

GEMENT

WORKING PAPER SERIES

LECTURE NOTES IN

## MANAGEMENT SCIENCE

A COLLECTION OF RESEARCH TOPICS AND FEW SOFTWARES

EDITOR

Prof. R.R.K. Sharma



## VOLUME 4





Dr. R.R.K Sharma
Professor, HAG Scale (Since Aug. 2012)
Department of Industrial and Management Engineering
IIT KANPUR

Dr. Sharma has worked in industry for about 3 years and has spent 30 years doing teaching and research at the Department of Industrial and Management Engineering, I.I.T. Kanpur, 208 016 INDIA. He has taught over 22 different courses in management at IIT Kanpur INDIA (to B. Tech., M. Tech. and M.B.A. students) and is well versed with all the facets of management and has unique ability to integrate different areas of the subject (management). To date he has written 1061 (peer reviewed (357) /under review (12) / working papers (692)) articles.

Dr. Sharma has won several national and international awards: American Medal of Honor and the 2006 and the 2008 Man of the Year award given by the by American Biographical Institute, Inc., 5126 Bur Oak Circle, PO Box 31226, North Carolina, 27622, USA. Web: www.abiworldwide.com. He is recipient of the Dr Manubhai M Shah Memorial Award 2013 (instituted by the Indian Commerce Association) & it carried a cash prize of Rs. 1 Lakh, trophy and a certificate of excellence. In 2016: Prof. RRK Sharma got the "Distinguished Educator Award", selected by IEOM (Industrial Engineering and Operations Management) Society, USA; given at Kuala Lumpur on MAR 09, 2016. Prof. RRK Sharma received Faculty Research Award, given by career 360 degrees: For being among the 10 top most knowledge producers in India in 2017-18.





ISBN

CIENCE VOLUME