Return on Investment in Vocational Rehabilitation: A Primer

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Lesson 1: Basic Terminology

Lesson 1:

Some Considerations and Overview of ROI Terms & Concepts

This Introductory ROI Lesson Is for You!

- **Whether you are:**
  - VR staff or administrators
  - VR partners like State Rehabilitation Council Members, Independent Living Councils, Community Rehabilitation Partners, or Education Collaborators
  - Policymakers and Government Agencies
  - Researchers
- **ROI is for anyone interested in the performance of a Vocational Rehabilitation program**

Overview and Instructions

Lesson 1: Overview and Instructions

- This presentation-based lesson describes basic concepts and issues related to assessing the Return on Investment (ROI) of Vocational Rehabilitation (VR) programs.

- The intent is to use all 3 lessons
  - (1 – Basic Terminology, 2 – The VR ROI Project, and 3 – VR ROI applied examples)

  to enhance your understanding of ROI and your confidence in accurately applying ROI concepts in your area of interest related to VR.

Continuing Education Credit

- You may use the VR ROI 101 Lessons to expand your knowledge of this topic and to earn continuing education credits.
- When you complete all 3 ROI 101 lessons, complete the evaluation and earn 2 CRC (Certified Rehabilitation Counselor) continuing education hours.
- Once you complete the survey, your certificate will be available for download.
- These credits are pre-approved by the Commission on Rehabilitation Counselor Certification. You can also submit your CRC Credit Certificate for post-approved credit with other licensure or certifying bodies.

ROI and Ethical Considerations

ROI and Ethical Considerations (2)

- **As you begin reviewing the ROI 101 modules, it is important to highlight some basic ethical considerations:**
  - ROI data should not be used as a tool to 'screen out' individuals or to make them ineligible to receive certain services.
  - ROI data must be presented within accurate context and needs to be compatible with the individualized nature of the services provided by VR agencies.

Additional Ethical Considerations

- **ROI trends can be used for VR planning purposes, but as one tool rather than as the sole decision making variable.**
  - In this regard, remember that ROI does not capture all of the benefits of VR. These include gains in self confidence, self esteem, functioning and/or living skills.

- **This is analogous to how a VR counselor may use a variable like an individual's career interests in planning for the VR services that person will receive. Interest is an important piece of the puzzle, but it must be combined with other variables such as knowledge, skills, abilities, and the availability of jobs within a specific labor market to develop an individual's plan for employment.**

Putting ROI in Context Requires Communication

- ROI data is most useful when the full story behind the results is told.
- This requires ongoing conversations with multiple stakeholders (individuals with disabilities, administrators, counselors, data professionals, economists) to understand what the results are truly saying.
- Looking at one result without such context could lead to a decision that could eliminate helpful services for individuals served by VR.

VR-ROI

Case Study A: ROI Used as a Screening Tool (1 of 2)

- Susan is a VR counselor at a state VR agency. She was told that ROI data showed a much lower rate of return for providing Education Services for men. From now on, she has decided not to refer any male consumers for Education Services. She does not want to waste time and agency resources on individuals who will not be successful.
- Using ROI as the sole screen for services introduces the risk that people who need additional or different support will not receive vital services!

Case Study A: ROI Used as a Screening Tool (2 of 2)

- Because ROI analyses often present the **average** results for an entire group of VR program participants, the results may not apply to the situation of an individual VR participant.
- Susan and her supervisors should not be using ROI results to rule out specific services for an entire group of participants (e.g., men). They should engage in conversations with multiple stakeholders (individuals with disabilities, administrators, VR participants, data professionals, economists) to understand what the results about men and Education services truly mean, and how they should be used. Do men need a different kind of educational support? What would be more effective?
- Looking at one result without such context could lead to unethical and inappropriate decisions about who receives resources.

Case Study B: ROI Used to Cut Costs (1 of 3)

Brian is a state policy maker. He is trying to cut down on unnecessary expenses in the state budget for vocational rehabilitation. After reviewing the VR ROI results, he sees that there is a very negative return on investment for “Restorative” services (e.g., eyeglasses, hearing aids, corrective surgeries). He notices that a much larger than anticipated number of VR participants who received eyeglasses did not have successful employment outcomes. Because of this, he reduces the funding for restorative services and directs the VR program administrators to use the remaining funding on services that produce a better ROI.

Case Study B: ROI Used to Cut Costs (2 of 3)

- Cutting funding for a category of services simply because they do not directly show a positive ROI is not appropriate as it relies too much on the results of the study and is NOT ETHICAL!
- Communication is also important when ROI results convey an unanticipated finding.
- After reviewing the ROI analysis, Brian should communicate with program administrators and other stakeholders to determine how the provision of eyeglasses benefits consumers.

