

# Cost-Effectiveness and Cost-Efficiency of Correspondence Education

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**Abstract:** *The Institute of Correspondence Education (ICE) of the University of Madras is highly cost-effective when compared to the Conventional System (CS) as the unit cost at the former is 35 times lesser than that of the latter. Besides, the fact that major portion of the cost is also recoverable in the form of student fee by ICE makes the system more economical. In spite of these, the prime question addressed in this paper is whether ICE is cost-efficient: how the system can be made to achieve this. In the event of ICE becoming both cost-effective and cost-efficient, one can look forward to a model correspondence institution in the country.*

## Introduction

The correspondence institutes/Open universities have been started in India with a view to provide efficient and effective method of higher education, which can fulfil the ever growing demands of aspirants. Obviously, the conventional system of education has been unable to meet these demands. Organisationally, many of the correspondence institutions in the country are appended to the conventional universities and do not enjoy complete financial autonomy. Moreover, in the absence of a well defined funding pattern evolved by the Government, they are considered self-supporting.

In order for them to be economically viable, the student enrolment is perceived as one of the critical factors (Datt, 1988). Among the 55 odd correspondence Institutions in the country, the Institute of Correspondence Education (ICE) of the University of Madras had the privilege of having recorded the highest enrolment in the country (Kulandai Swamy, 1991). The foremost aim of any Correspondence Institution would be to maintain both quantity and quality which lies in its ability to achieve cost-effectiveness as well as cost-efficiency. Cost-effectiveness is determined by comparing per student cost involved in both conventional and correspondence modes of education, whereas the cost-efficiency relates the output with cost level (MADE: Es 317, IGNOU, 1993). The present study examines how far an ICE can achieve cost-effectiveness. Besides, an assessment has also been made about the level of resource allocation for the specific cost centre which is found to have an impact on cost-efficiency.

## The Enrolment Profile

The University of Madras is one of the oldest in the country and the dual mode of education has started with the inception of the Institute of Correspondence Education (ICE) by the University in the year 1981. There are 63 departments/branches including

science departments functioning under the Conventional System of education (CS) of the university. ICE provides education in all branches except in science disciplines and also admits those without 10+2 to the Bachelor's Degree under the open system after an entrance test. The students are admitted at various levels ranging from certificate to Ph.D level in both the modes of education.

Since the knowledge imparted at each of these levels differ, corresponding efforts put forth by the university are not equal and costs incurred at each of these levels also vary ( Pillai and Naidu 1991). In costing studies, hence, the total enrolment determined by cumulative addition of students admitted at various levels will not be realistic to reflect the cost incurred at various levels of study. The student unit at each level has to be standardised and this is done by assigning weighting to student unit at each level, the standard being that the undergraduate (UG) level students have been given a weighting of one each. The assigned weighting for the determination of total enrolment to reflect higher cost at the successive higher levels of study (Kulandai Swamy, 1993) is as follows.

Certificate	= 0.25 ;	Diploma	= 0.5
Undergraduate	= 1.0 ;	Postgraduate	= 1.7
M.Phil	= 2.2 ;	Ph.D	= 2.8

The enrolment calculated for both CS and ICE based on these weighting is called enrolment and is given in Table 1. The weighted enrolment have been used for the determination of per student cost (unit cost) in the present study.

**Table 1: Weighted student enrolment for CS and ICE**

Year	CS	ICE
1986-87	3252	93366
1987-88	3641	107055
1988-89	3709	109054
1990-91	4274	126514
1991-92	4890	122566
1992-93	4380	112461

### **Income and Expenditure**

The CS receives income from three sources viz. fee, government grants and other receipts. On the other hand, the fee and the other receipts only constitute the income for ICE, which is not receiving any government grants. The expenditure for both CS and ICE are grouped together under four heads. For CS they are (i) administration (ii) academic departments (iii) examinations and (iv) miscellaneous expenditure. In the case of ICE they are: (i) salaries, (ii) material printing, distribution and examination expenses, (iii) contact classes, and (iv) miscellaneous expenditure. Both income and expenditure under these different heads and the corresponding percentages of the total for both the modes of education for the year 1990-91 have been presented in Table 2.

