IS ODL COST EFFICIENT/EFFECTIVE? THE CASE OF THE NAMIBIAN COLLEGE OF OPEN LEARNING

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According to Snowden and Daniel,: "The cost structures of Distance Education and Traditional Education are so different that those setting up Distance Systems experience difficulty in describing the operations and economics of their institutions to officials in government and funding agencies" (Snowden and Daniel, 1980). I fully concur with this statement and I would like to state that this situation is exacerbated by the fact that those working in distance education are not always in a position to describe the economics of distance education due to their own inexperience and lack of knowledge in this field.

SAIDE, in its report on "Costing distance education and open learning in Sub-Saharan Africa", are also of the opinion that "not all financial planners have a handle on the dimensions of the distance education practice" (SAIDE, 2004).Given this context , I am of the opinion that due to our own lack of capacity we are most of the time dependent on outside advise regarding financial issues in distance education.As long as we do not have 'a handle on the dimensions of the distance education practice' and its concomitant financial demands, we will not be in a position to plan for efficient and effective distance education.

This paper will investigate the cost drivers in distance education , followed by a critical look at the cost efficiency/ effectiveness of the Namibian College of Open Learning.. By reflecting on these issues the author hopes that more research will be focussed on this topic in future.

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1. Introduction

The NAMCOL is a State supported educational institution established by an Act of Parliament, Act 1 1997. The context within which NAMCOL was created framed the subsidy agreement from Government. Today, just less than 10 years later, when I reflect on the NAMCOL experience I was confronted with the question: "Is NAMCOL more cost-efficient than its conventional counterparts?"

Snowden and Daniel, following their Athabasca experience stated: "The cost structures of Distance Education and Traditional Education are so different that those setting up Distance Systems experience difficulty in describing the operations and economics of their institutions to officials in government and funding agencies" (Snowden and Daniel, 1980). I fully concur with this statement and I would like to state that this situation is exacerbated by the fact that those working in distance education are not always in a position to describe the economics of distance education due to their own inexperience and lack of knowledge in this field.

SAIDE, in its report on "Costing distance education and open learning in Sub-Saharan Africa", captures this situation perfectly when it states "Sadly, despite many claims to the contrary, sound and rigorous financial planning is a serious omission in several new projects and institutions seeking to harness the potential of distance education methods". Further to this, they are also of the opinion that "not all financial planners have a handle on the dimensions of the distance education practice" (SAIDE, 2004).

Given this context, I am of the opinion that due to our own lack of capacity and our incompetence, we are most of the time dependent on outside advice regarding financial issues. This advice might not always be the best option, but due to our deficiencies as distance education practitioners we are not in a position to challenge these recommendations or to suggest improved ones. I am furthermore convinced that as long as we, the custodians of distance education do not have 'a handle on the dimensions of the distance education

practice' and its concomitant financial demands, we will not be in a position to plan for efficient and effective distance education.

