
A Consumer's Guide to ...

Return on Training Investment



You may manage or own a business. You may be a trainer. In either case, you need to understand and implement ROTI principles and practices. This guide will help you to route your ROTI thinking.

What is Return on Training Investment (ROTI)?

ROTI is another expression for the concept of ROI (Return on Investment) for training expenditures.

- ROTI addresses the question: “For every dollar invested in training, how many dollars does the employer (or worker or government sponsor) get back?”
- ROTI is an accounting-based method of comparing the costs to the benefits of training, by converting all tangible costs and returns or outcomes to dollar values. The most common form of ROTI is cost / benefit analysis.
- Not all training can or should demonstrate ROTI. Not all benefits are tangible or easily measured, but they may be very important.
- ROTI is expressed as a percentage. A simple ROTI formula looks like this:
Training Benefits / Costs X 100 = ROTI
Some mathematical models for ROTI are very complex.
- There is no “one way” to conduct or demonstrate ROTI. Determining or demonstrating ROTI can be complex, depending on:
 - the tangibility of benefits or returns,
 - the extent of investments or costs, and
 - the training needs of beneficiaries and stakeholders.

What are the benefits to ROTI analysis?

In general, ROTI analysis can be used to:

- demonstrate that training is an investment
- maximize returns on training budgets
- document positive change in individual or organizational performance
- establish benchmarks for training success
- encourage employers and staff to take training more seriously
- measure the effectiveness of training
- demonstrate accountability for training expenditures and policies

Employers and businesses can use ROTI to:

- make informed choices between training options
- compare the cost of training to other investment options, e.g., new equipment
- compare the cost of training / retraining to recruiting new employees
- increase the value of human capital
- project training costs



- improve the efficient use of resources: time, money and people
- hold staff accountable for the skills and knowledge acquired from training

Workers, individually and collectively, can use ROTI to:

- use training time and money efficiently
- demonstrate increased human asset value
- hold employers accountable for accommodating the skills and knowledge acquired from training
- highlight a particular training need
- provide objective measures for training goals

Trainers and HR departments can use ROTI to:

- make training objectives and content more relevant
- focus training on behavioural and/or organizational change
- refine and revise, or eliminate, weak training programs
- demonstrate the value of particular training products and services
- promote the importance of evaluation
- justify training budgets
- encourage “training transfer” or application of new skills and knowledge

These are examples. You may have yet another purpose to add.



Start thinking ROTI before you need to. ROTI is easiest when training has been designed and delivered with:

