DepED
DEPARTMENT OF EDUCATION

Applied Economics

SENIOR HIGH SCHOOL

Minimizing and Maximizing Business's Impact: Cost-effective Analysis

Self-Learning Module
18

Quarter 4

DIVISION OF PASIG CITY
PASIG CITY, METRO MANILA
1994

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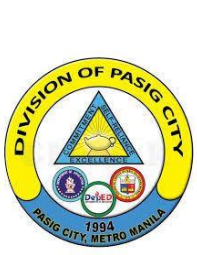


Introductory Message

For the facilitator:

Welcome to the Senior High School – Applied Economics Self Learning Module on Minimizing and Maximizing Business's Impact: Cost-effective Analysis!

This Self-Learning Module was collaboratively designed, developed and reviewed by educators from the Schools Division Office of Pasig City headed by its Officer-in-Charge Schools Division Superintendent, Ma. Evalou Concepcion A. Agustin, in partnership with the City Government of Pasig through its mayor, Honorable Victor Ma. Regis N. Sotto. The writers utilized the standards set by the K to 12 Curriculum using the Most Essential Learning Competencies (MELC) in developing this instructional resource.

This learning material hopes to engage the learners in guided and independent learning activities at their own pace and time. Further, this also aims to help learners acquire the needed 21st century skills especially the 5 Cs, namely: Communication, Collaboration, Creativity, Critical Thinking, and Character while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

As a facilitator you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Moreover, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the learner:

Welcome to the Applied Economics Self Learning Module on Minimizing and Maximizing Business's Impact: Cost-effective Analysis!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning material while being an active learner.

This module has the following parts and corresponding icons:

Expectations - This points to the set of knowledge and skills that you will learn after completing the module.

Pretest - This measures your prior knowledge about the lesson at hand.

Recap - This part of the module provides a review of concepts and skills that you already know about a previous lesson.

Lesson - This section discusses the topic in the module.

Activities - This is a set of activities that you need to perform.

Wrap-Up - This section summarizes the concepts and application of the lesson.

Valuing - This part integrates a desirable moral value in the lesson.

Posttest - This measures how much you have learned from the entire module.

EXPECTATIONS

After going through this module, you are expected to:

1. define cost-effective analysis; and
2. identify the importance of cost-effective analysis.

PRETEST

Directions: Choose the letter of the best answer and write it on a separate sheet of paper.

1. Which of the following is TRUE about the cost-effective analysis?

   A. Cost-effectiveness analysis is an alternative to cost-benefit analysis.

   B. Cost-effectiveness analysis compares the relative costs to the outcomes (effects) of two or more courses of action.

   C. Cost-effectiveness analysis measures the costs in a common monetary value and the effectiveness of an option in terms of physical units.

   D. All of the above

2. Which of the following statements is NOT TRUE?

   A. The best cost-effectiveness analysis takes a broad view of costs and benefits, not direct indirect but has longer-term effects.

   B. Information on costs, benefits, and risks is rarely known with certainty, especially when one looks to the future.

   C. Cost-effectiveness analysis allows the comparison of the cost-effectiveness of one policy to other policies.

   D. None of the above

3. Which of the following inputs is INCLUDED in the cost-effective analysis?

   A. Net cost is the intervention costs minus averted materials and production costs.

   B. The changes in health outcomes are outcomes with the intervention in place minus outcomes without the intervention in place.

   C. Both A and B

   D. None of the above

4. Cost-effective analysis is commonly used in _____.

   A. transportation

   B. healthcare

   C. employment

   D. poverty

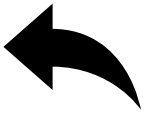
5. Which of the following statements does not describe the cost-effective analysis?

   A. Cost-effective analysis facilitates a comparison between different treatment strategies and supports users in administration of resources.

   B. Cost-effectiveness analysis helps identify ways to redirect resources to achieve more.

   C. Cost-effectiveness analysis demonstrates only the utility of allocating resources as effective interventions.

   D. None of the above



RECAP

Word Hunt

Directions: Find the words that are related to cost-benefit analysis in the puzzle below. Encircle the 5 terms in the word search box.