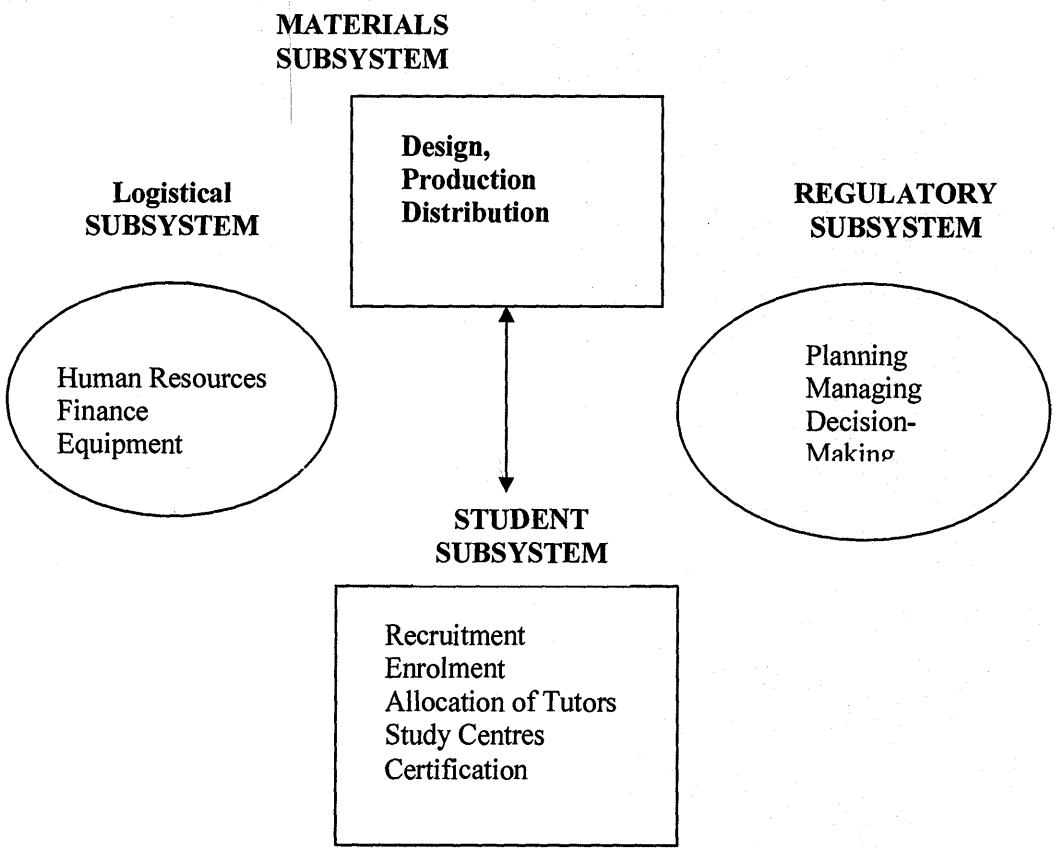
An imperative for greater efficiency is a proper understanding by the custodians of distance education of the different types of cost and how they are manipulated. I am convinced that we will never achieve greater efficiency if we remain indifferent to the factors which affect cost of distance education.

2. Important Issues To Consider When Reflecting On Cost Effectiveness/Cost Efficiency

2.1 How Do We Approach The Costing Of A Distance Education System?

Rumble developed a systems framework during the late 1970's which is a preferred approach by the majority involved in costing distance education institutions. This approach proved to be user-friendly and logical due to the fact that it is aligned to the 'groups' of operation within a distance education institution. Distance education rests on two pillars, the materials subsystem and the learner support subsystem, which are supported by the administrative and decision-making subsystems. Therefore, the systems approach as developed by Rumble is being used as the most relevant approach.

DIAGRAM 1



Source: Rumble, 1997

2.2 Which Factors Affect The Cost Of Distance Education?

In order for us to understand the factors affecting cost of distance education, it is necessary to have some knowledge of educational cost and the way it behaves.

For decision-makers to understand the "behaviour pattern" of costs and to take informed decisions, we have to appreciate the ways in which efficiencies can be achieved. The following section focuses on 10 of the most pertinent factors which affect cost. It is however not an exhaustive list.

2.2.1 Student numbers

Literature reveals that the selling point for distance education is the fact that you can reap economies of scale through distance education. But what does this really mean? And are distance education providers taking advantage of this strength of distance education? *Economies of scale occur when the unit cost of production of goods or services does not rise in direct proportion to the increase in output of the goods or services* (Rumble 1997).

Student numbers influence different costs differently. For example, the cost of marking assignments will go up with every additional student, while the costs of face-to-face teaching will only go up when a threshold is crossed and an additional class group is formed. In NAMCOL's case, a class group is formed for every 50 students, so when 10 more students are added, it does not influence the cost of providing face-to-face teaching or its administration, but it does influence the cost of marking the additional 10 assignments.

