INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

IJRCM

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., EBSCO Publishing, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A.

as well as in Open J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)]

Registered & Listed at: Index Copernicus Publishers Panel, Poland

Circulated all over the world & Google has verified that scholars of more than 1500 Cities in 141 countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

www.ijrcm.org.in

CONTENTS

CALL FOR MANUSCRIPTS

Weinvite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects like Accounting Education; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Monetary Policy; Portfolio & Security Analysis; Public Policy Economics; Real Estate; Regional Economics; Tax Accounting; Advertising & Promotion Management; Business Education; Management Information Systems (MIS); Business Law, Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labor Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; Public Administration; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism, Hospitality & Leisure; Transportation/Physical Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Digital Logic; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Multimedia; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic and Web Design. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email address: **infoijrcm@gmail.com**.

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR
IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF .**

(e.g. Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript entitled '_____' for possible publication in your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published elsewhere in any language fully or partly, nor is it under review for publication elsewhere.

I affirm that all the author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if my/our manuscript is accepted, I/We agree to comply with the formalities as given on the website of the journal & you are free to publish our contribution in any of your journals.

NAME OF CORRESPONDING AUTHOR:
Designation:
Affiliation with full address, contact numbers & Pin Code:
Residential address with Pin Code:
Mobile Number (s):
Landline Number (s):
E-mail Address:
Alternate E-mail Address:

NOTES:

a) The whole manuscript is required to be in ***ONE MS WORD FILE*** only (pdf. version is liable to be rejected without any consideration), which will start from the covering letter, inside the manuscript.
b) The sender is required to mention the following in the **SUBJECT COLUMN** of the mail:
New Manuscript for Review in the area of (Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/ Engineering/Mathematics/other, please specify)
c) There is no need to give any text in the body of mail, except the cases where the author wishes to give any specific message w.r.t. to the manuscript.
d) The total size of the file containing the manuscript is required to be below **500 KB**.
e) Abstract alone will not be considered for review, and the author is required to submit the complete manuscript in the first instance.
f) The journal gives acknowledgement w.r.t. the receipt of every email and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of manuscript, within two days of submission, the corresponding author is required to demand for the same by sending separate mail to the journal.

2. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.

3. **AUTHOR NAME (S) & AFFILIATIONS:** The author (s) **full name**, **designation**, **affiliation** (s), **address**, **mobile/landline numbers**, and **email/alternate email address** should be in italic & 11-point Calibri Font. It must be centered underneath the title.

4. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para. Abbreviations must be mentioned in full.

5. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.

6. **MANUSCRIPT:** Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.

7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.

9. **MAIN TEXT:** The main text should follow the following sequence:

INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

SCOPE FOR FURTHER RESEARCH

ACKNOWLEDGMENTS

REFERENCES

APPENDIX/ANNEXURE

It should be in a 8 point Calibri Font, single spaced and justified. The manuscript should preferably not exceed ***5000 WORDS***.

10. **FIGURES &TABLES:** These should be simple, crystal clear, centered, separately numbered &self explained, and **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. It should be ensured that the tables/figures are referred to from the main text.

11. **EQUATIONS:**These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.

12. **REFERENCES:** The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parentheses.
- The location of endnotes within the text should be indicated by superscript numbers.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITE

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

MANPOWER REQUIREMENT ASSESSMENT CONSIDERING THE MAKE OR BUY DECISION POLICY OF CENTRAL WORKSHOP IN AN INTEGRATED STEEL & POWER COMPANY