Case Study B: ROI Used to Cut Costs (3 of 3)

- **It may also be important to ask:**
  - Does this trend indicate another phenomenon? For example, is there a statewide gap in publicly funded healthcare services that the VR program plays a role in filling?
  - If individuals are seeking services from VR to address healthcare needs rather than to address their employment situations, is this an ethical issue?
  - How can I collaborate with others to address this issue?

VR-ROI

What Is Return on Investment?

Basic Terminology

What Is Return on Investment? (2)

- A performance measurement used to evaluate the efficiency of an investment or to compare the efficiency of different investments.
- An approach used widely in business to compare the “bang for the buck” of alternative investment opportunities.
- A mathematical expression that compares the benefits of an investment with the cost of the investment.
- Three ways of expressing ROI are described later in this module.

Why Should I Care About ROI?

- **Some reasons why it is important to understand ROI:**
  - To better communicate the need for services with policy-makers
  - To better understand the importance of collecting and documenting accurate VR program participant data
  - To use an empirically tested resource for collaboratively making decisions to assist with rehabilitation planning
  - To have data on how your services are related to the employment outcomes of the individuals you serve

Definitions of Key ROI Terms

Investment (1 of 2)

- **An investment is the purchase or acquisition of goods that are expected to generate some future benefit (e.g., wealth).**
- **Types of investment:**
  - ***Financial:*** an asset in which you put money with the hope that it will grow or appreciate into a larger sum of money. Examples: money market accounts, bonds, stocks, real estate.
  - ***Business Capital:*** money invested in a business venture with an expectation of generating income over several years. Examples: starting a business, purchase of additional capacity, acquisition of a competitor.

Investment (2 of 2)

- **Types of investment *(continued)*:**
  - **Human Capital:** investment in the collective skills, knowledge, or other intangible assets of individuals that can be used to create economic value for individuals, their employers, and/or their community. Examples: education and *Workforce Development* programs.
- **Workforce development programs such as Vocational Rehabilitation invest in the human capital of the individuals.**
  - Services are provided to increase the likelihood of employment and/or earnings when employed (financial outcomes) as well as improved self confidence, self esteem, functioning and/or living skills (non-financial outcomes).

Return (1 of 2)

- **Return** refers to the payoff that occurs after the investment is made.

- **Types of Returns Possibly Due to VR Services:**
  - **Financial**: acquisition of a job and/or higher wages;
  - **Non-Financial:** improved self confidence, self esteem, functioning and/or living skills due to receipt of VR services. There could also be quality-of-life improvements for the client's family.

Return (2 of 2)

- **Words of caution with respect to measuring the benefits of VR.**
  - Because placing a dollar value on non-financial benefits is difficult, VR ROI estimates frequently include earnings gains only.
  - VR programs could lead to changes in taxes and government benefits payments. However, this type of transfer from one group (e.g., individuals served by VR) to another (e.g., taxpayers) does not impact the overall ROI (see "ROI to Whom?" on the following slides).
  - *Cause and Effect:* Employment and earnings gains for individuals served by VR might be influenced by factors beyond VR service receipt. The researcher can control for such factors, at least partially, through appropriate statistical techniques. (See "Models and Approaches to Calculating Return on Investment" below for additional discussion.)

ROI to Whom? (1 of 2)

The two most common approaches to this question are:

- ***ROI to Society*: Increases in employment and earnings of individuals receiving VR services relative to the agency's costs of providing those services.**

- This measures the overall return on investment of VR services to society by comparing the benefits received by individuals served by VR to the cost of providing the services;
- This is the most common approach to VR ROI analysis because policymakers are interested in overall cost-effectiveness, and because increasing individuals' employment and earnings are primary objectives of VR.

VR-RCI

ROI to Whom? (2 of 2)

- ***ROI to the Taxpayer*: Increases in taxes and reductions in entitlement payments relative to service costs.**
  - **Taxpayer ROI is appealing to many policymakers but less appealing to economists for two main reasons.**
    - Taxes and entitlements such as disability benefits payments represent transfers from one group to another. As such, they do not measure gains to society.
    - As a practical matter, programs such as VR mainly serve individuals who are not well served by the private sector. They may be unemployed or at the lower end of the earnings spectrum. As such, such programs are unlikely to have much impact on overall tax revenues.

Time Value of Money (1 of 3)

- **VR services (the investment) are commonly made within the first two years after an individual applies for services, while increased employment and earnings (the return) may occur for years after service receipt. Because these happen at different times, estimates of ROI must account for the *Time Value of Money* (TVOM), which recognizes that a dollar in the future is worth less than a dollar today.**

- **TVOM Example 1: Would you rather receive a gift of $10,000 now or $10,000 five years from now?**
  - **No brainer:** you would rather have money sooner than later. You would need to be paid a premium to wait five years.