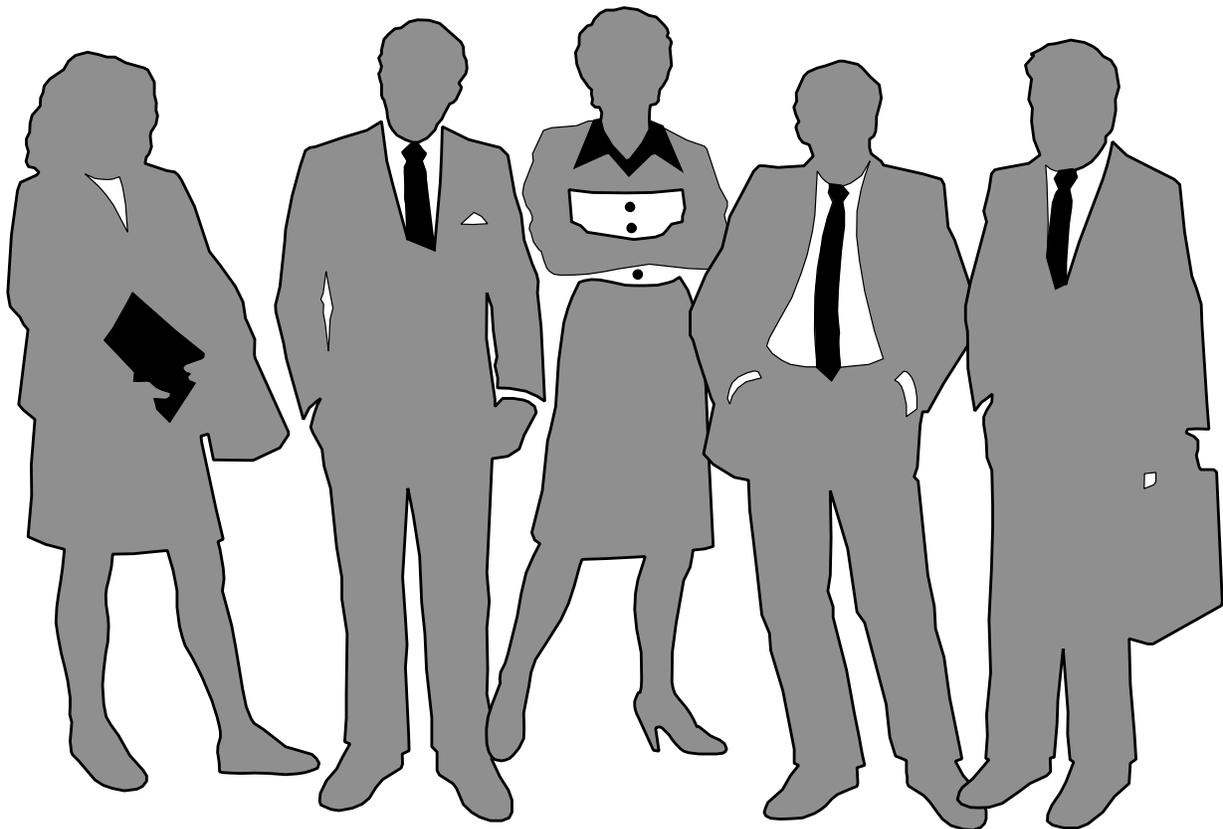
- an early focus on the trainee through, e.g., interviews, observations, surveys and participatory design and development methods
- one management team to be responsible for the entire analysis, design, development, implementation and evaluation process
- sound research design, i.e., based on observation, measurement of behaviour, careful evaluation of feedback, and a strong motivation to make design changes when needed
- continuous improvement through a repetition of processes (implementation, testing, feedback, evaluation, and change) throughout the training system’s life.
- records, i.e., a complete audit trail.



Qualities of a Good ROTI Plan...

In no particular order of importance, a good ROTI plan should be:

1. **useful** – Is it practical? Is there a sound rationale?
2. **feasible** – Is it doable? How much time does it take?
3. **ethical** – Does it respect legal and ethical issues?
4. **accurate** – Is it honest and technically sound?
5. **collaborative** – Is it agreed upon by all stakeholders?
6. **efficient** – Is it cost effective relative to the cost of the training?
7. **adaptable** – Can it be used for different types of training?
8. **inclusive** – Does it address a range of measures and information sources?
9. **flexible** – Can it be used before, during, and/or after training?
10. **effective** – Does it meet a need for information?
11. **credible** – Is it believable?
12. **responsive** – Does it allow for unintended impacts?
13. **objective** – Is it free of bias?





Setting the stage for ROTI... (Getting Ready to ROTI)

1. What issue or challenge are you addressing with training?

Your description of benefits or training returns will relate to the nature of the outcomes which may be:

- different for each stakeholder group, e.g., employer, participants, communities
- long-term and/or short-term
- planned (intended) and/or unplanned (unintended)
- positive and/or negative
- tangible (quantifiable) and/or intangible (qualitative)
- for individuals or for groups

Typical training benefits for employers may fall into four categories:

- time savings (e.g., less supervision needed, increased productivity)
- better quantity (e.g., faster work rate, less down time)
- better quality (e.g., fewer rejects, increased sales, reduced accidents)
- staff improvements (e.g., less absenteeism, lower staff turnover)

Typical training benefits for workers may include, e.g., increased job satisfaction, employment stability, and promotability.