AKHILESH JHA
EX. STUDENT
DEPARTMENT OF MANAGEMENT STUDIES
INDIAN SCHOOL OF MINE
DHANBAD

SOUPOARNO MUKHERJEE
EX. STUDENT
DEPARTMENT OF MANAGEMENT STUDIES
INDIAN SCHOOL OF MINE
DHANBAD

RANDHIR KUMAR
EX. STUDENT
DEPARTMENT OF MANAGEMENT STUDIES
INDIAN SCHOOL OF MINE
DHANBAD

ABSTRACT

When a company has underutilized capacity and wants to manufacture some components, firms face the question whether to outsource production of a component or continue to make it in the own Workshop. Comparison of the relevant costs of both the alternatives in such cases will show whether to continue the existing arrangement or change to buying it, discontinuing the current production. The answer depends upon whether the firm has the option to use the freed capacity, profitably, or not. This paper involves a scientific study for manpower requirement in the Central Workshop of an integrated steel & power producing company. Work sampling and Analytical estimation were used as the major tools and techniques for this study. Work sampling of each operator who was deployed on different machines was carried out in the workshop. For this manpower requirement assessment "make or buy" decision policy has also been adopted to incorporate profit maximization of the concern & propose optimum manpower in the corresponding department. Simulation ARENA12 software has also been used to support the "Make or Buy" decision. Finally manpower computation was done using the detailed workout & analysis. The outcome of this research will help the management of the company for initiating necessary planning and corrective actions to improve the return on investment and utilization of existing resources.

KEYWORDS

Manpower Requirement Assessment, Work sampling, Analytical Estimation, Make or Buy decision.

INTRODUCTION

Manpower requirement assessment basically involves deploying optimum number of people to different kind of Jobs. This not only helps in reduction of production cost but also achieve the organizational goals of the company. The steps in manpower requirement assessment primarily include analyzing the existing manpower deployment and making future manpower forecasts. In this paper, we discuss the manpower requirement assessment of a department in an integrated steel & power producing company as a case example. In the workshop department of the company, where the study was carried out, at present they do not use any scientific procedure for assessing the number of employees required. Present sanctioned employee strength of the department is 132 and the department has asked to increase it to 170. The management of the company wants a scientific way of assessing the actual requirement of manpower and thus a study was carried out with the objective to compute the actual manpower requirement for the department.

ABOUT THE DEPARTMENT

Central workshop department is one of the oldest departments of this company responsible for designing of spare parts of different equipments & machinery. Apart from this, it also serves as a major backbone to the maintenance team so as to quickly recover the plant from breakdown condition. Presently 132 men are deployed to work in the central workshop which consists of total 39 machines, 2 EOT cranes, 1 heat treatment furnace & 1 shop balancing machine and also include the foundry and fabrication works. The existing manpower deployment in this department is shown in table 1.

TABLE 1: EXISTING MANPOWER DEPLOYMENT OF WORKSHOP DEPARTMENT

Serial no.	Designation	Existing Manpower					
		G	A	B	C	R	Total
1	Sr. Manager	1					1
2	Dy. Manager	1					1
3	Jr. Manager		1				1
4	Asst. Engineer			1			1
5	Jr. Engineer		1	1	1	1	4
6	Sr. Foreman	3			1	1	5
7	M/c Operator	8	33	29	24	20	114
8	Contr. Worker	2					2
9	Apprentice	3					3
TOTAL		18	35	31	26	26	132

G- General Shift, A- A Shift, B - B Shift, C - C Shift and R - Reliever

METHODOLOGY

After obtaining approval of the head of the department and the HR-Manager of the integrated steel & power producing company, collection of the relevant information regarding the functioning of the central workshop department and the job contents of the different modules was carried out. After that, work sampling of each operator who was deployed on different machines was done. To ensure the normal performance of the employees, it was decided not to highlight their names on the sheet rather observations sheets were coded. Head of the department, Shift In-charges, Maintenance gangue were not included in the study, as their nature of work cannot be properly defined and are highly non-repetitive. Machine operators deployed on different 42 machines whose work is clearly definable or tangible are selected for this study. The number of working days per month was taken as 23 which include holidays, earned and sick leave and their rate of working was considered to be 100%.

