Identification of Institutional Factors of Research Productivity of Public Universities Teachers

Ayesha Batool[*]
Abid Hussain Ch.[**]
Saghir Ahmad[***]

Abstract

Research is an essential and vital part of university education now days. Universities are source of establishing new perceptions. It is a critical determination for financial improvement in the twenty first century and has turned out to be progressively vital in the university setting. The main purpose of the study was to find out the institutional factors of teachers regarding their research productivity. This study was quantitative in nature. Survey method was used to collect data from the respondents. Sample of study consisted of two hundred and ninety seven male and female teachers from public sector universities. A self-developed Likert type scale was used for data collection. Descriptive and inferential statistical techniques were used to analyze the data. From descriptive statistics (frequencies, mean, and standard deviation) and in inferential statistics (t-test and One Way ANOVA) were applied to get the results. The findings indicated that appreciation and encouragement by the head of department positively influences the teachers' research publications. It also revealed that research papers are a condition for promotion in universities and extra administrative duties affects research productivity of teachers. It is recommended that research oriented culture may provide to teachers because it encourage and attract them to engage in research and to enhance their performance by conducting research.

Keywords: Institutional factors, Research productivity, Teachers

Introduction

Universities are source of producing new knowledge and establishing new perceptions regarding research. Teaching and research are thought to be efficiently interrelated. Teaching is the essential part of higher education institutions. Importance

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[*] PhD Scholar, Institute of Education and Research, University of the Punjab Lahore, Pakistan. Ayeshabatoolrana@gmail.com
[**] Institute of Education and Research, University of the Punjab Lahore, Pakistan. abidh.ier@gmail.com
[***] PhD Scholar, Institute of Education and Research, University of the Punjab Lahore, Pakistan. saghir.edu786@gmail.com

is given to learning era, the accessibility of nearby and worldwide focused stipends for research, and the comparative motivation structure of universities which puts a premium on production (Bloedel, 2001).

Research Productivity is mixture of two words, "Exploration" and "Profitability". "Explore" implies exceptionally cautious, attentive, and watchful review or examination of wonders, especially to hunt and discover new particulars, data and truths. While "Efficiency" implies generation or yield, delivered in length of time. Both the words imply diverse individuals. With reference to advanced education, investigation of profitability implies distribution of papers in journals, fit as a part of books or introduction of research papers in gathering procedures (Bland, Center, Finstad, Risbey, & Staples, 2005).

Research productivity has been characterized as the connection between the outputs produced by a framework and the sources of information given to make that productivity. It incorporates the expression "proficiency" and all the more significantly viability, which measures the overall outputs or consequences of performance (Turnage, 1990).

There are various variables that have been observed to be related with research profitability. These may incorporate natural components, institutional variables. Institutional factors that directly emerge from the institution's structure, such as the type of institution, institution policy for promotion, research policy, work-load, salary, resources and material supports (Turnbull, 2010).

The level of competency of faculty members also depends upon the institution in which they work. If an institution has encouraging attitude towards research than the members of the institution will do more research but if an institution does not has encouraging attitude towards research than its faculty members will not show more interest towards research. There were some institutional components identified of research profitability that are the sort of university, the level of supports, and the structure of the university. The patterns of different research publications depend upon the norms of the institutions which may vary from institution to institution. It may be different due to structure and environment of the university. There is difference between research attitude and publication rate of doctoral degree granting institution and bachelor degree granting institution (Townsend & Rosser, 2007).

Bland, Weber-Main, Lund, and Finstad (2005) announced that promotion incentive in research is beneficial for the employees and organizations. Material assets alluded to facilities, and adequate assets to direct research. Human resources indicated to nearby associate support, attention from research aides, and support from specialized advisors or experts. Townsend and Rosser (2007) demonstrated solid correlation between accessibility of basic resources with staff personnel research efficiency. A few

measures incorporated: (a) sustain administrations for research, (b) proper provide facilities for research, (c) develop framework of research schedules, (d) changing employing arrangements to contract research about profitable resources, and (e) changes in research organization. The university was ready to improve their staffs research work and profitability.