The benefits of training should extend well beyond the final offering. The payback period can typically be projected one to five years.

2. What is the training course or program that is to be studied?

The ROTI data to be gathered, and the process for doing so, will relate to the nature of the training which may be, e.g.:

- self-study or instructor-led
- on-the-job or in a traditional classroom setting
- on-site or distance delivered
- individualized or group-oriented
- customized or off-the-shelf
- mandatory or voluntary for the individual
- short-term or long-term
- once-only or on-going
- hard or soft skills
- necessary or optional for business success

3. Have you decided which costs and returns will be included in the ROTI study?

All costs must be included, but returns will be unique to each training program or course. Costs and returns will be divided into three types:

- one time only (e.g., needs analysis and course design)
- per offering (e.g., facilities rental, consulting fees)
- per participant (e.g., meals, materials)

Some ROTI models will dictate which costs and benefits you will measure.

4. What data will you gather, how will you collect it, and what will it cost?

A variety of data collection methods will be needed to encompass both tangible and intangible costs and benefits.

There may be existing data to use (e.g., productivity measures or industry benchmarks) or new data to acquire (e.g., staff estimates and opinions). Data may be gathered by one or more of the following research methods or instruments:

- analysis of documents and records (e.g., number of accidents, grievances)
- opinion surveys of individuals or focus groups
- observation
- one-on-one interviews
- performance tracking

Attention needs to be paid to the quality of the measurement instruments. They must provide information that is reliable and valid. Reliability means that the instrument(s) should produce the same results when used under the same conditions; i.e., they should be consistent. Validity means that the instrument(s) should provide data and information that is relevant and accurate.

5. Have you isolated the training returns or effects so that you can attribute the gains to the training and not something else?

Some methods for isolating training effects, fully explained in the companion document

- use of control groups
- forecasting
- participant estimations
- supervisor estimations
- management estimates
- customer input
- expert estimation
- subordinate input

Generally, two approaches are better than one. It should be understood that ROTI figures





- *Costs are known up front, before training, but benefits may accrue over time; and it's difficult to determine when to assess the impacts or benefits. (Just take a reasonable stand – between 1 and 5 years.)*
- *Most trainers lack the time and accounting skills to do cost / benefit analysis. (Start them off with this guide.)*
- *Requests for impact data may disrupt productivity. (And what is the cost of *not* training?)*
- *Many of the most popular training programs will be operated even if costs exceed benefits, so conducting ROTI may be a waste of time. (Yes, but what happens if there's a financial pinch? And could there be better uses of the money spent on training?)*
- *The outcomes of ROTI could be damaging to the HR department and to budget support from top managers, so it may be better not to know. (If a training program is a total waste of money, won't that become evident sooner or later?)*
- *It is difficult to attribute a person's behaviour to any particular reason, much less to a specific training event. (Yes, but there are established methods*

for isolating training effects.)

- *The very act of collecting data on the dollar value of performance will tend to bias information that is elicited, making it hard to present an accurate picture. (How else would you account for the resources that have been expended?)*
- *Course evaluations may be inconsequential, and impact assessment is too time-consuming and costly. (Is there a better way to demonstrate accountability or improve training?)*



Some training programs have been implemented for the wrong reasons – such as an effort to chase a popular fad or trend in the industry. A ROTI calculation for an unnecessary program will likely yield a negative value. Training won't help if the problem isn't lack of worker knowledge and skills.

The best way to overcome negativity is to strive for credibility. When reporting training results, it's crucial that data be accurate and that the conversion process be believable. You should be conservative when making estimates, use the most reliable sources for estimates, explain the approaches and assumptions used in the conversion, use "facts" rather than opinions wherever possible, and avoid presenting over-stated results.



Getting Started on ROTI...

Check the costs and benefits that apply to you.

