

Awareness About E-Procurement System In Colleges

Prof B. D. Karhad

Professor and Head, B. M. College Of Commerce, Pune 411004

ABSTRACT

Research has been done till date on different procurement systems in industries but no such research is done on the e-procurement system of the colleges. The objective of this paper is 1) to take review of the progress made in understanding e-procurement systems by the colleges; 2) to check the extent of awareness about the e-procurement system in the colleges affiliated to university; 3) to check how colleges perceive the benefits and limitations of e-procurement system; and 4) to make conclusions about the present progress and suggest measures to increase use of e-procurement systems in colleges. A questionnaire will be sent to 368 colleges affiliated to university of Pune. 60% of them responded the survey. The respondents included were principals and purchase committee members of the colleges. The data collected was analyzed and conclusions are drawn. The data analysis revealed that merely 25.67 % of colleges have awareness about the e-procurement system. They have started using computer for procurement related activities i.e. for listing the vendors, printing procurement order, printing cheques etc. Little awareness is also found in other colleges about the benefits and limitations of the e-procurement system. But, no college is found taking lead in this regard. However in some colleges, administrative staff has started dialogue with their management about the use of e-procurement system in their colleges. The research concluded with the conviction that colleges are less aware about the benefits of e-procurement system.

Keywords:

e-procurement systems, college, university, Principal, internet, computer, cost effectiveness, online

INTRODUCTION:

The main objective of any procurement system is to secure the 'five rights' i.e. the right quality - the right quantity - the right place - the right time - the right price. To achieve these objectives, alternative forms of procurement have been used worldwide in lieu of the traditional procurement model. It is well-known that some suppliers offer goods and services at competitive terms than others. It is therefore imperative that the procurement system that is best suited for the particular college after analyzing the cost and other terms and conditions involved are selected. One such procurement system which is cost effective and in use all over the world particularly in industrial sector is e-procurement system. E-procurement system if used in the colleges would prove more beneficial than the traditional procurement system. However, even though the potential of the internet and e-procurement is well known, in large number of colleges there is little awareness about e-procurement and colleges are not using e-procurement system to buy their requirements. The principal aim of this paper is to check the extent of awareness about the e-procurement system in the colleges affiliated to university. Research has been done till date on different procurement systems in industries but no such research is done on the e-procurement system of the colleges.

Today, in colleges, it is very difficult to check, what is happening where, how much procurement is happening in each of the department and how they are procuring it? One of the benefits of e-procurement system is that procurement reports are available to college online 24 hours a day, across all departments. The reports available

General Management

can be seen department wise, supplier wise or in any other manner that is desired. E-Procurement is making procurements online. It connects college and their departments directly with suppliers and manages all interactions between them. It also includes management of correspondence, bids, quotations, questions and answers, price checking, and multiple emails to multiple participants. A good e-procurement system ensures – aggregating demand to leverage bargaining power; improved inventory management to lower levels of inventory ; ensuring consistency in goods and services costs across all departments; Eliminating non-value adding steps from the procurement system to enable efficient and effective processes; Making effective use of tender to get better deals; providing “fair” competitive platform to the suppliers; accessing a wider customer base ; 24 x 7 online procurement reports; increased transparency, monitoring and control of procurement process, etc.

OBJECTIVES OF STUDY:

Major objectives of the study are-

- To take review of the progress made in understanding e-procurement systems by the colleges.
- To check how colleges perceive the benefits and limitations of e-procurement systems.
- To make conclusions about the present progress and suggest measures to increase use of e-procurement systems in colleges.

IMPORTANCE OF STUDY:

This study is unique as the researcher had not found any parallel work done by earlier researcher. Reasonable time has passed which demands a meaningful evaluation of performance of university and colleges, relating to procurement system, in the changed environment. It is important to know- Has the performance of the procurement system of the colleges improved since the setting of said systems, and how much progress they have made in e-procurement system? Though a large number of studies, evaluating the performance of business systems in the last decade have come up, certain important aspects of performance like e-procurement in colleges have remained untouched.