Time Value of Money (2 of 3)

- **TVOM Example 2: Would you rather receive a gift of $10,000 now or $15,000 five years from now?**
  - This is more difficult because of the $5,000 premium for waiting five years.
  - Is it enough to make you willing to wait? It turns out that if you could earn 8.45% compounded annually, $10,000 would grow into $15,000 in five years.
  - By the TVOM principle, you would take $10,000 now if you believe that you could earn a rate higher than 8.45% compounded annually. You would take the $15,000 in five years if you did not think you could do that well.

Time Value of Money (3 of 3)

- **Four values are involved in any TVOM calculation.**
  - Present Value or PV ($10,000 in above example)
  - Future Value or FV ($15,000 in above example)
  - Number of compounding periods or n (5 in above example)
  - Interest rate or "r" (8.45% in above example).

- **These four values are related by the following formula.**

$$FV = PV\,(1 + r)^n \;\; or \;\; \$5,000 = \$1,000\,(1.0845)^5$$

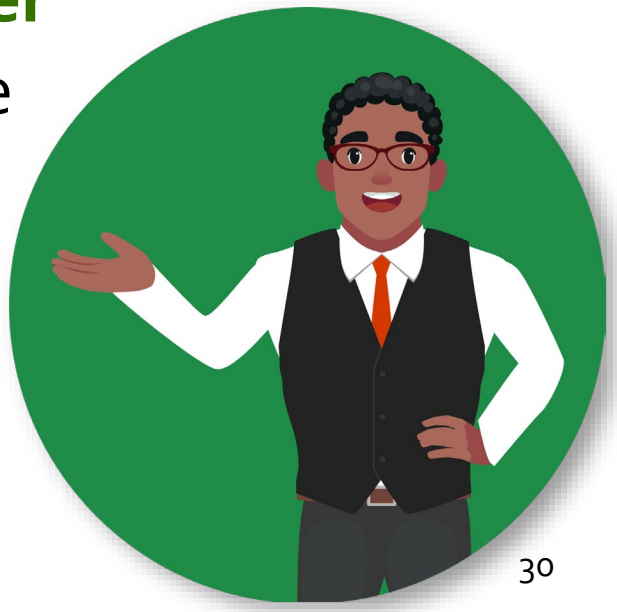
- **If any three values are known, the fourth can be calculated with software such as Excel. For example, in ROI calculations both investment costs and benefits are converted to PV for an apples-to-apples comparison.**
  - **Note:** "r" is called the "discount rate" in ROI calculations because future values are *discounted* back to present values.

Forms for Reporting ROI (1 of 6)

- **Three forms for ROI are described on the next three slides:**
  - Net Present Value
  - Benefit-to-Cost Ratio
  - Internal Rate of Return
- **All use the concepts developed above:**
  - Costs of the investment (i.e., VR service costs)
  - Benefits or returns of the investment (i.e., the stream of changes in employment and earnings)
  - Time Value of Money concepts of present value, future value, discounting, and discount rate

Forms for Reporting ROI (2 of 6): Net Present Value (NPV)

- Net Present Value (NPV) is the PV of benefits **minus** the PV of costs
- In business, an investment would be considered acceptable if NPV is **greater than or equal to** zero. It would not be funded if NPV is **less than** zero.



VR-ROI

Forms for Reporting ROI (3 of 6): Benefit-to-Cost Ratio (BCR)

- Benefit-to-Cost Ratio (BCR) is the PV of benefits **divided by** the PV of costs
- In business, an investment would be considered acceptable if BCR is **greater than** one. It would not be funded if BCR is **less than** one.

Forms for Reporting ROI (4 of 6): Internal Rate of Return (IRR or ROR)

- **The Internal Rate of Return is the rate of interest that equilibrates the returns from an investment to the cost of the investment.**
  - Thus, IRR is the interest rate at which NPV = 0 and BCR = 1.
  - In the earlier example of an investment of $10,000 today returning $15,000 in 5 years, the IRR = 8.45%
  - In business, an investment would be considered acceptable if IRR is greater than the cost of financing that investment (such as the cost of taking a loan). It would not be funded if IRR is less than the financing costs.
  - NPV, BCR, and IRR will always return the same *Go* or *No Go* decision for any investment.
  - As with BCR, IRR can rank investment alternatives from best to worst.

Forms for Reporting ROI (5 of 6): BCR and IRR Tear-and-Compare

- **BCR**
  - ***Advantage*. Ease of interpretation: "bang per buck" or "for every dollar of VR service provision, the individual earns this many extra dollars" (in present value terms).**
  - ***Disadvantage*. The discount rate plays a key role: lower values make investments look better and higher values make them look worse.**
    - Fine in business where the cost of financing an investment (also known as the "Cost of Capital") is a rough but objective estimate of the discount rate.
    - Problematic for programs such as VR where there is no widely accepted equivalent. The choice is largely arbitrary and, depending upon the rate used, can make a program look good or bad.