V	B	Y	F	B	Y	U	M	F	C	J	E	K	Y	D
K	F	D	V	N	C	L	D	L	P	M	A	X	C	Q
G	O	W	I	G	T	S	O	C	T	C	E	R	I	D
L	Q	L	M	S	J	I	P	H	D	Z	L	F	T	K
J	B	J	Q	G	C	V	R	V	P	T	W	S	E	N
E	G	I	V	A	Y	O	Z	X	W	N	Y	H	Y	P
M	J	B	Y	H	Q	V	U	E	V	J	C	B	Q	R
A	R	L	R	X	P	F	Q	N	L	R	D	L	F	Z
F	V	E	W	S	W	J	C	Y	T	W	U	Z	J	O
X	U	R	M	Q	L	Y	Q	S	U	R	F	K	V	M
N	E	T	P	R	E	S	E	N	T	V	A	L	U	E
S	P	A	B	V	T	D	P	S	Y	E	M	T	D	J
M	Y	T	I	F	E	N	E	B	T	S	O	C	E	P
W	I	N	D	I	R	E	C	T	C	O	S	T	S	I
Z	H	U	J	K	H	B	X	P	V	I	L	U	P	C

LESSON

Cost-effective Analysis

Cost-effectiveness analysis (CEA) is an alternative to cost-benefit analysis. The technique compares the relative costs to the outcomes (effects) of two or more courses of action.

CEA is most useful when analysts face constraints that prevent them from conducting a cost-benefit analysis. The most common constraint is the inability of analysts to monetize benefits. CEA is commonly used in healthcare, for example, where it is difficult to put a value on outcomes, but where outcomes themselves can be counted and compared, e.g. 'the number of lives saved'.

CEA measures costs in a common monetary value and the effectiveness of an option in terms of physical units. Because the two are incommensurable, they cannot be added or subtracted to obtain a single criterion measure. One can only compute the ratio of costs to effectiveness in the following ways:

$$\text{CE ratio} = C1/E1$$

$$\text{EC ratio} = E1/C1$$

where: C1 = the cost of option 1 (in monetary value)

E1 = the effectiveness of option 1 (in physical units).

The first equation above represents the cost per unit of effectiveness (e.g. pesos spent per life saved). Projects can be rank ordered by the CE ratio from lowest to highest. The most cost-effective project has the lowest CE ratio. The second equation is the effectiveness per unit of cost (e.g. lives saved per peso spent). Projects should be ranked from highest to lowest EC ratios.

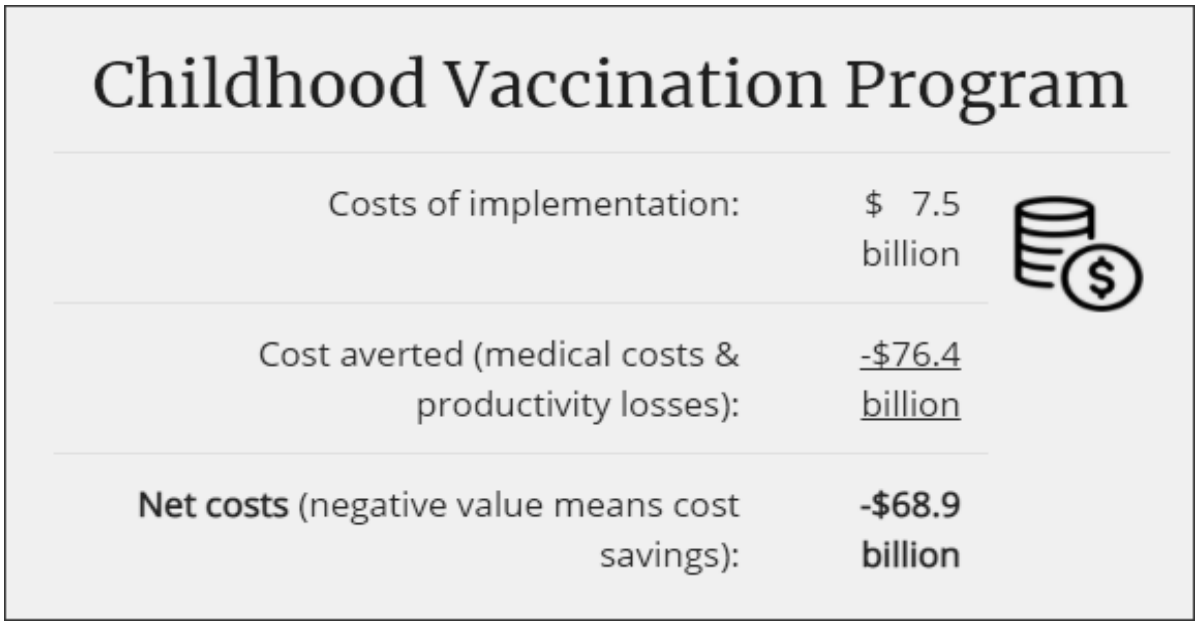
The outputs to be ranked by cost-effectiveness analysis will often be social or environmental. For example, work in health economics looking at the cost-effectiveness of different treatments.