Dundar and Lewis (1998) explored that economically support to teachers to organize research work from the department is highly important to personnel and the institutions. Because these things contribute positively to promote the research work in the department and also provide energy to teachers to do more work in their disciplines. A number of research studies showed strong correlation between availability of resources with faculty member's research productivity.

Gregorutti (2007) stated that in a sample of medium-sized doctorate-conceding universities distinguished the accessibility of facilities (library, stores for research, among others) as being emphatically identified with more elevated amounts of research profitability. And, he additionally explored that access to facilities is directly link with research efficiency because those who have enough facilities they are extra efficient in research.

Objectives of the Study

Following were the objectives of the study to:
1. find out the institutional factors which enhance the research productivity of teachers.
2. find out the perceptions of teachers about their research productivity.
3. identify the difference between male and female teachers perceptions regarding institutional factors and research productivity.
4. identify the difference between perceptions of married and unmarried teachers regarding institutional factors and research productivity.
5. identify the difference between institutional factors and research productivity of teachers on the basis of their different departments.
6. identify the difference between institutional factors and research productivity of teachers on the basis of their designation.
7. identify the difference between institutional factors and research productivity of teachers on the basis of their job experience.
8. identify the difference between institutional factors and research productivity of teachers on the basis of their academic qualification.

Research Methodology

This study conducted to identify the institutional factors of public sector university teachers regarding their research productivity. Quantitative approach was used. A descriptive survey was used to collect data from the respondents. There are

fifteen public general universities in Punjab. The population of the study was consisted of male and female teachers of public sector general universities of Punjab. Five general universities were selected by using random sampling from population. Two hundred and ninety seven teachers were selected from similar departments (Education, Political Science, History, Economics, and Psychology) from each university by using census sampling technique from public sector universities.

A self-developed questionnaire based on five point Likert scale (strongly agree to strongly disagree) was used to collect data from the respondents. The questionnaire has two parts. Part one consisted of demographic variables of the respondents and second part of the questionnaire was consisted of twenty two statements about teachers' institutional factors regarding their research productivity. Pilot testing was conducted to check the validity and reliability of the instrument. Validity of the questionnaire was certified by experts' opinions. Cronbach Alpha was applied to ensure the reliability. A detail description of reliability index is given below.

Table 1
Reliability of Scale

Cronbach's Alpha	No. of Items
.807	22

Table 1 shows that there were 22 statements in the questionnaire based on institutional factors of research productivity. Cronbach Alpha was used to ensure the reliability of the instrument. The value of reliability index was .807, which is statistically significant. After taking the permission, data were collected from study subjects by visiting the universities personally. Data entered into SPSS (Statistical Package for Social Sciences) software for analysis. Data were analyzed by using descriptive and inferential statistical techniques. Frequencies, mean, standard deviations, independent sample t-test, and One Way ANOVA tests were applied to get results.

Data Analysis

A detail description of demographic variables and data analysis is as under.

Table 2

Demographic representation of teachers' sample

	Demographic Variables	Frequency	Percent
Universities	Public	297	100.0
Gender	Male	134	45.1
	Female	163	54.9
	Total	297	100.0
Departments	Education	69	23.2
	History	97	32.7
	Psychology	100	33.7
	Political science	22	7.4
	Economics	9	3.0
	Total	297	100.0
Designation	Lecturer	175	58.9
	Assistant Professor	91	30.6
	Associate Professor	13	4.4
	Professor	18	6.1
	Total	297	100.0
Experience	1-5	141	47.5
	6-10	79	26.6
	11-15	36	12.1
	above 15	41	13.8
	Total	297	100.0
Qualification	MA/MSC	14	4.7
	M.Phil.	133	44.8
	PhD	150	50.5
	Total	297	100.0
Marital Status	Married	204	68.7
	Unmarried	93	31.3
	Total	297	100.0

Table 2 indicates the demographic information of selected subjects of the study in the frequencies and percentages. The sample (teachers) of the study had different demographic characteristics (university, gender, departments, designation, experience, qualification, and marital status). Total sample of study was 297 teachers.