Forms for Reporting ROI (6 of 6): BCR and IRR Tear-and-Compare

- **IRR (ROR)**
  - ***Advantages.*** Its calculation does not require the choice of an arbitrary discount rate. The value can be compared to that of other government programs or well known values in the private sector. For example, annual returns on money market accounts were 1% or less in October 2016 and the long-run annual rate of return to the U.S. stock market is about 10%.
  - ***Disadvantage.*** Its difficult to explain the methodology behind this approach.

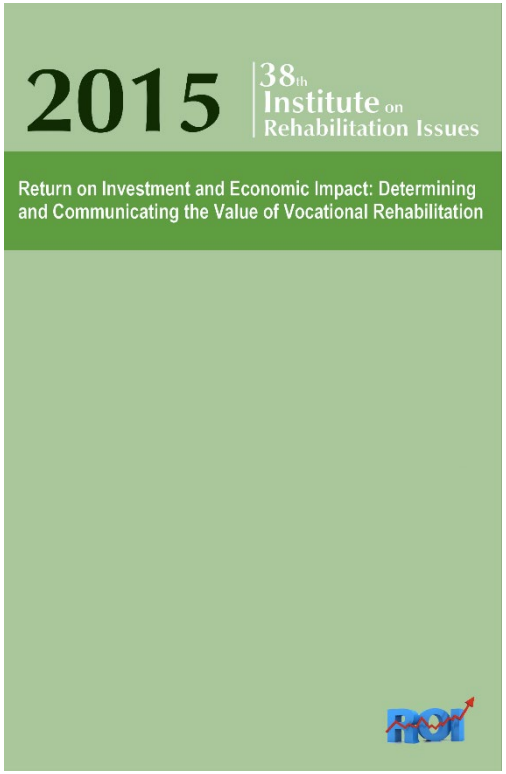
VR-ROI

Acknowledgement: Institute on Rehabilitation Issues (IRI)

- For more than fifty-five years, the Institute on Rehabilitation Issues (IRI) has provided a national forum for discussing the important challenges facing the public VR program.
- The IRI publishes monographs for use in training and technical assistance for VR counselors, individuals served by VR, administrators, and other partners. IRI topics and content are developed by practitioners.
- Information about the IRI as well as downloadable versions of its publications can be found at ***http://www.iriforum.org/***

Acknowledgement: 38th IRI

- The 38th IRI focused on Return on Investment and a link can be found on the project's website, **https://vrroi.org/resources/institute-on-rehabilitation-issues-roi/** .
- This learning module is based on concepts discussed in much greater detail in the 38th IRI.



Conclusion of Lesson 1

Now that you know the basic ROI terms, you are ready to begin learning about the VR ROI project and how it relates to your work!

Now you are ready to continue with Lesson 2.

References (1 of 3)

- **Additional information about PERT and its evaluation.**

  - Ashley, J., Dean, D., Rowe, K., & Schmidt, R. (2006). "The Long-Term Impact of Comprehensive Vocational Assessment for Youth with Disabilities in Transition: Evaluation of Virginia's Post-Secondary Education/Rehabilitation Transition (PERT) Program." *Vocational Evaluation and Career Assessments Professionals Journal*, 2(2), 14-32.
  - Ashley, J. & Schmidt, R. (2016). "Investing in Career Opportunities for Youths with Disabilities." Presentation to the Torch Club of Richmond, VA. PowerPoint found at ***vrroi.org/resources***

References (2 of 3)

- **Publications in academic journals discussing statistical issues, methodology, and results of the VR-ROI model.**
  - Dean, D., Pepper, J., Schmidt, R., Stern, S. (2015). "The Effects of Vocational Rehabilitation for People with Cognitive Impairments." *International Economic Review*, 56 (No. 2, May 2015), 399-426.
  - Dean, D., Pepper, J., Schmidt, R., Stern, S. (2017). "The Effects of Vocational Rehabilitation for People with Mental Illness." *Journal of Human Resources*, 52 (No. 3, Summer 2017), 826-858.
  - Dean, D., Pepper, J., Schmidt, R., Stern, S. (2018). "The Effects of Vocational Rehabilitation for People with Physical Disabilities." *Journal of Human Capital*, 12 (No. 1, Summer 2018), 1-37.

References (3 of 3)

- **Code of Professional Ethics for Certified Rehabilitation Counselors (CRCs). Developed and Administered by the Commission on Rehabilitation Counselor Certification (effective January 1, 2023)**
  - **Code of Professional Ethics for CRCs**