What output does a cost-effectiveness analysis provide?

CEA provides information on the health and costs impacts of an intervention compared to an alternative intervention (or the status quo). If the net costs of an intervention are positive (which means a more effective intervention is more costly), the results are presented as a cost-effectiveness ratio. A *cost-effectiveness ratio* is the net cost divided by changes in health outcomes. Examples include cost per case of disease prevented or cost per death averted. However, if the net costs are negative (which means a more effective intervention is less costly), the results are reported as net cost savings.

Application of Cost-effectiveness Analysis

The example was conducted by the Centers for Disease Control and Prevention in the US. They compare the childhood vaccination program to the status quo of no vaccination program. The costs of implementing the program are less than the medical and productivity costs averted. Because the intervention is cost-saving, the results are not presented as a cost-effectiveness ratio. Instead, they are presented as net cost savings. Thus, the intervention is more effective and less costly.



Source: Office of the Associate Director for Policy and Strategy, Centers for Disease Control and Prevention, U.S. Department of Health & Human Services

ACTIVITIES

Activity: My Cost-Benefit Analysis

Directions: Observe and analyze the scenarios in the community. Think of one (1) project that you want to study using a cost-effective analysis.

Scenario	Details of the Project	Reasons for the conduct

WRAP-UP

To summarize what you have learned in the lesson, answer the following questions:

1. What is a cost-effective analysis?
2. What is the importance of cost-effective analysis?

VALUING

Reflect on this!

"It's easier and more cost-effective to maintain good health than to regain it once it's lost." — Kenneth H. Cooper

POSTTEST

Directions: Read each statement carefully. Write **T** if the statement is correct, otherwise write **F**.

_____1. If the net costs of an intervention are positive, the results are presented as a cost-effectiveness ratio.

_____2. A cost-effectiveness ratio is the net cost divided by changes in health outcomes.

_____3. If the net costs are negative, the results are reported as net cost savings.

_____4. A more effective intervention is more costly, if the net costs are negative.

_____5. A more effective intervention is less costly, if the net costs are positive.

KEY TO CORRECTION

POSTTEST: 1. T 2. T 3. T 4. F 5. F	RECAP: 1. NET PRESENT VALUE 2. COST BENEFIT 3. DISCOUNT RATE 4. INDIRECT COST 5. DIRECT COST	PRETEST 1. D 2. A 3. C 4. B 5. C

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"Kenneth H. Cooper Quote: "It's Easier and More Cost Effective to Maintain Good Health, than to Regain It Once It's Lost."" Quotefancy. Accessed August 28, 2020. https://quotefancy.com/quote/1145670/Kenneth-H-Cooper-It-s-easier-and-more-cost-effective-to-maintain-good-health-than-to.

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