The study was carried out basically in three broad steps. Firstly, work sampling was carried out to compute the work load of the employees and hence to validate the need of the project. Work sampling will also help to quantify the utilization of the manpower (Raman, 1968). In work sampling, a number of random observations were taken over a period of time to record whether the employee is busy or idle. In second stage, we find out the estimated time required for the activities basically carried out in the department (Barnes, 1980; Sharma, 1988). Time was estimated using Analytical Estimation method which was further used in Simulation. Finally, computations regarding the manpower requirement considering make or buy decision policy was done.

DATA COLLECTION AND ANALYSIS

Working Sampling

It was decided to complete the work sampling process within two weeks. Further looking into other constraints, maximum number of observations that can be taken on any working day is 30 per machine. i.e. a total of 1260 observations were to be taken for all 42 machines (observations to be done every five minutes). It was also found that during study period, machine operators were available on only 35 machines and rest of the machines remained idle due to lack of employees. Data were collected at random intervals. A work sampling format was prepared for collection of the basic data. It was decided to note the following while taking observation.

i) whether the employee is idle or working, and

ii) If the employee is found to be observing the job, then he is counted as working.

The data collected after work sampling is then represented in a summarized form in Table 2. From the table, it can be observed that the second and the third column denote the proportion idleness and proportion of time an employee is found working, respectively. Fourth column denotes the standard performance of an employee. Standard performance is basically the rate of output at which a employee will naturally achieve without over-exertion as an average over the working day or shift, provided that they know and adhere to the specified method and provided they are motivated to apply themselves to their work (Kanawaty, 1995). It is calculated by adding allowance to the working fraction. Considering the working conditions of the steel manufacturing company, the allowances considered are personal need allowance (5%), eye strain (7%), fatigue allowance (8%) and monotony allowances (4%). If the standard performance is found to be greater than 1, it signifies that the employee is overloaded and the reverse signifies under loading as per the following table.

TABLE 2: SUMMARY OF THE WORKING SAMPLING FOR M/C OPERATORS

Machine	Idle	Working	Standard Performance	Overload Index	Average. Overloading per Module
LATHE # 1	0.06	0.94	1.16	0.16	
LATHE # 2	0.07	0.93	1.16	0.16	
LATHE # 3	0.03	0.97	1.20	0.20	
LATHE # 4	0.23	0.77	0.96	-0.04	
LATHE # 5	0.04	0.96	1.19	0.19	
LATHE # 6	0.16	0.84	1.04	0.04	
LATHE # 7	0.21	0.79	0.98	-0.02	
LATHE # 8	0.19	0.81	1.00	0.00	
LATHE # 9	0.28	0.72	0.89	-0.11	
LATHE # 10	0.02	0.98	1.22	0.22	0.09
LATHE # 11	0.03	0.97	1.20	0.20	
LATHE # 12	0.16	0.84	1.04	0.04	
LATHE # 13	0.10	0.90	1.12	0.12	
LATHE # 14	0.02	0.98	1.22	0.22	
LATHE # 15					
LATHE # 16	0.22	0.78	0.97	-0.03	
LATHE # 17	0.06	0.94	1.17	0.17	
LATHE # 18					
LATHE # 19					
PLANOMILLER # 1	0.11	0.89	1.10	0.10	0.10
PLANOMILLER # 2					
DRILL M/C # 1	0.08	0.92	1.14	0.14	0.14
DRILL M/C # 2					
SURFACE GRINDER # 1	0.07	0.93	1.15	0.15	0.15
UNIVERSAL MILLING M/C	0.04	0.96	1.19	0.19	0.19
HOBBING M/C	0.14	0.86	1.07	0.07	0.07
PLANNER # 1	0.15	0.85	1.06	0.06	0.06
PLANNER # 2	0.15	0.85	1.05	0.05	
SLOTTER # 1	0.10	0.90	1.11	0.11	0.11
HACKSAW	0.05	0.95	1.18	0.18	0.18
SHAPER # 1	0.08	0.92	1.14	0.14	
SHAPER # 2	0.07	0.93	1.15	0.15	0.15
SHAPER # 3					
TURN TABLE # 1					0.09
TURN TABLE # 2	0.12	0.88	1.09	0.09	
H.BORING M/C # 1	0.03	0.97	1.20	0.20	
H.BORING M/C # 2	0.08	0.92	1.14	0.14	0.15
H.BORING M/C # 3					
H.BORING M/C # 4	0.11	0.89	1.10	0.10	
EOT CRANE # 1	0.13	0.87	1.08	0.08	
EOT CRANE # 2	0.06	0.94	1.17	0.17	0.14
EOT CRANE # 3	0.05	0.95	1.18	0.18	
Average Overload Index					0.12