Student numbers do not influence the development cost of materials since this is a fixed cost, but the increase in numbers will spread the development cost over the increased numbers and bring down the unit cost for developing materials. What is important to note is that when the student number is low, the cost of developing materials will be spread over a lower number of students and it will then have a higher unit cost, while with greater numbers the unit cost will be lower. The printing of materials is a variable cost and it is influenced by the fluctuation of student numbers. The higher the number the lower the printing cost and vice versa.

One way of dealing with this dilemma is forward planning with regard to printing, since greater volumes allow economies of scale. Not many institutions take advantage of this due to financial constraints or/and indifference by management.

2.2.2 The Size of the Curriculum

In our excitement to broaden access, we do not always realise that the curriculum is a cost driver. The broader the curriculum, the higher the cost of developing, printing, administering, providing student support, etc. It is critical to ensure that student numbers grow with the enlargement of the curriculum. In other words, courses should not be developed when there is no market. It is only through scale that we can hope to recover costs.

In order to be sustainable, the distance education institution will have to review the offering of a broad curriculum. Programmes with low student numbers will render the institution inefficient, because it is high output at a high cost and one should also ask: At whose cost? When the prevailing socio-economic circumstances do not allow students to take responsibility for increased fees, the institution will have to take responsibility for the cost itself. Under such circumstances, the institution will defeat the purpose of economies of scale and efficiency.

2.2.3 Number of Years Over Which Courses are Offered Without Change

This can be a major advantage to an institution if materials for courses with a long lifespan can be reused. In such a case, the cost of materials is not only spread over years but also over greater volumes of students. There are however drawbacks.

If there is a need to make changes to the materials, after the initial launch, which is quite possible, the format of the materials should allow for such changes. There is however evidence from practice that this is not always possible and in such an event it will mean additional investment which will make the venture

more costly. UNESCO, in a study, advises that to prevent such an occurrence, the materials should be developmentally tested before producing in bulk. The concern is whether this is practically possible at all (UNESCO, 2002). Furthermore, before decisions are made on volumes to be printed, proper consultation with the concerned authorities should inform distance education providers on the course of action.

When consideration is given for materials to be used over a long period, it is critical to recognise the fact that the materials should be relevant and current. Changes in the syllabi lead to materials becoming outdated, e.g., computing, social sciences. According to UNESCO, modularization and the use of electronic formats will allow easy revision without too much cost. One advantage of online formats is that development is not regarded as a pre-presentation stage, like with the use of print, but it is regarded as a continuous and major process at all stages (UNESCO, 2002). Within the SADC region where access to ICTs remains a major challenge, it might be difficult to follow this advice. However, if the institution has the capacity to 'store' the materials electronically, it will be helpful to incorporate sudden and unexpected changes to the curriculum.

2.2.4 Containment of Course Development

The current trend in open and distance learning (ODL) is to add value to services by developing a wide range of optional materials to be used by learners in order for them to receive a quality package. This might be very costly for any institution. Therefore, consideration should be given to the range of materials to be developed in order to reduce the cost by not providing too many different course materials. Inflating the volume of the package does not necessarily guarantee a successful outcome, a wraparound with a textbook might be sufficient for one group of students but may be not be for others. It is critical that institutions investigate the appropriateness of the volume of the package with the different groups of students. Another issue that should be investigated is: what leads to students' success in distance education? Is it the volume of the package or does the volume of the package not overwhelm students? Another issue that should be considered when developing materials is the student hours. More student hours inflate the budget, and institutions should therefore strive to put the course content in not too many hours.

