exchange thought process. Researchers are continuously testing their knowledge and ideas in a wider forum than the classroom. Finally, faculty research could provide "motivational quality" to teaching if researchers inspire or intimidate into providing more efforts in both qualitative and quantitative aspects of research.

LIMITATIONS OF THE STUDY

1. The study was done in higher learning institutes of Indore, which is a mediocre tier 2 city of the India. So, the results may not be generalizable at national and international level. Further, national institute of high recognition and repute were also kept out of the purview of this study for the want of altogether different institutional environment, so the findings may have no implications for these as well.
2. The sample size considered for this study might be a limitation in itself.
3. As not much of such work has been conducted in the country, there might have been some issues that would have been overlooked. This may be considered as one of the technical limitation of this study.

SCOPE FOR FURTHER RESEARCH

1. The research can be replicated with various other variables like job satisfaction, job stress, career advancement etc.
2. The sample size can be further expanded for varied results and generalizations. Further, to generalize the findings at national and international level, similar studies may be undertaken drawing samples accordingly. Further, such specific studies/case studies may be undertaken for institutions with differently characterized environment like IITs, IIMs, Medical Colleges, etc. The findings drawn from such studies may lay down modeling base for promotion of faculty orientation towards research amongst various other institutes.
3. This research can lay down a base for modeling research orientation of faculties in higher learning institutes, which might be empirically tested and validated, which in turn may be followed to promote teaching along with research as a lethal academic tool.

CONCLUSION

Research and developmental activities construe one of the important dimensions on profile of academicians all across the globe. Faculty research could be critical to the enhancement human capital. Researchers may be better at teaching higher order skills, such as the ability to learn for oneself. Engaging in academic research requires complex skills in identifying and making sense of otherwise muddled information. The rising costs of higher education have enforced specific concerns about the contributions research universities make to the human capital of society. As the research indicates, there are some important factors that an academicians needs to consider. The hunger of innovation and to establish something concrete that could directly or indirectly contributes to society by **Attitudinal and Personality Traits** of the faculty. **Environmental Traits** play a vital role because environmental generated motivation makes average performers good performers and good performers the best ones due to environmental effect. These factors when enforced as a policy and has a weightage of appreciation and recognition without discrimination become environmental motivators for research. **Compulsion** factors by law forces faculty to do research and contribute to the faculty group work that directly and indirectly affects Institutional output along with the individual learning. **Sundry Societal Issues** explains faculty towards research is also affected by its impact on society. It signifies the unusual urge to establish some thigh off beat or may be some non-conventional issue or totally new concept which society might have not yet thought of and prove to be a boon or blessing. **IT skills** have made research reach every corner in universe at any time with fantastic speed of output where various statistical software's has made research an easily accessible aspect. This factor has made research orientation an easy task to be taken anytime and anywhere. And last not the least **PR Impact** makes faculty contact publishers for publications, send their papers to different conferences, get a platform to disseminate their knowledge and get appreciation and thus make good relations and get recognition.

BIBLIOGRAPHY

Amey, M. J. (1999, Spring). Faculty culture and college life: Reshaping incentives toward student outcomes. In *New Directions for Higher Education*, no. 105.

Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco:

Bennis, Warren G. and James O'Toole. 2005. "How Business Schools Lost Their Way."*Harvard Business Review*, May, 96-104.

Boyer Commission on Educating Undergraduates in the Research University (1998). *Reinventing undergraduate education: A blueprint for America's research universities.*

Stony Brook, NY: The Carnegie Foundation for the Advancement of Teaching.

Chickering, A.W. & Reisser, L. (1993). *Education and identity* (rev. ed). San Francisco:

Clark, B.R. (1989). The academic life: Small worlds, different worlds. *Educational researcher*, 18, 4-8.

Clark, B. R. (1997). The modern integration of research activities with teaching and learning. *The Journal of Higher Education*, 68, 241 – 255.

Colbeck, C. L. (1998). Merging in a seamless blend: How faculty integrate teaching and research. *The Journal of Higher Education*, 69, 647 - 671.

Cowen, Tyler. 2000. What Price Fame? Harvard University Press.

Economic Report of the President 2000. 2000. Chapter 4. "Work and Learning in the 21st Century". Washington DC: Government Printing Office.

Ehrenberg, Ronald G., Michael J. Rizzo and George H. Jakubson. 2003. "Who Bears the Growing Cost of Science at Universities?" National Bureau of Economic Research Working Paper no. 9627.

Dill, D. D. (February 2005). *Are public research universities effective communities of learning? The collective action dilemma of assuring academic standards.* Paper presented at the Symposium: Future of the American Public Research University, Pennsylvania State University, PA.

Hattie, John and Herbert W. Marsh. 1996. "The Relationship Between Research and Teaching: A Meta-Analysis, *Review of Educational Research*, 66(4), 507-542.

Johnstone, D. B. (2001). Financing higher education: Who should pay? In J.L. Yeager,

G.M. Nelson, E.A. Potter, J.C Weidman (Eds.), *ASHE reader on finance in higher education* (2nd ed.) (pp. 3-16). Boston: Pearson Custom Publishing.

Light, Richard J. 2001. Making the Most of College: Students Speak Their Minds. Harvard University Press.

Marsh, H. W. & Hattie, J. (2002). The relationship between research productivity and teaching effectiveness: Complementary, antagonistic, or independent constructs? *The Journal of Higher Education*, 73, 603 - 641.

Massy, W. F. & Wilger, A. K. (1992). Productivity in postsecondary education: A new approach. *Educational Education and Policy Analysis*, 14, 361 – 376.

Massy, W. F. & Zemsky, R. (1994). Faculty discretionary time: Departments and the "Academic Ratchet". *The Journal of Higher Education*, 65, 1 – 22

Martin, Robert. 2002. "Why Tuition Costs and Rising So Quickly" *Challenge* 45(4): 88-108.

McPherson, M. & Schapiro, M. (1998). *The student aid game*. Princeton, N.J.: Princeton University Press.

Newman, F., Couturier, L., & Scurry, J. (2004). Higher education isn't meeting the public's needs. *The Chronicle of Higher Education, 51*. Retrieved June 1, 2006 from http://chronicle.com/weekly/v51/i08/08b00601.htm.

Pascarella, E. T. & Terenzini, P. T. (1991). *How college affects students: Findings and insights from 20 years of research.* San Francisco:

Tang, T. L. & Chamberlain, M. (1997). Attitudes toward research and teaching: Differences between administrators and faculty members. *The Journal of Higher Education*, 68, 212 – 227.

Volkwein, J. F., & Carbone, D. A. (1994). The impact of departmental research and teaching climates on undergraduate growth and satisfaction. *The Journal of Higher Education*, 65, 147 – 167.

Waggaman, J. (2001). Strategies and consequences: Managing the costs in higher education. In J.L. Yeager, G.M. Nelson, E.A. Potter, J.C Weidman (Eds.), *ASHE reader on finance in higher education* (2nd ed.) (pp. 301 – 315). Boston: Pearson Custom Publishing.