From Table 2, it can be seen that all the 42 machines are not equipped with manpower and at the same time whatever operators are available are also overloaded with work, which further justifies the need of additional manpower. The average overloading is found to be 12.5% Overloading for each module is also computed as shown in the table and it is found that Universal Milling machine is the most overloaded module with 11.9% overloading, followed by Hacksaw with 11.1% overloading, Surface Grinder with 9.6% overloading, Horizontal Boring machine with 9.3% overloading, Shaper with 9.2% overloading and so on.
From above table, we also observed that some machines were not running because there was no manpower deployed on those machines, which signifies - resources were underutilized.

Make or Buy Decision Strategy

Since resources were underutilized and at the same time there was overload on the existing manpower, therefore, it was management concern to decide whether to go for outsourcing the extra jobs or to give additional manpower for in-house production of spare parts and to reduce the overload of existing manpower.

Often, firms face the question whether to outsource production of a component or continue to make it in the factory. Comparison of the relevant costs of both the alternatives in such cases will show whether to continue the existing arrangement or change to buying it, discontinuing the current production. The answer depends upon whether the firm has the option to use the freed Capacity, profitably, or not. Decision depends on whether the machinery that is freed would remain idle or can be utilized profitably, elsewhere. This kind of implementation of Buy or Make decision was necessary during this study.

In the second stage of data analysis, simulation was carried on ARENA 12 simulation software to find out whether the job outsourced to the nearest party is cheaper or rather to be done in the department. Based on Analytical estimation, different parameters were found out so that these parameters will be input entity to ARENA 12. The results of simulation is shown below in Table 3 for better elucidation. It was found that some activities took more than a working day of 8 hours and also there are some activities which have a frequency of occurrence less than 20 in a month. The standard times for such activities were computed from the log sheets of the company. For other activities which took less than 8 hours and having frequency of occurrence more than 20 per month, the estimated times were calculated based on detailed analysis. For simulation it is to be noted that we have assumed Central workshop as Entity 1 and Outside party as Entity 2.

TABLE 3: RESULT FROM SIMULATION

Entity

Cost

Other Cost	Average	Half Width	Minimum Value	Maximum Value
Entity 1	0.00	0.000000000	0.00	0.00
Entity 2	0.00	(Insufficient)	0.00	0.00

Transfer Cost	Average	Half Width	Minimum Value	Maximum Value
Entity 1	10.0000	0.000000000	0.00	20.0000
Entity 2	40.0000	(Insufficient)	0.00	80.0000

VA Cost	Average	Half Width	Minimum Value	Maximum Value
Entity 1	62.0794	2.47801	0.00	356.36
Entity 2	55.5604	(Insufficient)	0.00	152.80

NVA Cost	Average	Half Width	Minimum Value	Maximum Value
Entity 1	2.5000	0.000000000	0.00	5.0000
Entity 2	2.5000	(Insufficient)	0.00	5.0000

Wait Cost	Average	Half Width	Minimum Value	Maximum Value
Entity 1	110.48	19.21155	0.00	834.77
Entity 2	167.27	(Insufficient)	0.00	807.12