2.2.5 Sharing of Course Development/Transforming Existing Materials/Buying in Materials

A significant part of a distance education institution's budget goes towards the cost of course development. This is a fixed cost and institutions can introduce different strategies to cut down on this cost. One such strategy is to share the development cost with other institutions or to collaborate with commercial publishers. The advantage of a partnership with a commercial publisher is the revenue that can be generated from the sales, which could be used to offset the cost of developing materials. Income earned from royalties and/or discounts, although very small, can also contribute to lowering development costs. Collaborating in developing materials with other institutions as well as buying in materials produced by another institution might also be cheaper than developing materials in house. This is not always true and for this reason a proper cost analysis should always precede a decision in this regard. It is however a very viable option to investigate when setting up small institutions or when setting up distance education institutions without a core group of trained course developers.

2.2.6 Technology Choices

Each technology has its own cost structure and the choice of the technology has an impact on the cost of the system. Literature has revealed that it takes a teacher more time to write a text that will occupy a student for an hour than what it takes for a teacher to prepare for a one-hour lecture. Institutions should therefore take an informed decision where access and cost should be the determining factors. They should also take cognizance of the equivalency theory which postulates that any media can lead to successful learning.

2.2.7 *The Level of Student Support*

The level of student support can increase the cost of providing a course drastically. Cost of student support is driven by student numbers. Unlike printing where economics of scale is achieved with higher numbers, the cost of student support increases with higher numbers. Due to the fact that more investment in student support increases the cost of distance education, it is found to be one of the factors that dismisses the myth

that distance education is cheaper than conventional education. Distance education can only be cheaper when student support is minimised. Support through online services does not necessarily prove cheaper. Literature reveals that it takes more time to support students online (Rumble, 1997).

Student support has two dimensions, the pedagogic and the administrative dimensions. It is important that institutions know just how much of both should be provided to students. Furthermore, cost is context specific and proper consideration should be given to the cost of both dimensions. Apart from the tutoring aspect, one area of student support which is sometimes disregarded is adequate provision of study facility and equipment. Setting up and maintaining learning centres can prove to be very costly to institutions. Sharing of these facilities amongst institutions will allow cost-sharing. In Namibia, the NOLNet Trust has been set up as a mechanism to support cost-sharing of different distance education activities. It is my considered opinion that much more can be done to improve student support at a much lower cost to all concerned institutions.

2.2.8 Working Practices

Costs can be affected significantly by the working practice of an institution and they can go either upward or downward. Some institutions make use of course teams to develop materials. This practice produces a high quality product at a high cost and institutions can reduce the cost of teams by having independent authors as well as reducing the size of the course modules, which would require fewer people to produce. Preparing courses where students have to spend many hours to study will increase the range of materials to be developed, and will therefore demand more hours of development.

The following options are suggested by Rumble to save money on working practices: multi-specialist team approach, multi-specialist assembly line model and one person models (Rumble, 1997).

2.2.9 Labour Market Practices

Cost can be reduced significantly when staff is employed on a short-term contract basis. The following groups: course developers, course writers, producers and designers can be appointed on short-term contracts and savings can be made on overheads like medical aid, transport, pension, etc. The difference between distance education and traditional education lies in the fact that distance education is capital intensive while traditional education is labour intensive. However, a snapshot of distance education institutions in the region indicates the opposite. It is therefore critical for distance education institutions to review their staff establishments in order for them to ensure that the institution operates on a cost-effective basis.

2.2.10 Structural Practices

The range of activities that need to be executed by a distance education institution does not need to be done in isolation. If it is possible to outsource some activities at a lower cost, it should be considered. Partnerships with other distance education providers with regard to any of the operations that can be shared, will assist in lowering costs for distance education institutions.

3. Cost Efficiency

"Efficiency is the ratio of output to input" (Rumble, 1987). According to Rumble, a system increases its cost efficiency when it maintains output with a less than proportional increase in inputs.

Many Governments, including the Namibian government has the belief that distance education is cheaper than traditional education. Although this is not the only reason why Governments are setting up Distance Education systems/institutions, it is a very important reason. It is, unfortunately, not always easy to compare costs of distance education with the cost of traditional systems. Due to the fact that previous section indicates that there are different factors which influence the cost of the two systems.