**Table 2: Item-wise income and expenditure for CS and ICE for the year 1990-91  
(Rs. in lakhs)**

	Item	Income	
		CS	ICE
1.	Fee	152.55 (12.1)	699.50 (50.2)
2.	Government grants	202.63 (16.1)	-----
3.	Other receipts	902.62 (71.8)	692.27 (49.8)
	<b>Total</b>	<b>1257.80</b> <b>(100.0)</b>	<b>1391.77</b> <b>(100.0)</b>
		Expenditure	
		CS	ICE
1.	Administration	132.39 (11.9)	97.13 (8.2)
2.	Academic departments	430.55 (36.5)	NA
3.	Examinations	3.63 (0.3)	NA
4.	Material printing, distribution and examination	NA	187.34 (15.8)
5.	Contact classes	NA	37.62 (3.2)
6.	Miscellaneous expenditure	614.14 (52.0)	866.17 (72.8)
	<b>Total</b>	<b>1180.71</b> <b>(100.0)</b>	<b>1188.26</b> <b>(100.0)</b>

Figures in parantheses are percentages of the total.  
NA= Not Applicable .

In the case of CS, among the sources of income, the other receipts formed the major share and the fee income constituted only minor share to the total (Table 2). In contrast, the fee realised from the students has constituted the major source of income for ICE as more than 50 percent of the total is accrued from this head and the other receipts formed only a minor share.

Analysing the expenditure incurred under various items, the prominent observation which emerges is that for both CS and ICE the miscellaneous expenses has topped as it consumed more than 50 percent of the total (Table 2). The expenditure under this item involve institutional overheads including transfer from CS to ICE and vice-versa. This is followed by expenditure towards academic departments, administration and examinations in CS; material printing, distribution, examinations; administration and contact classes in ICE respectively in descending order. The teaching costs namely the expenses on academic departments in CS consumes 36.5 percent whereas the expenses on contact classes in ICE takes a meagre share (3.2%). The expenditure for academic departments in CS is justified considering that only less than 5000 students are admitted annually (Table 1) whereas the contact classes in ICE surprisingly get least priority

in terms of expenditure in spite of the fact that enrolment has been more than a lakh annually. A similar kind of trend is also noticed in respect of income and expenditure pattern of the remaining five years of study.

### Unit Cost and Cost-Effectiveness of ICE, Madras

The unit cost (also called per capita cost) has been determined by taking into account the expenditure and the weighted enrolment. Table 3 lists per capita cost along with per capita fee receipts and Government grants for the period 1986-87 to 1992-93.

**Table 3: Per capita expenditure, fee income and government grants for the years 1986-87 to 1992-93 (in Rs.)**

Particulars	1986-87	1987-88	1988-89	1990-91	1991-92	1992-93
<b>I CS</b>						
1. Per capita expenditure	22499	21634	29666	27625	31248	31857
2. Per capita fee receipt	2999	2716	2732	3569	3348	4172
3. Per capita government grants	3287	5414	2602	4740	3811	4589
4. Subsidy per student	16221	13504	24332	19316	24089	23096
<b>II ICE</b>						
1. Per capita expenditure	496	499	852	939	865	1047
2. Per capita fee receipt	446	505	596	552	646	645
3. Per capita government grants	-----	----	----	-----	-----	-----
4. Subsidy per student	48	----	256	387	219	402

From Table 3, the yearly per capita expenditure, fee income and government grants have been worked out and are presented as follows.