Table 3

Teachers' promotion and incentives

Statements	Mean	SD
I am conducting research to get scholarship for higher studies.	3.38	1.216
Promotion is the main purpose of conducting research.	3.57	1.167
Appreciation and encouragement by the head of department positively influences on research productivity of the faculty members.	3.97	1.001
Institutes provide opportunities for participation in international research conferences.	3.75	1.138

Table 3 shows that maximum mean score of appreciation and encouragement by the head of department positively influences on research productivity of the faculty members (M= 3.97, SD = 1.001) and minimum mean value of I am conducting research to get scholarship for higher studies (M= 3.38, SD = 1.216). It is concluded that majority of the teachers agreed that appreciation from the Head of department enhance their research publications.

Table 4

Research policy of institutions

Statements	Mean	SD
A research oriented culture will encourage and attract me to engage in research.	4.02	.910
Research productivity helps higher education institutions to increase their performance.	4.18	.795
Research papers are a condition for promotion of university teachers.	4.24	.783
Supervision of M.Phil and PhD students positively affects teachers' research publications.	4.09	.873

Table 4 indicates that majority of teacher agreed that research papers are a condition for promotion of university teachers (M= 4.24, SD= .783) and research productivity helps higher education institutions to increase their performance (M= 4.18, SD= .795). It is concluded that research policies of the institutions help teachers to enhance their research publications.

Table 5

Work-load and salary of teachers

Statements	Mean	SD
Academic duties like teaching, assignments, examination, and preparation of course outlines reduce the research productivity of teachers.	4.02	1.018
Higher salaries attract teachers' to conduct research.	3.98	1.020
Extra work-load of administrative duties affects research productivity of university teachers'.	4.08	.937
Research publications help the faculty members to get higher salary package.	4.00	.971

Table 5 indicates that majority of teachers agreed that extra work-load of administrative duties affects research productivity of university teachers (M= 4.08, SD= .937). A very few teachers were undecided with the statement that higher salaries attract teachers' to conduct research (M= 3.98, SD= 1.020). It is concluded from the result that extra work-load affects teachers' research productivity.

Table 6

Institutional resources and material support for teachers

Statements	Mean	SD
Adequate research funds are necessary to conduct research.	4.12	.959
I am satisfied with research resources (library, internet, & time) provided by the university to conduct research.	3.62	1.186
Amount of time teachers spent on research affects research productivity.	4.12	.846
Lack of institutional support, feedback & encouragement affects the research productivity of faculty members.	4.18	.879

Table 6 reveals that majority of teachers agreed that lack of institutional support, feedback and encouragement affects the research productivity of faculty members (M= 4.18, SD= .879). A few teachers agreed that they are satisfied with research resources (library, internet, & time) provided by the university to conduct research (M = 3.62, SD = 1.186). It is concluded that most of the teachers agreed that lack of institutional support and feedback affect their research productivity.

Table 7

Teachers' responses about research productivity

No.	Research paper	Mean	SD
1	0	2.05	1.170
2	1-5	1.98	1.222
3	6-10	1.93	1.103
4	11-15	1.72	.916
5	16-20	1.28	.779
6	Above 20	1.26	.687

Table 7 shows that mean value of highest research productivity is ($M = 2.05$, $SD = 1.170$). It is concluded that the majority of the teachers have no research publication. A very few teachers had more than 20 publications ($M = 1.26$, $SD = .687$).

Table 8

Difference among teachers about their institutional factors on the basis of gender

Variable	Gender	N	Mean	SD	t-value	df	Sig.
Institutional promotion	Male	134	14.80	2.927	.680	295	.497
	Female	163	14.56	3.107			
Institutional research policy	Male	134	16.79	2.170	1.692	295	.092
	Female	163	16.29	2.821			
Institutional workload	Male	134	16.41	2.729	1.803	295	.072
	Female	163	15.81	2.958			
Institutional resource support	Male	134	16.04	2.753	.048	295	.962
	Female	163	16.03	2.332			

Independent sample t-test was applied to find out the difference between the promotion and incentives scores of teachers on the basis of gender. It is concluded that there was no significant difference in the perceptions of male and female university teachers regarding research policy of institutions, and work-load and salary, promotion and incentives, and resources and material support.