HYPOTHESIS:

Null hypothesis (Ho): Colleges are not aware about benefits of the e-procurement system.

Alternative hypothesis (H1): Colleges are aware about benefits of the e-procurement system.

RESEARCH METHODOLOGY:

a) Method: This research is conducted by using survey method.

b) Population: Colleges affiliated to Pune University.

c) Data collection procedure

d) Primary data: Selection of the University - Pune University, Selection of the Districts -The Pune University covers three districts Pune, Ahmednagar and Nasik.

e) Selection of the sample / colleges: Total number of aided colleges, fully or partially, in Pune University as on 1st January, 2005 is 368. The researcher has selected 60% sample and selected 221 colleges out of 368 for the purpose of the study as shown in table 1

Table 1: No. of Colleges / Sample Selected for study

Particulars	Pune	A’Nagar	Nashik	Total
No of colleges affiliated to Pune University as on 1-01-2005	200	83	85	368
60% of the colleges affiliated to Pune University are selected at random (which included aided, un-aided, single faculty, multi-faculty, Night, Co-ed, girls colleges)	120	50	51	221
Total No. of Respondents / Colleges				221
Percentage of the sample size	60	60	60	60

Source: Pune University Records

f) Selection of Respondents:

The researcher has selected 51 colleges from Nasik, 50 colleges from Ahmednagar and 120 colleges from Pune district. The colleges selected include aided, partially aided, single faculty and multi-faculty. This research is related to cost effectiveness of the procurement system. Hence the research has concentrated on procurement committee which comprises Principal, Member of the general body and member of Local Management Committee, Head of the Department and Registrar or Accountant of the college. The members so selected have two or more years experience as procurement committee member.

Method of Sampling- Convenience and Quota sampling method is used for selecting colleges for the study.

g) Questionnaire

The study is based upon primary information and all the relevant information is collected from the colleges with the help of detailed questionnaire, which included 10 questions on the college administration and 9 questions on computerized procurement procedure.

h) Secondary Data:

The secondary data is collected from different libraries of the colleges and universities.

i) Statistical tools used:

Researcher has used arithmetic mean, percentages, and the data has been presented through pie-diagrams, bar diagrams and graphs.

j) Limitations of the Study

Taking into consideration the objectives of the study and its coverage, this study has its own limitations. Some of the important limitations of the study are -

1. The study concentrates on the analysis of descriptive data. The quantitative aspects of college’s procurement systems have not been abundantly emphasized for want of detailed information from the colleges.
2. The study of awareness about e- procurement systems is based on the certain parameters.
3. Colleges affiliated up to 1-4-2005 are covered in his research.
4. The colleges not approached / not responded during survey may have better or less e- procurement systems than the colleges studied.
5. In spite of the above-mentioned limitations, the study would show valuable information/ insight of the above-mentioned topic.

6) ANALYSIS OF DATA:

The most existing part of the internet in procurement is the fact that the colleges can have an opportunity to open a new virtual world of suppliers, which can be accessed anywhere, anytime. Procurement on the internet for an organization is the process of using internet as a medium to buy products, and services online.

a) Awareness about e-procurement system in college:

At present e-procurement is not in practice in any college. However, the respondents were asked about e-procurement. The observations are presented in table 2

Table 2 : Awareness about e-procurement system:			
Sr. No.	Awareness	No. of colleges	Percentage
1	Aware about e- procurement system	168	76%
2	Not aware of e-procurement system	53	24%
Total		221	100%