	CS	ICE
	( in Rs.)	
a) Yearly per capita expenditure	27427	782
b) Yearly per capita fee income	3254	565
c) Yearly per capita Government grants	4073	nil
d) Yearly subsidy per student	20100	217

The significant findings from the per capita cost and income determinations are :

- i) The yearly unit cost of Rs. 782 for ICE is about 1/35 of that incurred for the CS which indicates the high cost-effectiveness of ICE from the social point of view. The extent of cost-effectiveness achieved is relatively high when compared with ratios of unit costs of correspondence/distance education system to conventional system reported elsewhere. The ratios reported are 1/4 to 1/2 in case of The British Open University (Wagner, 1972;1977); 1/16 at the Korea Air and Correspondence University (Kim, 1985) and 1/6 at the School of Correspondence and Continuing Education, Delhi Datt,1988).
- ii) Out of the yearly per student cost of Rs. 782 at ICE, Rs. 565 is recovered in the form of fee income, the recovery cost being to the extent of 72 percent, which reveals that ICE is a self- supporting system.
- iii) In the case of CS, against the unit cost of Rs. 27,427, the recovery by way of student fee is Rs 3254, i.e. only 12 percent. This means that major proportion of the expenditure is to be borne by the institution in the form of high subsidy of Rs. 20,100 per student.

### **Cost-Efficiency and Support Service**

The phenomenon of cost-efficiency is described as the study of the relationship between volume of output and the amount of resource allocation. In any correspondence system, it is determined by the number of successful learners at the existing cost level. The adoption of systems approach is considered as a determinant for success rate. This is so because the integration of the two essential sub-systems, namely course production and Student Support Services (SSS) is said to make the teaching -learning process effective, leading to enhancement of the success rate (Sewart, 1993).

The support in the form of various SSS activities like study centres, library, and audio/video packages act as interface between the institution and the learners and can indirectly control the drop-out rate. Therefore, in the ultimate analysis, the SSS can have impact on the success rate and hence cost-efficiency.

In view of such a link existing between cost-efficiency and SSS, it is incumbent on the part of any correspondence institutions to provide strong SSS and this is true for ICE of the University of Madras also .However, the SSS in ICE cannot be considered as reasonable which is evident from the expenditure incurred on this item. ICE has been spending a meagre amount annually for SSS meant exclusively for contact classes and for the year 1991-92, a sum of Rs. 37.62 lakhs ( 3.2% of the total) has been incurred, thus the unit cost for SSS being Rs. 29 (Table 4). The remaining SSS activities have been found ignored which is conspicuous by the absence of resource allocation for the other sectors of SSS.

It is therefore, suggested that SSS needs strengthening for which emphasis should be on the allocation of sufficient resources as presently it is too low for the extension of meaningful support. Consequently, per student expenditure for SSS needs to be raised from the present level of Rs. 29 and for accomplishing this a comparison of the unit

cost for SSS with that incurred by a correspondence institute/open University for the SSS as a paradigm is required. For such a purpose of comparison, Indira Gandhi National Open University (IGNOU) and B.R. Ambedkar Open University (BRAOU) have been chosen, the former operating at national level and the latter at state level. Both the IGNOU and the BRAOU have been pace setters in our country for providing SSS facilities through the study centres numbering 133 and 57 respectively as on 1990-91 (Kulandai Swamy, 1991).

Table 4 gives the expenditure incurred for SSS and unit costs on SSS by IGNOU (Pillai and Naidu, 1991) BRAOU (Srinivasacharyulu and Ramaiah, 1994) and they are compared with the respective figures of the ICE.

