

Cost Effectiveness Ratio: Evaluation Tool for Comparing the Effectiveness of Similar Extension Programs

Abstract

Extension educators have been challenged to be cost effective in their educational programming. The cost effectiveness ratio is a versatile evaluation indicator for Extension educators to compare the cost of achieving a unit of outcomes or educating a client in similar educational programs. This article describes the cost effectiveness ratio and its application in Extension. The major implications are 1) learning ways to reduce the cost of educational programming, 2) making Extension educators aware of the cost of educational programming and guiding ways to maximize the cost effectiveness, and 3) promoting pro-evaluation organizational culture.

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Introduction

With the introduction of the Government Performance and Results Act in 1993, increased accountability has become the norm in Extension (Boone, Sleichter, Miller, & Breiner, 2007; Radhakrishna & Martin, 1999) for the justification of public funds used for Extension programs. With this heightened accountability, Extension services throughout the U.S. have paid more attention to evaluating their programs mainly for accountability (Baughman, Boyd, & Kelsey, 2012) and cost effectiveness. Extension is using evaluation as a process to determine program outcomes and identify cost effective programs for allocating limited resources on impactful programs.

The cost effectiveness ratio can be described as the cost per unit of outcomes or educating a client. The cost effectiveness ratio helps us to place the dollar value for a unit of program outcome (Cellini & Kee, 2010). The following formula defines it exactly:

Cost effectiveness ratio = (Total cost of the program / Number of outcome units)

The numerator of this ratio is the total cost of the program in Dollar terms. The denominator is normally the number of outcome units created by the program. If the number of outcome units were used as the numerator, then the ratio can be interpreted as the cost per unit of outcomes. For example, if we spent \$5,000 for certifying 100 pesticide applicators, then the cost effectiveness ratio would be \$50 per certifying pesticide applicator.

If we are doing this pesticide applicator training program in two counties and want to compare the cost effectiveness of two programs, we can use this ratio for comparing the cost effectiveness of those two programs.

If we use the number of clients educated as the denominator, then the cost effectiveness ratio indicates the cost of educating one client. For example, if a Family and Consumer Sciences Extension agent developed a food safety education program and educated a group of 40 child care providers and the total program cost was \$1,000, then the cost effectiveness ratio would be \$25 per educating one childcare provider about food safety.

Under the current situation of striving to maximize the cost effectiveness of educational programs with limited Extension resources, the cost effectiveness ratio can be considered as a useful indicator for determining which programs are cost effective and which programs are relatively cost ineffective. This capability of the cost effectiveness ratio is helpful for Extension administrators, as well as, Extension educators to identify and promote cost effective programs and improve or eliminate cost ineffective programs.

Purpose

This article introduces the cost effectiveness ratio as a useful evaluation indicator in determining cost effective Extension programs for maximizing the cost effectiveness of Extension programming.

Application

The application of any evaluation indicator depends on its practicality, meaningfulness, and accuracy for making programmatic decisions. If the evaluation indicator is practical, it is easy to document program results. Meaningful indicators make evaluation useful to Extension stakeholders. If the indicator is accurate, the user can rely on it. The cost effectiveness ratio can be considered as a practical, meaningful, and accurate evaluation indicator (if cost calculation and outcome units are recorded accurately) and is very useful in making various decisions in Extension.

The cost effectiveness ratio can be used for making the following decisions.

1. This indicator can be used to compare the effectiveness of two or more similar programs conducted in different locations. By determining the program that has the least cost per unit of outcomes or client educated, Extension educators and administrators can learn what contributed to achieve this cost effectiveness. This information can be used to reduce the cost of similar programs in future.
2. The cost effectiveness is a good indicator to determine the programming efficacy of Extension educators. The educators who achieved the most outcomes with the least cost in Extension

programming demonstrate their efficacy. Due to this reason, Extension administration can use the cost effectiveness ratio as an indicator in determining the cost-efficient Extension educators when they conduct annual personnel appraisals.

3. The cost effectiveness ratio can be used to make Extension educators aware of the factors contributing to the cost of programming and guide them to find innovative strategies to cut the cost of programming and maximize outcomes. For example, if an Extension agent is planning a program for educating 30 farmers, the cost effectiveness ratio of educating one farmer will be determined by 1) number of farmers attending the program, 2) number of farmers educated (gained knowledge and skills), and 3) the cost of programming. The last item is almost fixed no matter whether we reached 30 farmers or fewer. Therefore, if we failed to reach the planned target of 30 farmers or the program was not effective in improving the knowledge and skills of 30 farmers, the cost per educating a farmer can be higher than the planned target.

This way the cost effectiveness analysis highlights the significance of paying attention to marketing our program to the target audience to ensure that the target number of clients will attend our program. Second, it highlights the need for assuring the program content is relevant to the needs of the target audience and selecting the appropriate instructional strategies effective in improving their knowledge and skills for achieving the desired level of cost effectiveness.

Implications

- The major implication of using the cost effectiveness ratio as an evaluation indicator will be creating an awareness of the cost associated with outcomes of Extension programming among Extension educators. Being aware of the cost associated with outcomes is significant for finding ways to reduce the cost of programming by improving or eliminating cost ineffective programs. When cost effectiveness information is available for similar programs conducted in various places, Extension educators will be able to learn from the programs having the least cost to find ways to reduce their programming costs.
- Extension services throughout the U.S. are paying attention to find strategies for serving the needs of diverse clients with their shrinking resources (Lockard, Petty, Peutz, Spencer, Lanting, & Shaklee, 2010). Achieving the programming efficacy is one of the most effective strategies for serving more clients with fewer resources. The cost effectiveness ratio is useful in guiding Extension educators to be mindful about the factors contributing to achieving cost effectiveness of their Extension programs.
- Creating a pro-evaluation organizational culture is important for improved accountability (Franz & McCann, 2007) in Extension. We can apply the cost effectiveness ratio as a tool for promoting a pro-evaluation organizational culture by using it as a criterion for determining cost effective programs when conducting annual personnel appraisals of Extension educators.

The above implications highlight the practical significance of the cost effectiveness ratio when making programming decisions to serve more clients with fewer resources.

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