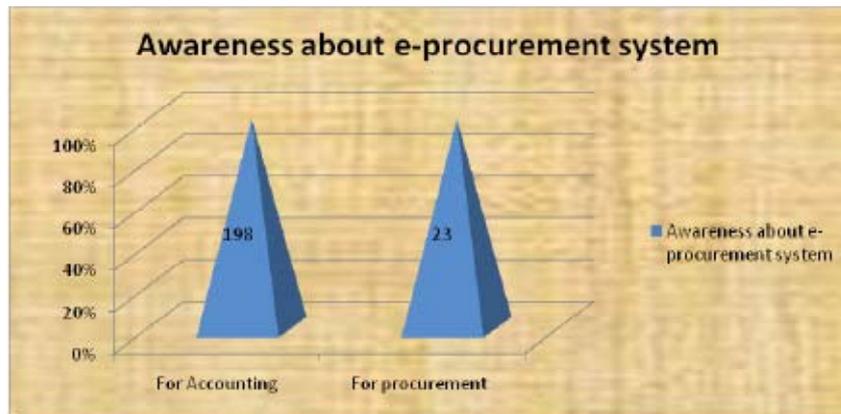
(Source: Fieldwork)

It is observed from table 2 that 168, 76% colleges out of 221 colleges are aware about e-procurement system. The

General Management

graphical presentation of the responses is given in graph 1.

Graph 1: Awareness about e-procurement system



(Source: Fieldwork)

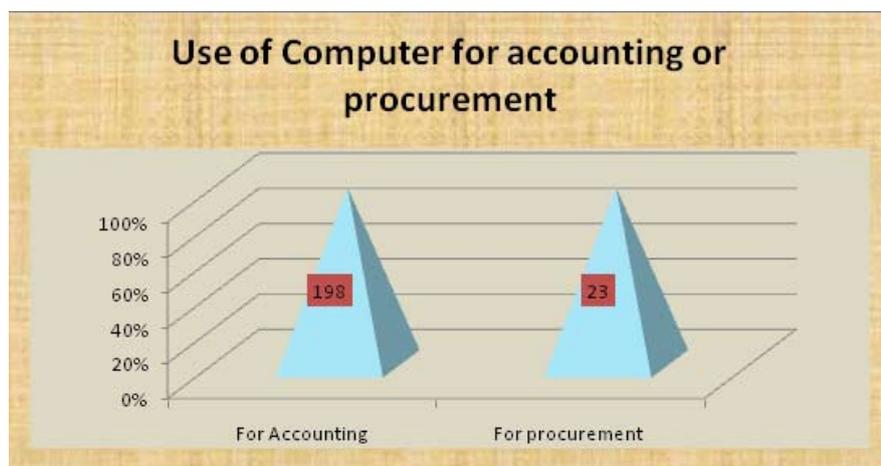
b) Accounting / or e- procurements:

At present computers are used for recording procurements in many colleges. However, some of them are using internet for collecting information about the suppliers. The respondents were, asked in this context. The responses are presented in table 3

Table 3: Use of computer for Accounting or e-procurement			
Sr. No.	Use of computer for accounting or procurement	Awareness about e-procurement system	Percentage
1	For Accounting	198	90%
2	For procurement	23	10%
Total		221	100%

(Source: Fieldwork)

It is observed from table 3 that 198 (90 %) colleges use computer for accounting purpose. Only few of them i.e. 23 (10%) are using it for procurement related activities. However it is observed that use of computer is increasing in procurement activities i.e. for listing the vendors, printing procurement order, printing cheques etc. The graphical presentation of the responses is given in graph 2.



(Source: Fieldwork)

c) Software used:

The respondents were asked as to which software the college is using. It is observed that the colleges are not

found using e-procurement software for procurement of their requirements.

d) Extent of Computerization of the college:

Recently all the colleges have their own computers. The department wise use of the computer is ascertained in Fieldwork. Their responses are noted in table 4

Computerization of departments	Yes	Percentage	No	Percentage	Total
Principal's office	125	57%	96	43%	221
Accounts Department	183	83%	39	18%	222
Library	122	55%	99	45%	221
All Departments	15	7%	206	93%	221