Table 9

Difference among teachers about their research productivity on the basis of gender

Variable	Gender	N	Mean	SD	t-value	df	Sig.
Research productivity	Male	134	10.78	3.917	2.000	295	.046
	Female	163	9.74	4.869			

Independent sample t-test was applied to compare the research productivity scores on the basis of gender. There was significant difference in scores of research

productivity between male (M = 10.78, SD = 3.917) and female university teachers M = 9.74, SD = 4.869, t (295) = 2.000, p = .046. It is concluded that there was significant difference between the mean score of male and female university teachers regarding their research productivity. Male teachers had more research productivity rather than female teachers.

Table 10

Difference among teachers about institutional factors on the basis of marital status

Variable	Marital Status	N	Mean	SD	t-value	df	Sig.
Institutional promotion	Married	204	14.75	2.871	.744	295	.457
	Unmarried	93	14.47	3.345			
Institutional research policy	Married	204	16.46	2.578	-.542	295	.588
	Unmarried	93	16.63	2.519			
Institutional workload	Married	204	16.19	2.934	.939	295	.349
	Unmarried	93	15.85	2.718			
Institutional resources	Married	204	15.87	2.546	-1.717	295	.087
	Unmarried	93	16.41	2.455			

Independent sample t-test was applied to find out the difference between the scores of teachers about promotion and incentives on the basis of marital status. There was no significant difference in promotion and incentives scores of married and unmarried teachers. P-value is greater than .05. Thus, it is concluded that there was no significant difference in the perception scores of married and unmarried university teachers regarding promotion and incentives, research policy of institutions, and work-load and salary, resources and material support.

Table 11

Difference among teachers about their research productivity on the basis of marital status

Variable	Marital Status	N	Mean	SD	t-value	df	Sig.
Research productivity	Married	204	10.67	4.641	2.639	295	.009
	Unmarried	93	9.20	3.972			

Table shows that independent sample t-test was applied to compare the research productivity scores of university teachers on the basis of their marital status. There was significant difference in scores of research productivity between married (M = 10.67, SD = 4.641) and unmarried university teachers M = 9.20, SD = 3.972, t (295) = 2.639, p = .009.

It is concluded that there was significant difference between the mean score of married and unmarried university teachers regarding their research productivity. Mean difference showed that married teachers were more productive in their research than unmarried.

Table 12

One way ANOVA for the difference among teachers about institutional factors on the basis of departments

Variable		Sum of Squares	df	Mean Square	F	Sig.
Institutional promotion	Between Groups	18.654	4	4.663	.506	.731
	Within Groups	2689.346	292	9.210		
	Total	2708.000	296			
Institutional research policy	Between Groups	43.677	4	10.919	1.687	.153
	Within Groups	1890.505	292	6.474		
	Total	1934.182	296			
Institutional workload	Between Groups	41.475	4	10.369	1.265	.284
	Within Groups	2392.586	292	8.194		
	Total	2434.061	296			
Institutional resources	Between Groups	53.521	4	13.380	2.129	.077
	Within Groups	1835.071	292	6.284		
	Total	1888.593	296			

Table 12 shows that analysis of variance was applied to explore the difference in means scores of promotion and incentives, research policy of institutions, work-load and salary, and resources and material support through perceptions of university teachers. Perceptions were collected in four areas i.e. promotion and incentives: $F(4, 292) = .506$, $p = .731$; research policy of institutions: $F(4, 292) = 1.687$, $p = .153$; work-load and salary: $F(4, 292) = 1.265$, $p = .284$; and resources and material support: $F(4, 292) = 2.129$, $p = .077$. There was no significant difference in the results of all four areas on the basis of departments. It means that teachers of different departments had not different perceptions regarding their institutional factors which influence their research productivity.

Table 13

One way ANOVA for the difference among teachers about research output on the basis of departments

Variable		Sum of Squares	df	Mean Square	F	Sig.
Research Productivity	Between Groups	28.125	4	7.031	.346	.847
	Within Groups	5933.512	292	20.320		
	Total	5961.636	296			

Table 13 shows that analysis of variance was applied to explore the difference in mean scores of teachers research output. Perceptions were collected from teachers of different departments i.e. research productivity: $F(4, 292) = .346$, $p = .847$. There was statistically no significant difference in the results of teachers' research productivity on the basis of their departments. It means that teachers of different departments had not different research productivity.

Table 14

One way ANOVA for the difference among teachers about institutional factors on the basis of designation

Variable		Sum of Squares	df	Mean Square	F	Sig.
Institutional promotion	Between Groups	3.435	3	1.145	.124	.946
	Within Groups	2704.565	293	9.231		
	Total	2708.000	296			
Institutional research policy	Between Groups	36.813	3	12.271	1.895	.130
	Within Groups	1897.368	293	6.476		
	Total	1934.182	296			
Institutional workload	Between Groups	44.728	3	14.909	1.828	.142
	Within Groups	2389.333	293	8.155		
	Total	2434.061	296			
Institutional resources	Between Groups	35.437	3	11.812	1.868	.135
	Within Groups	1853.155	293	6.325		
	Total	1888.593	296			

Table 14 shows that analysis of variance was applied to explore the difference in mean scores of promotion and incentives, research policy of institutions, work-load and salary, and resources and material support through perceptions of university teachers. Perceptions were collected in four areas i.e. promotion and incentives: $F(3, 293) = .124$, $p = .946$; research policy of institutions: $F(3, 293) = 1.895$, $p = .130$;

work-load and salary: $F(3, 293) = 1.828$, $p = .142$; and resources and material support: $F(3, 293) = 1.868$, $p = .135$. There was statistically no significant difference in scores of all four area; promotion and incentives, research policy of institution, work-load and salary, and resources and material supports on the basis of designation.

Table 15

One way ANOVA for the difference among teachers about research output on the basis of designation

Variable		Sum of Squares	*df*	Mean Square	*F*	Sig.
Research Productivity	Between Groups	1129.622	3	376.541	22.832	.000
	Within Groups	4832.014	293	16.492		
	Total	5961.636	296			

Table 15 shows that analysis of variance was applied to explore the difference in mean scores of teachers research output. Perceptions were collected from teachers of different departments i.e. research productivity: $F(3, 293) = 22.832$, $p = .000$. There was statistically significant difference in the results of teachers' research productivity on the basis of their designation. It means that teachers of different designation had different research productivity.

Table 16

One way ANOVA for the difference among teachers about institutional factors on the basis of job experience

Variable		Sum of Squares	*df*	Mean Square	*F*	Sig.
Institutional promotion	Between Groups	30.052	3	10.017	1.096	.351
	Within Groups	2677.948	293	9.140		
	Total	2708.000	296			
Institutional research policy	Between Groups	13.015	3	4.338	.662	.576
	Within Groups	1921.167	293	6.557		
	Total	1934.182	296			
Institutional workload	Between Groups	14.652	3	4.884	.591	.621
	Within Groups	2419.409	293	8.257		
	Total	2434.061	296			
Institutional resources	Between Groups	19.865	3	6.622	1.038	.376
	Within Groups	1868.727	293	6.378		
	Total	1888.593	296			

Table shows that analysis of variance was applied to explore the difference in mean scores of promotion and incentives, research policy of institutions, work-load and

salary, and resources and material support through perceptions of university teachers. Perceptions were collected in four areas i.e. promotion and incentives: $F (3, 293) = 1.096$, $p = .351$; research policy of institutions: $F (3, 293) = .662$, $p = .576$; work-load and salary: $F (3, 293) = .591$, $p = .621$; and resources and material support: $F (3, 293) = 1.038$, $p = .376$. There was statistically no significant difference in scores of all four area; promotion and incentives, research policy of institution, work-load and salary, and resources and material supports on the basis of teachers teaching experience.

Table 17

One way ANOVA for the difference among teachers about research output on the basis of experience

Variable		Sum of Squares	df	Mean Square	F	Sig.
Research Productivity	Between Groups	541.979	3	180.660	9.767	.000
	Within Groups	5419.657	293	18.497		
	Total	5961.636	296			

Table displays that analysis of variance was applied to explore the difference in mean scores of teachers research output. Perceptions were collected from teachers had different experience i.e. research productivity: $F (3, 293) = 9.767$, $p = .000$. There was statistically significant difference in the results of teachers' research productivity on the basis of their teaching experience. It means that teachers who had more teaching experience had different research productivity.

Table 18

One way ANOVA for the difference among teachers about institutional factors on the basis of qualification

Variable		Sum of Squares	df	Mean Square	F	Sig.
Institutional promotion	Between Groups	.072	2	.036	.004	.996
	Within Groups	2707.928	294	9.211		
	Total	2708.000	296			
Institutional research policy	Between Groups	7.986	2	3.993	.609	.544
	Within Groups	1926.195	294	6.552		
	Total	1934.182	296			
Institutional workload	Between Groups	9.848	2	4.924	.597	.551
	Within Groups	2424.213	294	8.246		
	Total	2434.061	296			
Institutional resources	Between Groups	70.720	2	35.360	5.719	.004
	Within Groups	1817.872	294	6.183		
	Total	1888.593	296			

Table 18 indicates that analysis of variance was applied to explore the difference in mean scores of promotion and incentives, research policy of institutions, work-load and salary, and resources and material support through perceptions of university teachers. Perceptions were collected in four areas i.e. promotion and incentives: $F(2, 294) = .004$, $p = .996$; research policy of institutions: $F(2, 294) = .609$, $p = .544$; work-load and salary: $F(2, 294) = .597$, $p = .551$; and resources and material support: $F(2, 294) = 5.719$, $p = .004$. There was statistically no significant difference in scores of promotion and incentives, research policy of institution, work-load and salary but there was significant difference in score of resources and material supports on the basis of teachers academic qualification.

Table 19

One way ANOVA for the difference among teachers about research output on the basis of qualification

Variable		Sum of Squares	df	Mean Square	F	Sig.
Research Productivity	Between Groups	794.660	2	397.330	22.608	.000
	Within Groups	5166.977	294	17.575		
	Total	5961.636	296			

Table shows that analysis of variance was applied to explore the difference in mean scores of teachers research output. Perceptions were collected from teachers had different qualification i.e. research productivity: $F(2, 294) = 22.608$, $p = .000$. There was statistically significant difference in the results of teachers' research productivity on the basis of their qualification. It means that teachers had different academic qualification had different research productivity.

Discussion

This study was conducted to identify the institutional factors of public sector university teachers regarding their research productivity. The data for the study were collected from the teachers of public sector universities in Punjab. The mean scores of the respondents and overall results showed that promotion and incentives and material resources and support are the major institutional factors which influence teachers' research output. These results are consistent with the previous study of Bland, Weber-Main, Lund, and Finstad (2005); Stafford (2011) found similar findings that promotion incentive in research is beneficial for the employees and organizations. Material assets alluded to facilities, and adequate assets to direct research.

Conclusion

The purpose of the study was to identify the institutional factors of public university teachers regarding their research productivity. It was concluded that

appreciation and encouragement by the head of department positively influences on research productivity of the faculty members. Institutes provide opportunities for participation in international research conferences may enhance teachers' research productivity. It was also included that research papers are a condition for promotion of university teachers. Research productivity helps higher education institutions to increase their performance. Findings of the study showed that research oriented culture will encourage and attract university teachers to engage themselves in conducting research. Research policies of the institutions help teachers to enhance their research publications. Extra work-load of administrative duties affects research productivity of university teachers. It was also concluded that research resources and support help teachers to enhance their research productivity.

There was no significant difference between institutional factors of teachers on the basis of gender. Male and female university teachers have equal opportunities to conduct research. There was a significant difference between the male and female university teachers regarding their research productivity. It was concluded that there was significant difference between the mean score of married and unmarried university teachers regarding their research productivity. There was statistically significant difference in the results of teachers' research productivity on the basis of their designation. Teachers who were professors they had more publications and research work than other teachers. Lecturers had less research productivity than other teachers. There was statistically no significant difference in scores of all four area; promotion and incentives, research policy of institution, work-load and salary, and resources and material supports on the basis of teachers' academic qualification and teaching experience. There was statistically significant difference in the results of teachers' research productivity on the basis of their teaching experience. It means that teachers who had more teaching experience had different research productivity. There was statistically significant difference in the results of teachers' research productivity on the basis of their qualification.

Recommendations

Following recommendations were made on the basis of study findings:

1. Research culture is not supportive in most institutions. So, research oriented culture might be promoted to increase teachers' research productivity.
2. Peaceful research environment is also a factor which influences research output of university teachers. If teachers will get conducive environment for conducting research, it will enhance the capability of conducting research and they will be able to teach the new concepts to their students. A proper environment for teachers might be provided e.g. staffrooms should be provided in very comfortable and favorable conditions, electricity, advanced techniques and knowledge, should be provided. It is highly recommended that

institutions should provide a peaceful environment to all the faculty members for the improvement of research productivity of teachers.

3. Majority of the institutions only force their teachers to conduct research rather than providing them with proper financial incentive. Thus, due to less incentive teachers do not take interest in research and they do not focus on quality work and just focus on quantity. Financial incentives (travel grant, reward system, annually appraisal, allowances, international conferences and foreign scholarships) are important to conduct research. Institutions will have to revise their research policy and provide all the above incentives to those prominent teachers whose articles are published in reputed journals and those who are trying to improve their research work.

4. Department support is an important factor to conduct research. Head of department should provide full support to their faculty members in the shape of peaceful environment, library facilities, separate room, internet facility to help teachers to complete their research projects. The administrator should give ownership to their teachers that will enhance their connection to the work and to the organization.

5. Appreciation and encouragement from the head of the department encourages teachers' to conduct quality work. Appreciation letters should be given to teachers as a reward to increase their research productivity.

6. Extra work-load is a hurdle to conduct research. Higher education institutions have the responsibility to decrease the extra duties from the teachers' so that they are able to conduct research and improve their research publications.

7. Appropriate use of funds is a hurdle in conducting research. Universities do not provide adequate funds to their teachers. Institutions might be responsible for appropriate use of funds according to the need of the teachers.

8. Resource and material supports (internet, library, appropriate tools) are necessary to conduct research. This is institution's responsibility to provide all the resource and material supports which their faculty members need to enhance their research productivity. Therefore, institution should provide all the resource and material to their faculty.

References

Bland, C. J., Weber-Main, A. M., Lund, S. M., & Finstad, D. A. (2005). *The Research Productive Departments: Strategies from Departments That Excel*. New York: Anker Publishing Company.

Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. G. (2005). A theoretical, practical, predictive model of faculty and department research productivity. *Academic Medicine*, *80*(3), 225–237.

Bloedel, J. R. (2001). Judging research productivity on an entrepreneurial campus. *Evaluation Research Productivity*. Retrieved on March 20, 2016 from http://merrill.ku.edu/publications/2001whitepaper/ bloedel.html.

Dundar, H., & Lewis, D. R. (1998). Determinants of research productivity in higher education. *Research in Higher Education*, *39*(6), 607–631.

Gregorutti, G. (2007). *Environmental and personal factors that predict faculty research productivity: A mixed-method study.* Paper presented at the annual meeting of American Educational Research Association; Chicago, IL.

Stafford, M. T. (2011). *Faculty research productivity at Addis Ababa University.* PhD dissertation, University of North Texas.

Townsend, B. K., & Rosser, V. J. (2007). *Initial measures of faculty productivity as evidenced in NSOPF data.* Paper presented at the annual meeting of American Educational Research Association; Chicago, IL.

Turnage, J. (1990). The challenge of the new workplace technology for psychology. *American Psychologist, 45*(3), 171-178.

Turnbull, J. (2010). *Concise on oxford advanced learner's dictionary,* (8th ed.). Oxford University Press: London.