According to a SAIDE report on Costing Distance Education and Open Learning in Sub-Saharan Africa 2004: "There is no magical formula that leads to cost-effective education; rather, cost-effectiveness needs to be measured on an ongoing basis in relation to changing contextual requirements".

I fully concur with this statement and would like to elaborate by using the case of NAMCOL.

3.1 Full Time Equivalent

A recent World Bank Study (2005) entitled, Namibia Human Capital and Knowledge Development for Economic Growth with Equity, concluded: "A comparison of the Cost per FTE at NAMCOL, with per learner operational cost in full time secondary education suggests that NAMCOL is more costly than regular schooling." I would like to use this statement as a basis for discussing the cost efficiency of NAMCOL.

There are different ways of comparing distance education with traditional education, one of which is FTE. The FTE is "a measure indicating the proportion of full time Participation in the education system calculated by adding the FTE values of the Enrolments". Unfortunately, there are also different FTE formulas used by different Institutions and in my view, based on the purpose of the comparison, any of these might be suitable.

In order to clarify the above statement, I would like to elaborate on the following three FTEs that can be applicable to NAMCOL:

1. **Provision of courses/number:** The Full-time equivalent being used by the World Bank is based on the provision of courses/number of subjects offered to a full-time student, e.g.; a Grade 10 student takes an average of nine subjects. In this case, the total subject enrolments for Grade 10 in a given year would be divided by a factor 9 to establish the FTE.

2. **Preparation for Examination**: Another example to calculate FTE is based on the preparation for Examination: A NAMCOL learner takes an average of three subjects per year and completes them during that same year which allows him/her to continue the next year with the remainder of the subjects. In this case, the total subject enrolments would be divided by a factor 3 to establish the FTE.

3. **Funding model:** Another example is based on the funding model where the full-time students are funded at a level of 1.0 (100%) and the part-time students are funded at a level of 0.60–0.65 (60–65%). This is the model that should apply to NAMCOL at this point to determine the FTE.

Through this discussion, I want to clarify that FTE might be an easy way to look at the comparative cost between distance education and traditional education, but it is not always the best way, since different formulas can be applied at the SAME institution. In my view, it is an economic model which is potentially misleading. The following table will try to illuminate three of the FTE formulas that can be applied to NAMCOL.

TABLE 2

Three FTE Formulas that can be Applied to NAMCOL JSC

(Namibian $)

	1999	2000	2001	2002	2003	2004
JSC Subject enrolments	37,382	44,679	27,079	34,603	28,573	29,484
Subsidy received	16,369,000	17,200,000	8,005,667	7,817,166	10,373,979	9,217,650
FTE : Provision of subjects: 9	4,153.55/ **3940.92**	4,964.33/ **3464.71**	3,008.77/ **2660.75**	3844.77/ **2033.17**	3174.77/ **3267.60**	3276/ **2813.69**
FTE Exam Prep.:3	12,460.66/ **1313.7**	14,893.00/ **1154.90**	9,026.33/ **886.92**	11,534.33/ **677.73**	9,524.33/ **1089.21**	9,828.00/ **937.89**
FTE Funding: 6	6,230.33/ **2589.90**	7,446.50/ **2309.80**	4,513.16/ **1773.84**	5,767.16/ **1355.46**	4,762.16/ **2178.41**	4,941.00/ **1865.53**
Cost of Full-Time learner	**4300**	**4551.57**	**4649.31**	**4330.17**	**4496.85**	**4466.70**

Source: NAMCOL Statistical Digest

I would like to put the observation, on NAMCOL's efficiency, made in the World Bank study, in perspective. (Marope M.T, 2005). According to the analysis, NAMCOL is less cost-efficient when a FTE based on the factor 9 is used. It further suggested that the number of graded subjects is less than in formal education and that learners, prior to joining NAMCOL, were enrolled in formal education. I do agree with the latter part of the observation, but there are other factors which were not brought into this comparison. They are:

1. NAMCOL learners NEVER take nine subjects, they take a maximum of six, because they only need six to continue with grade 12.
2. The amount of money per FTE for a NAMCOL learner is spread over a period of three years, while the amount of money for a student in the formal school is repeated over a period of three years, thus, making the comparison on factor 9 very unreliable, and the outcome skew.
3. The cost per grade 10 learners is less than the cost per grade 12 learners.
4. Another very important benefit of distance education is the social benefit. In many instances, it is disregarded, but this is a spill-over benefit which is not easy to measure. If these learners were not enrolled in NAMCOL, they would have roamed the streets, etc. So, the whole society is benefiting.
5. The report is also referring to the amount of teaching time in full-time as compared to the amount of teaching time in distance education. This indifference to the fact that the teaching time of distance education is less than in conventional teaching is a further disregard of what distance education is all about! The teacher in distance education is a CONSTANT. The hours that were invested to develop and prepare the teacher in the distance education material, outweighs the same in conventional education.
6. There is also confusion in the use of terminology where there are no boundaries between cost-efficiency and cost-effectiveness.
7. "When making comparisons with traditional institutions, it should be remembered that the cost of traditional institutions may vary enormously within a jurisdiction (Rumble, 1997). According to a recent study which was done on the Expenditure Issues in the Ministry of Education: "Spending in

education is highly iniquitous between regions". It is therefore very misleading to make a general statement on efficiencies while it is clearly an issue which is influenced by different factors.

4.2 How Do You Make Valid Comparisons?

Rumble (1997) suggests that the following issues need to be considered when making comparisons between institutions with regard to cost-efficiency:

1. Comparing like with like:
   In order to arrive at a fair comparison it is critical to separate the cost of teaching from non-teaching activities. Conventional education is labour intensive and teaching is a recurrent cost driven by student numbers, while distance education is capital intensive and the development of materials (substituting the teacher) is a fixed cost, not driven by student numbers, while the production of materials are driven by student numbers. Non-teaching activities in conventional systems include hostels, advising teachers, administration, etc., while these activities do not form part of distance education.
2. Comparing student loads:
   The most common student load is the FTE which can be defined within a specific context. There is no ONE formula.
3. Comparing Outputs:
   Comparing the relative value of graduates can be problematic. The same qualification from different institutions may have a different value.
4. Using common price levels:
   When making comparisons, the data which is used should have a common price. The cost should be realistic and all the costs should be taken into account. The need to project cost with care; as was evident from NAMCOL's original costing structure, there is an assumption that overhead costs are fixed. Furthermore, unit costs of the current year might not be a valid guide to unit costs in future.
5. Are costs realistic, and are all costs taken into account?
   Having considered the costs that impact on providing formal education the question remains; are all costs taken into account? There might be costs incurred outside the educational budget which need to be reflected in the budget to determine the real cost.

4.3 A Measure To Make Comparisons Across Jurisdictions

Rumble 87 suggests that the efficiency ratio be used when comparisons are made across jurisdictions. To establish the ratio of these costs, the average cost of distance education should be divided by the average cost of the traditional education.

An efficiency ratio of

1. 1. 0 means that the distance system is as efficient as the comparative system.
2. Of less than 1.0 means the distance system is more efficient than the comparator.
3. Greater than 1.0 means that the distance education system is less efficient than the comparator.

TABLE 3

Efficiency Ratio: NAMCOL

	Year	NAMCOL	Conventional	Efficiency Ratio
1	Grade 10 99	310.58	477.81	0.65
2	2000	328.72	505.73	0.65
3	2001	335.78	516.59	0.65
4	2002	288.68	481.13	0.60
5	2003	299.80	499.65	0.60
6	2004	322.60	496.30	0.65
7	Gr 12 99	465.73	716.51	0.65
8	2000	492.40	757.54	0.65
9	2001	503.26	774.24	0.65
10	2002	432.67	721.12	0.60
11	2003	449.19	748.65	0.60
12	2004	548.49	843.84	0.65

Source: NAMCOL: Subsidy Calculation documents 1999 – 2004.