**Table 4: Comparison of expenditure incurred for SSS activities by IGNOU, BRAOU and ICE**

Particulars	ICE*	IGNOU#	BRAOU*
1. Expenditure on SSS (Rs. in lakhs)	37.62	142.48	116.43
2. Percentage of SSS expenditure to the total	3.2	17.0	31.1
3. Unit cost on SSS (in Rs.)	29	310	258
4. Enrolment	126514	45859	45041
5. Desirable level of expenditure for SSS in ICE (Rs. in lakhs)	300-375		

\* figures are for the year 1989-90 # figures are for the year 1990-91

The unit cost of Rs.29 in ICE is 9 to 10 times lower than those of the two open Universities and the total expenditure incurred by ICE for SSS activities is one-third and one-fourth of that respectively spent by BRAOU and IGNOU (Table 4). Based on the per student norm of BRAOU and IGNOU (Rs. 258 and Rs. 310 respectively), it is highly desirable for ICE to raise the level of expenditure to Rs. 250 — Rs. 300 from the present level of Rs. 29 to enable it to extend varied SSS facilities. If such a per student expenditure norm is implemented by ICE, the total expenditure for SSS would be in the range of Rs. 300-375 lakhs per year. But this additional expenditure is not expected to drastically alter the yearly unit cost of Rs. 782 for ICE (Table 3), which is already very low in comparison to CS and is not likely to affect the cost-effectiveness due to the prevailing high enrolment level in ICE. The projected level of Rs 300-375 lakhs annually for SSS can also be justified in terms of the enrolment in ICE which is three times higher than in both IGNOU and BRAOU.

In the final analysis, the cost per student success is a performance indicator used both in conventional and correspondence/distance education and higher the input to the provision of SSS the greater the success rate (Sewart 1993). Even though the data for success rate in ICE is not readily available, the quantum of additional annual expenditure of Rs. 300 to Rs. 375 lakhs is earmarked for strengthening SSS activities and can reap

rich benefits in the form of reducing drop-out rates and improving the quality of instruction imparted. This would make ICE cost-efficient. In all probability this may facilitate ICE, Madras in emerging as a model correspondence institution in the country.

### Conclusion

The correspondence education of the University of Madras is highly cost-effective as the unit cost is 1/35 of the conventional system. The significant feature is that the major proportion of the cost could be recovered through student fee making the system highly economical.

However, the requisite level of resources has not been allocated for student support activities in the ICE. This accounts for a number of problems in the system. An expenditure norm for support activities has been determined and a sum of Rs. 300-375 lakhs if earmarked at the rate of Rs. 250-300 per student can help to strengthen support services of correspondence education of the University of Madras. If such is the case, ICE Madras is also likely to become cost-efficient.

### References

- Datt, R. (1988) 'Distance education Vs higher education: a cost comparison', *In* Koul, B.N., Singh Bakshish and Ansari, M.M. (eds) *Studies in Distance Education*, New Delhi: AIU and IGNOU.
- Distance Education: Economic Perspective* (1993) Master of Art in Distance Education, ES-317, Blocks 1,2 and 3, New Delhi: IGNOU.
- Kim, S. (1985) 'The role of distance teaching universities in innovation of higher education today', *in Development of Higher Education in Korea and Japan*, Seoul: Korean Council for University Education, pp. 117-143.
- Kulandai Swamy, V.C. (1991) 'Distance education: status and prospects', *In* Raza, Moonis (Ed), *Higher Education in India*, New Delhi: AIU.
- Kulandai Swamy, V.C. (1993) *Social Demand for Higher Education in Asia: How Effective Are Open Universities*, a World Bank sponsored report (unpublished).
- Pillai, C.R. and Naidu, C.G. (1991) *Cost Analysis of Distance Education: IGNOU*, New Delhi: Indira Gandhi National Open University
- Sewart, D. (1993) Student support system in distance education, *Open Learning*, 3, 3-12.
- Srinivasacharyulu, G. and Ramaiah, R. (1994) Funding of distance education: A case study of an Open University, *Indian Journal of Open Learning*, 1, 41-44.
- Wagner, L. J. (1973) The Open University and the cost of expanding higher education, *Universities Quarterly*, Autumn.
- Wagner, L. (1977) The economics of the Open University revisited, *Higher Education*, 6, 359-381.