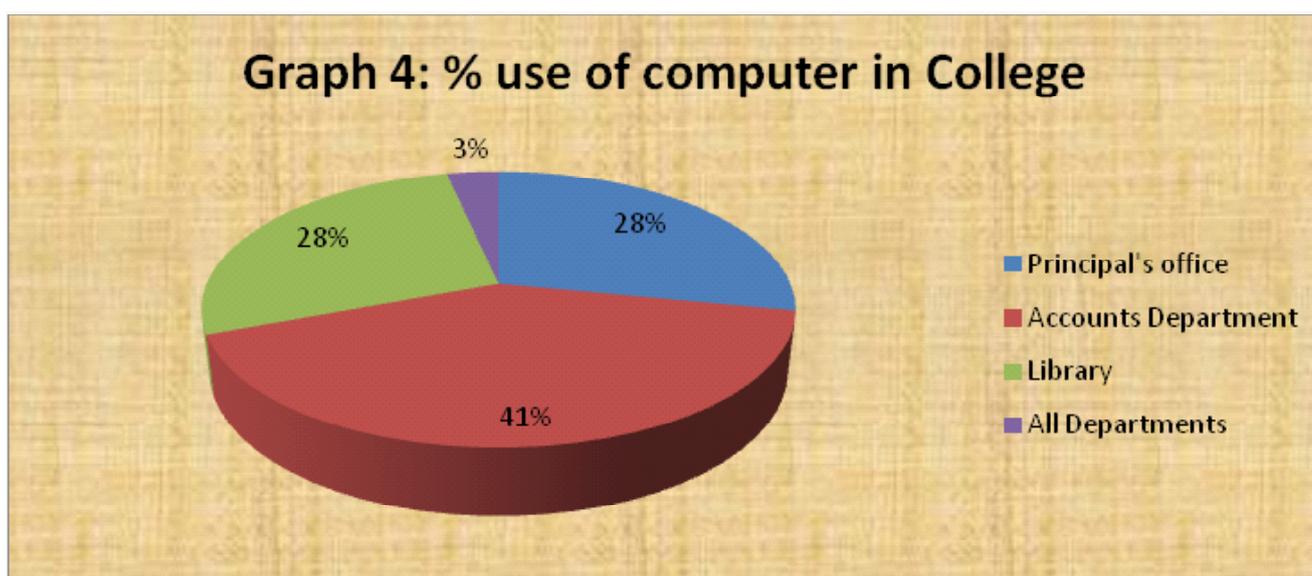
(Source: Fieldwork)

From the table 4 it is observed that Accounts Department of 183 (83%) colleges, Principal's office of 125 (57%) colleges, library of 122 (55%) colleges and all departments of 12 (7%) colleges are computerized. It shows that department wise use of the computer is increased.

The graphical presentation of the responses is given in graph 3

Graph 3: Showing Extent of Computerization in selected Colleges

(Sample size = 221)



(Source: Primary Data)

e) Problems of using software:

At present e-procurement software's are not used in any college. However to check, whether they perceive any problems of e-procurement or computerization of the procurement procedure, the above question was asked. It is observed that all of them are found to be aware about one or more problems of e-procurement system. The responses of the respondents to the question about kind of problems emerge / they perceive, while using software are recorded in table 5

Sr. No.	Nature of problem	No. of respondents	Percentage
1	Training to employees	81	37%
2	Electricity problem	8	4%

General Management

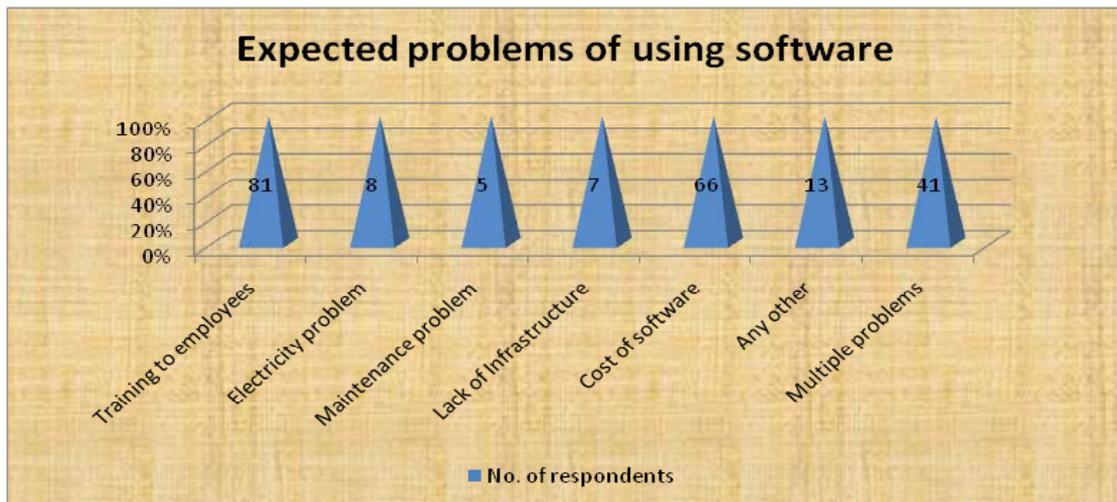
3	Maintenance problem	5	2%
4	Lack of Infrastructure	7	3%
5	Cost of software	66	30%
6	Any other	13	6%
7	Multiple problems	41	19%
	Total	221	100%

(Source: Fieldwork)

The table 5 shows that 37% of the colleges under study found training to employees as the major problem that would emerge if software used. 30% colleges found cost of software as a major problem. Along with other problems 19% colleges found unknown problems as along with one or more of the above problems will emerge if they start using software. This shows that colleges perceive computer and e-procurement system related problems in the right direction.

The graphical presentation of the responses is given in graph 4

Graph 4: Expected Problems of using software



(Source: Field work)

f) Advantages of using software:

The use of software is most advantageous to the college unit. This question is asked to understand the viewpoints of the colleges about the advantages to the colleges. The responses of the respondents are recorded in table 6

Table 6 Advantages of software

Sr. No.	Software advantages	No. of Colleges	Percentage
1	Saves administrative time	62	28%
2	Increases management control	47	21%
3	Reduces ordering and follow up cost	38	17%
4	Provides online information	34	15%
5	Increases ability to function more efficiently	40	18%
6	Any other advantage	0	0%
		221	100%

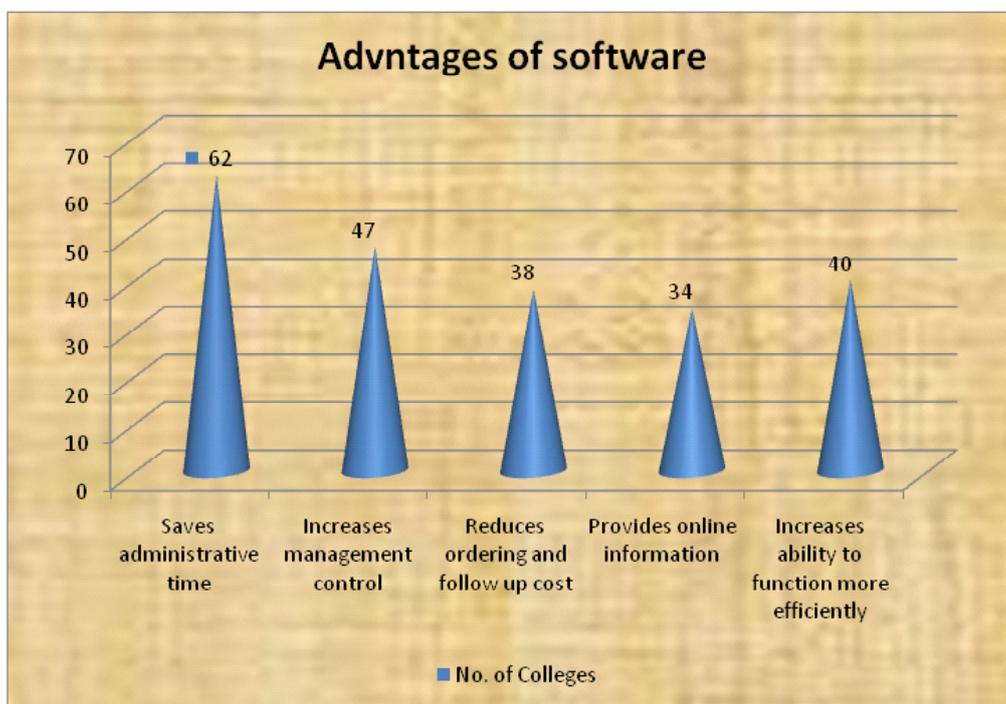
(Source: Fieldwork)

It is observed from table 6 that

1. The 28% of the colleges have said that use of computer will save administrative time.
2. 21% of the colleges have said that use of computer will Increase management control
3. 17% of the colleges have said that use of computer will reduce ordering and follow up cost
4. 15% of the colleges have said that use of computerized systems including internet will provide online information about the procurement
5. 18% of the colleges have said that use of computer will Increase ability to function more efficiently and in a profitable manner.
6. Most of the colleges have listed out more than one software advantages.

It leads us to conclude that the colleges are aware of the advantages of computers. The graphical presentation of the responses is given in graph 5.

Graph 5: Advantages of using software



(Source: Fieldwork)

FINDINGS AND CONCLUSIONS:

- The colleges are little aware about e-procurement system.
- Use of computer is increased in procurement activities i.e. for listing the vendors, printing procurement order, printing cheques etc. However, at present e-procurement system is not in practice in any college.
- The colleges are not found using procurement related software for procurement of their requirements.
- Most of the i.e. 195 (88 %) of the colleges recommend the computerization of procurement procedure.
- Prompt after sale service is the need of any computerized system. 195 (88%) of the colleges out of 221 colleges have insisted on after sale service agreement, if such e-procurement software is installed.
- Accounts Department of 183 (83%) colleges, Principal's office of 125 (57%) colleges, library of 122 (55%) colleges and all departments of 12 (7%) colleges are computerized. It shows that department wise use of the computer is increased.
- Out of the total 221 colleges under study, 38% of the colleges perceive training to employees and 30% colleges feel cost of software would be the major problems. 19% of the colleges perceive multiple problems and remaining colleges fear about some other unknown problems like virus etc.

General Management

- Most of the colleges have listed out more than one software advantages. It leads us to conclude that the colleges are aware of the advantages of computers. However, they have also perceived some problems of using computers or e-procurement system. This shows that colleges are well aware about the use of computer and e-procurement system advantages and related problems.

TESTING OF HYPOTHESES:

Summery Table

Sr. No.	Parameters	Aware	Not knowing	Total
1	Aware about e-procurement system	168	53	221
2	For procurement or amounting	23	198	221
3	Computerization of principal's office	125	96	221
4	Computerization of accounts department	183	38	221
5	Computerization of library	122	99	221
6	Computerization of all departments	15	206	221
	Problems relating to e-procurement:	0	0	0
7	Training to employees	81	140	221
8	Electricity problem	8	213	221
9	Maintenance problem	5	216	221
10	Lack of infrastructure	7	214	221
11	Cost of software	66	155	221
12	Any other	13	208	221
13	Multiple problems	41	180	221
	Benefits relating to e-procurement:	0	0	0
14	Saves administrative time	62	159	221
15	Increases management control	47	174	221
16	Reduce ordering and follow up cost	38	183	221
17	Provides online information	34	187	221
18	Increases ability to function more efficiently	40	181	221
19	Any other advantage	0	221	221
	Total	1078	3121	4199
	Percentage	25.67%	74.33%	100.00%

(Source: Fieldwork)

Interpretation:

- Null hypothesis:** Colleges are not aware about benefits of the e-procurement system.
- Alternative hypothesis:** Colleges are aware about benefits of the e-procurement system.

No. of responses in favour of null hypothesis

$$3121 / 4199 = 74.33 \%$$

i.e. 74.33 % responses are in favor of null hypothesis

No. of responses in favour of alternative hypothesis

$$1078 / 4199 = 25.67 \%$$

i.e. 25.67 % responses are in favor of alternative hypothesis

Measures of Scale:

0-20%	Not aware
21 To 40%	Less aware
41 To 60%	Quite aware
61 To 80%	More aware
81 To 100%	Highly aware

From the above it is clear that 74.33 % responses are in favor of null hypothesis and 25.67 % responses are in favor of alternative hypothesis. Therefore, Null Hypothesis is accepted and Alternative Hypothesis is rejected. This leads to a conclusion that Colleges are not aware about benefits of the e-procurement system. However by using scaling system (as explained above) we can conclude that colleges are less aware about the benefits of e-procurement system.

SUGGESTIONS AND RECOMMENDATIONS:

Based on the findings and conclusions the researcher has made following suggestions and recommendations.

- The colleges may go for the customized software, designed for the colleges for e-procurement of their necessities.
- Computerization make management control easy, therefore there should be computerization of all departments of the colleges. Computerization and internet facility will help in providing online information about the procurement to the authorities.

CONCLUSION:

Even though the potential of the internet is well known, the research revealed that in large numbers of colleges there is little awareness about e-procurement and colleges are not using e-procurement system to buy their requirements.

BIBLIOGRAPHY

Reference Books

1. Babbage, C., On the Economy of Machinery and Manufactures, London, Charles Knight, Second edition, 1832, p. 202.
2. Dinsmore, JC, 1922, 'Procuring: Principles and Practices,' Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 295 pages.
3. Gulati, S., The Chartered Accountant, New Delhi, January 2003.
4. Harold, AW, 1905, 'The Fine Art of Buying,' The World's Work, Vol. X July, p. 6439.
5. Jandhyala, B. G., Analysis of Costs of Education in India. Occasional Paper, National Institute of Educational Planning and Administration, New Delhi. 1985
6. Jhamb, LC., 2005, 'Materials and Logistics Management', EPH, fifth edition 2003
7. Krishnaswami, O.R., Ranganathan, M. Methodology of Research in Social Sciences, Himalaya Publishing House
8. Mathew, E. T., Higher Education in North-East India, Unit Cost Analysis, New Delhi, Mittal Publications., 2006
9. Mathew, E.T., Financing Higher Education- Sources and Uses of Funds of Private Colleges In Kerala.
10. Mitchell, WN, 1927, 'Procuring' New York, Ronald Press Company, 385 pages.
11. Murphy, DJ, 1996., 'Evaluating performance of the procuring department using data envelopment analysis', Council of Logistics Management.
12. Murphy, HD, 1924, 'The Fundamental Principles of Procuring', New York, Procuring Agent Company, Inc., 83 pages.
13. Newman, D, 2005, 'How is procurement strategically important to an organization?' Summit Group, Provided by ProQuest Information and Learning Company.
14. Shukla, C., Reforms in Higher Education, Sumit Enterprises
15. Twyford, H.B., 1925, 'Procuring and Storing,' Factory Management Course, Vol. IV, New York: Industrial Extension Institute, 435 pages.

Journal Articles

1. Government of India: MHRD, National Policy on Education, 1986
2. 'Procuring and Care of Supplies,' The Railroad Gazette, Vol. XII February 14, February 21, and March 14, 1890, pp.105-06, 126-27, 172-73.
3. The ICFAI university journal of higher education, august, 2008, the ICFAI university press.
4. Das S, cover story of Dataquest, stutidas@cybermedia.co.in

Web Sites:

1. <http://www.univpune.ernet.in.indexout.htm>