From the above discussion and calculations, it is clear that NAMCOL is more cost-efficient than conventional education.

4. Cost Effectiveness

According to Rumble (1997): "An organization is cost-effective if its outputs are relevant to the needs and demands of clients and cost less than the outputs of other institutions that meet these criteria."

4.1 How Can We Measure Cost Effectiveness

After I have consulted literature, I found that there are several ways in which effectiveness might be measured. For the purpose of my study I have considered the following and I am in agreement with them. I find that they are quite user-friendly and easy to apply:

4.2 Effectiveness Measured Against An Absolute Standard

According to Cowan (1985): "Effectiveness is the ratio of the actual outcome to the possible or ideal outcome".

Absolute effectiveness refers, according to Cowan, to an equivalent of 100% of students passing. In this context, course completion is seen as SUCCESS while drop-outs and failures are seen as FAILURE. This type of judgment does create a dilemma for an institution like NAMCOL where students dropout for various reasons. It is a fact that the majority of these students are pushed out of the system and are therefore not "motivated". When they therefore, drop-out of NAMCOL, can the institution be labelled as ineffective? Working with these students and being conscious of their levels of motivation and the fact that the majority of them cannot afford to study with NAMCOL and therefore do not have the probable cause to succeed from NAMCOL to tertiary institutions, I am inclined to say that a certain percentage of drop-outs/failures cannot be laid at the doorstep of the institution.

Holmberg (1989, pp. 182-3) stated that "Distance Education programmes are often used by students who do not declare either their ultimate goals on the period over which they intend to spread their study. Thus, it is often impossible to say for certain, unless the students are conscious of their ultimate goals and have made their study intentions known, whether non-completion means interruption, or drop-out in the sense of failure, or if it accords with their plans or intentions".

According to Baath (1984) drop-out rates around 50% are not unusual for distance education.

4.1.2 Measurement of relative effectiveness

In order to establish the relative effectiveness of a distance education system, the effectiveness ratio of the distance education system is divided by that of the traditional system.

An effective ratio of 1.0 indicates that the two systems are comparable in relative effectiveness. A ratio of <1.0 means that the distance education system is less effective and if >1.0 means it is more effective.

With this approach, it is possible to compare the relative effectiveness of distance education over various jurisdictions in the formal/traditional setting.

TABLE 4

Relative Effectiveness: NAMCOL

	Measure	NAMCOL	Conventional (Formal)	Effectiveness ratio
National	Gr 10 99	67.1%	84.9%	0.79
	Gr 10 00	79.7%	88.2%	0.90
	Gr 10 01	79.4%	89.2%	0.89
	Gr 10 02	81.2%	91.2%	0.89
	Gr 10 03	83.3%	90.4%	0.92
	Gr 10 04	88.1%	91.5%	0.96
National	Gr 12 99	69.6%	89.4%	0.78
	Gr 12 00	72.6%	88.9%	0.81
	Gr 12 01	74.0%	89.1%	0.83
	Gr 12 02	75.3%	89.2%	0.84
	Gr 12 03	75.6%	90.8%	0.83
	Gr 12 04	77.5%	91.3%	0.85

Source: MBESC, Press statements, Directorate of National Examinations and Assessment, 1999 – 2004.

4.1.3 Effectiveness As A Measure Of The Quality Of The Student's Performance

The effectiveness of educational institutions can be measured by value-added performance indicators. A value-added performance indicator measures the difference in performance between the entry and the exit exams. Not much work has been done on the effectiveness of distance education as a means of the quality of the student's performance.

4.1.4 Effectiveness measured by a weighted average across a range of variables

It is possible to calculate an overall effectiveness ratio across several variables, e.g., the following variables, skills and attitudes can be weighted, and the weighted average effectiveness can be calculated.

5. Identifying Educational Efficiency And Effectiveness

Looking at efficiency alone is inadequate. According to Yecke (2005), efficiency is meaningless in the absence of effectiveness. Researchers at the centre of the American Experiment used a linear programming technique known as data envelope analysis to produce an efficiency and effectiveness index based on the variables of RESOURCES and OUTCOMES (Yecke, 2005).

The ratio analysis was introduced by John Minter who was a pioneer in the field of comparative performance and institutional effectiveness. It is based on the principle that competing businesses are competing on many dimensions, and in order to survive the competitive environment, they have to develop STANDARD measurements that will allow them to make comparisons so that they can strengthen their competitive advantage.

This is indeed an excellent mechanism which was transferred to educational institutions for various reasons, but it can be useful to governments when deciding on resource allocation. A standard measure will allow them to identify the problematic schools, distance education institutions and will assist in reducing educational wastage.

According to this principle, the institutions which produce the highest effects per dollar are determined by dividing EFFECTS by COST. In this case, EFFECTS refer to successful students, while dollar refers to the unit cost per student. Closely looking at this is a continuation of Rumble's effectiveness ratio which is divided by the efficiency ratio. FORMULA: Effectiveness Ratio divided by Efficiency Ratio x 100.

When applying this formula to already calculated efficiency and effectiveness ratios (EER) of NAMCOL, the picture is encouraging. Ratings lower than 100 indicates a lower EER, ratings of 100 are at the average with the comparable institution while ratings higher than 100 indicates a higher (EER). Due to the fact that NAMCOL scores a positive to cost-efficiency and a very close to average for effectiveness, puts it in a more cost-efficient/effective bracket. I find this comparison very useful and encouraging.

In a similar but unrelated study, researchers at the University of Washington developed the graduation efficiency index to determine the relative efficiency of colleges and universities in terms of graduation rates (Gillmore and Hoffman, 1997). The graduation efficiency index is based on the amount of instructional space occupied by a student. This is, according to me, a very interesting perspective to look at efficiency.

This perspective of basing efficiency with amount of instructional space is worth considering in light of decreasing educational wastage at all levels of educational sectors.

Effectiveness – Efficiency Index NAMCOL

No	Year	Effectiveness ratio	Efficiency Ratio	X100	EEI
	Grade10				
1	1999	0.79	0.65	1.21	121
2	2000	0.90	0.65	1.38	138
3	2001	0.89	0.65	1.37	137
4	2002	0.89	0.60	1.48	148
5	2003	0.92	0.60	1.53	153
6	2004	0.96	0.65	1.48	148

	Grade 12				
7	1999	0.78	0.65	1.2	121
8	2001	0.81	0.65	1.2	121
9	2002	0.83	0.65	1.28	128
10	2003	0.84	0.60	1.4	141
11	2004	0.85	0.65	1.31	131

Source: (i) Table 3 & 4 (page 30 & 32); EEI: Yecke, Cheri Pierson

This Table is indeed very encouraging for distance education. At this stage it gives a better appreciation of the confusion about cost-efficiency and cost-effectiveness. It shows the close relationship and it also shows that high efficiency can balance out low effectiveness. This model needs to be further explored in order for us to ensure that we introduce the most valid one in this regard. For now, the two models on efficiency ratio and effectiveness ratio should be used to inform governments and Institutions on the relative performance of institutions and schools.

6. Conclusion

This study has been very enriching, both professionally and personally. I think that if possible, each and every institutional head should be exposed to such a study. It is only when you start looking at issues from a distance that you get a new perspective. Sometimes we are to drawn into our day-to-day management activities that we rarely appreciate when our financial planners experience difficulties in making the budgets balance. On the other hand, if we do not have a handle on these issues, we may not be the right people driving our institutions. It is my sincere hope that my work of the past three months will inspire many that distance education can be cost-efficient and cost-effective, if only we know where the weaknesses and the strengths are.

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