Total Cost	Average	Half Width	Minimum Value	Maximum Value
Entity 1	185.05	19.32687	0.00	1012.47
Entity 2	265.33	(Insufficient)	0.00	1007.57

Model Filenam C:\Program Files\Rockwell Software\Arena\Book Examples\my model_modified Page 2 of 1

It was observed from simulation result that if a job is performed inside the plant, it costs less than the cost of outsourcing. Apart from this it was evaluated earlier from work sampling that there is an extra overload on existing machine operators & also there is sufficient infrastructure available where no deployment of manpower is there at present. Thereby we proceeded forward to calculate optimum manpower requirement.

Manpower Computation

Computation regarding manpower requirement is then carried out using the above information from work sampling and Overload Index as shown in Table 4. In column one of Table 4, we have categorized the different types of machines into modules. Second column shows the total machines running at present in subsequent module. Third column shows the average overload index in that module (calculated in Table 2). In column four, we have taken the existing working hours per day for each module. In Column five, we have calculated the extra man-hours required (2nd column * 3rd column * 4th column). Lastly, the sixth column represents the number of person required for each module per day and is computed considering 8 hours working shift of operators.

TABLE 4: ADDITIONAL MANPOWER REQUIREMENT ASSESSMENT SHEET

Module Name	Working M/c in each Module	Present Overload Index	Available Working Hours / Day	Extra Man-Hrs. required to overcome Overload	Nos. of Operators Required.	
LATHE M/C	17	0.09	24	36.72	4.59	~5
PLANOMILLER M/C	1	0.1	24	2.4	0.30	~1
DRILL M/C	1	0.14	24	3.36	0.42	
SURFACE GRINDER#1	1	0.15	16	2.4	0.30	~1
UNIVERSAL MILLING M/C	1	0.19	16	3.04	0.38	
HOBBING M/C	1	0.07	24	1.68	0.14	~1
PLANNER#1	2	0.06	24	2.88	0.24	
SLOTTER #1	1	0.11	16	1.76	0.22	
TURN TABLE#2	1	0.09	16	1.44	0.18	
SHAPER#1	2	0.15	16	4.8	0.60	~1
HACKSAW	1	0.18	16	2.88	0.36	~1
H.BORING M/C#1	3	0.15	24	10.8	1.35	~2
EOT CRANE #1	3	0.14	24	10.08	1.26	~2
TOTAL					14	

CONCLUSION

The above study for manpower planning in the central workshop department of the company was carried out using scientific tools and techniques. The study was done in three phases. Work sampling shows that the department is actually overloaded with work and the average overloading is computed to be 12% per m/c operator. This also validates the need of manpower increase. In the subsequent step, simulation is done to adopt "Make or Buy decision policy" to determine whether outsourcing of jobs is beneficial for the organization or not. From simulation results, it was concluded that manufacturing or repairing of different spares parts within the organization is profitable and extra 14 manpower should be provided to department as discussed in Table 4. Finally we computed the manpower requirement from the data obtained from the preceding two phases. It is found that the department actually requires 150 employees (including 4 relievers for 14 additional manpower), which is 20 less than the unrealistic demand of 170 employees as asked by the department. This manpower planning exercise can be similarly extended to other departments of the company. This will not only help the company in finding out the actual manpower requirement, but also eliminate unnecessary and excessive manpower leading to cost savings.

REFERENCES

1. Barnes, R.M., 1980. *Motion and Time Study Design and Measurement of Work*, John Wiley & Sons, New York.
2. Kanawaty George, 1992. *Introduction to work study*, International Labour Organization Publication, Geneva.
3. Raman, M.V.V., 1968. *Work Sampling*, National Productivity Council, New Delhi.
4. Sharma, H.D., 1988. *Textbook of Work Study*, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce and Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as on the journal as a whole, on our E-mail i.e. **infoijrcm@gmail.com** for further improvements in the interest of research.

If you have any queries please feel free to contact us on our E-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals