

Sway of Selected Factors on Scientific Productivity of Academicians

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INTRODUCTION

At present, the agricultural education, research and extension in the country are in the state of flux. Twenty six agricultural universities in various states are already functioning with responsibility of teaching, research and extension education with linkage to the society (farmers) to be served. Agricultural University is a complex organisation in which academic personnel are performing their job with integrated functioning. (Teaching, research and extension activities). Efficiency and success of an organization largely depends upon the productivity of its employees and productivity depends upon two major variable i.e. employee's job performance and resources utilization.

Keeping these in view, present study was designed to measure the scientific productivity and find out variables influences the scientific productivity of academician of M.A.U. through a system analysis approach.

METHODOLOGY

The present study was conducted in Marathwada region of Maharashtra State. The Marathwada Agricultural University, Parbhani was selected purposively for the study. The research design followed in the study was ex-post-facto and stratified sampling proportional allocation method was used. The sample size was decided

on the basis of co-efficient of variability in scientific productivity of the academic staff. The sample size selected for the study was 215 academic personnel working as assistant professors and in equivalent cadre and above having five years and more experience. The respondents were selected randomly from the faculty of Agriculture, Home Science, Veterinary and Animal Science and Agricultural Technology.

Scientific productivity was measured as an output of teaching, research and extension work to be carried out by a scientist working in agricultural university as an aggregate model since scientist is supposed to do all three functions viz., teaching, research and extension and scientific productivity was considered as dependent variable and the selected personal, psychological and situational variables were treated as independent variables. The teaching, research and extension productivity were qualified by using appropriate measurement developed by Rani (1985).

Independent variables were selected on the basis of their zero order correlation co-efficient with scientific productivity of academicians. Only those variable which had significant association with scientific productivity were selected for path (Wright, 1921). Thus, finally 12 variables were considered.

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FINDINGS AND DISCUSSION

Multivariate path model was adopted to quantify and explain the effect of se

lected significant exogenous variables on scientific productivity of academic personnel. The data are reported in Table 1.

Table 1 : Path co-efficient of the independent variables with scientific productivity of academic staff.

(N=215)

Sr. No.	Independent variables	Direct effect	Total indirect effect	Substantial indirect effect 1st	2nd
X1	Age	0.0280	0.5607	0.2152(X11)	0.0924(X10)
X2	Education	0.0223	0.6721	0.3220(X11)	0.1111(X10)
X3	Service experience	0.0774	0.5050	0.2340(x11)	0.1004(X10)
X4	Income	0.0529	0.6537	0.3091(X11)	0.1172(X10)
X5	Position	0.0045	0.6713	0.2899(X11)	0.1263(X10)
X6	Training received	0.0568	0.5076	0.2473(X11)	0.0974(X10)
X7	Level of aspiration	0.0882	0.4127	0.2026(X11)	0.0768(X10)
X8	Job-satisfaction	0.0394	0.5863	0.2745(X11)	0.1189(X10)
X9	Opportunities given	0.1063	0.7845	0.4102(X11)	0.1626(X10)
X10	Interpersonal communication	0.2030	0.6521	0.3726(X11)	0.0852(X9)
X11	Infrastrcutrual facilities available	0.5014	0.4272	0.1509(X10)	0.0870(X9)
X12	Organizational climate	0.1060	0.6197	0.3039(X10)	0.1329(X10)

Direct Effect :

It is observed from the data given in Table 1 that out of 12 selected significant independent variables tried, 9 variables had exerted positive direct effect and remaining three independent variables exerted negative direct effect on scientific productivity of academicians working in different capacities/faulties of the university. The highest direct positive influence on scientific productivity of academic personnel was exercised by infrastructural facilities available (0.1060) followed by inter personal communication (0.2030), opportunities given (0.1063) and organizational climate (0.1060). Other variables exercising total positive direct effect on scientific productivity in order of sequence were

level of aspiration, service experience, training received, income and job satisfaction. These seemed to have trivial effect on scientific Productivity of academician. So far as direct negative effect was concerned, attribute age, education and position were observed in order of sequence.

Total Indirect Effect :

The highest positive total indirect effect on scientific productivity of academician was exercised by opportunity given (0.7845), followed by education (0.6721), position (0.6713), income (0.6537), inter personal communication (0.6521) and organizational climate (0.6197). A considerable total indirect positive effect was also exercised by job-satisfaction, age,

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training received, service experience, infrastructural facilities available and level of aspiration in descending order on scientific productivity of academicians.

Substantial Indirect Effect :

The first highest substantial positive indirect effect on scientific productivity of academic personnel was exerted by the variable opportunities given (0.4102) through infrastructural facilities available followed by interpersonal communication, education, income and organizational climate through infrastructural facilities. It was interesting to note that most of the independent variables exercised first positive substantial indirect effect on scientific productivity of academicians through infrastructural facilities available. The second largest positive substantial indirect effect was exerted by variable opportunity given (0.1626) through inter personal communication followed by organizational climate and position variables through interpersonal communication channel. It was interesting to note that majority of the independent attributes exercised second substantial indirect effect in positive direc-

tion on scientific productivity of academicians through interpersonal communication variables.

CONCLUSION

The multivariate path analysis of scientific productivity showed that infrastructural facilities available, interpersonal communication and opportunities given were the most important variables effecting directly and positively on scientific productivity of academic staff as well as providing channels for indirect positive effect on dependent variables for majority of the independent variables. Hence, these three are the crucial variables as far as scientific productivity of the academicians is concerned. Adequate infrastructural facilities provision to working staff leads to effective and more quantum of work, more interest in generating innovations, increase the confidence and speed of work which results in more productive work. Interpersonal communication and opportunities given to staff results in increasing the knowledge, skill improving, changing attitude towards the organization work performance and so ultimately increasing the scientific productivity of academicians.

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