TRAINING INVESTMENT	TRAINING RETURNS
<p><i>Direct Training Costs for Employers</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> cost of needs analysis/surveys <input type="checkbox"/> course design, development, or purchase <input type="checkbox"/> salary of instructor and/or consultant <input type="checkbox"/> salary of staff while on training <input type="checkbox"/> offsite travel, lodging, and meals <input type="checkbox"/> facilities rented or allocated <input type="checkbox"/> equipment and hardware <input type="checkbox"/> instructional and testing materials <input type="checkbox"/> course/training evaluation <input type="checkbox"/> other: <p><i>Direct Training Costs for Individuals</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> tuition <input type="checkbox"/> childcare <input type="checkbox"/> books and materials <input type="checkbox"/> equipment, e.g., computer <input type="checkbox"/> travel / parking <input type="checkbox"/> special fees, e.g., library <input type="checkbox"/> loss of income <input type="checkbox"/> other: 	<p><i>Tangible Training Benefits</i></p> <p><i>For business:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> increased sales <input type="checkbox"/> improved overall quality <ul style="list-style-type: none"> <input type="checkbox"/> reduced waste or scrap <input type="checkbox"/> reduced legal costs <input type="checkbox"/> reduced insurance costs <input type="checkbox"/> fewer mistakes <input type="checkbox"/> improved competitiveness <input type="checkbox"/> improved productivity per staff <ul style="list-style-type: none"> <input type="checkbox"/> reduced need for supervision <input type="checkbox"/> reduced need for help from co-workers <input type="checkbox"/> reduced time to perform operations <input type="checkbox"/> reduced downtime <input type="checkbox"/> reduced overtime <input type="checkbox"/> improved profitability <input type="checkbox"/> improved customer satisfaction <input type="checkbox"/> improved personnel relations <ul style="list-style-type: none"> <input type="checkbox"/> reduced staff absenteeism <input type="checkbox"/> reduced staff grievances <input type="checkbox"/> reduced number of strikes <input type="checkbox"/> reduced staff turnover <input type="checkbox"/> reduced discrimination charges <input type="checkbox"/> reduced requests for transfer <input type="checkbox"/> improved safety record <input type="checkbox"/> compliance with regulations <input type="checkbox"/> broadening the range of workers' tasks <input type="checkbox"/> meeting a shortage of qualified labour <input type="checkbox"/> implementation of new ideas <input type="checkbox"/> other: <p><i>For workers / Individuals:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> orientation to a new job <input type="checkbox"/> meeting jobs' changing skill requirements <input type="checkbox"/> increased job satisfaction <input type="checkbox"/> increased number of promotions <input type="checkbox"/> increased number of pay increases <input type="checkbox"/> increased number of training programs <input type="checkbox"/> improved performance-appraisal ratings <input type="checkbox"/> other:



TRAINING INVESTMENT	TRAINING RETURNS
<p>Indirect Training Costs</p>	<p>Intangible Training Benefits</p>
<ul style="list-style-type: none"> ___ loss of productivity while trainees are attending training ___ other staff time related to training, e.g., manager time helping to apply training ___ missed opportunity cost ___ induction costs ___ cost of replacing the staff while s/he is attending the course ___ maintenance costs, e.g., mail, transport, refreshments, record keeping, stationery, accommodation ___ higher wastage rates until the trainee is fully proficient ___ recruitment of training staff or selection of training package ___ the risk that a more highly trained staff may then obtain another job ___ other: 	<p>For business:</p> <ul style="list-style-type: none"> ___ improved understanding of new technologies ___ remediating workers' inadequate pre-employment preparation ___ improved understanding of markets ___ improved staff morale ___ greater co-operation among staff ___ better management-staff relations ___ better staff understanding of the organization ___ greater staff flexibility ___ greater staff loyalty ___ improved staff work ethic ___ improved staff motivation ___ improved staff perceptions of job responsibilities ___ improved decisions made ___ more problems solved ___ conflicts avoided ___ increased use by staff of performance measures and standards, benchmarking and quality control methods ___ other: <p>For workers / individuals:</p> <ul style="list-style-type: none"> ___ greater job satisfaction ___ more portable skills and job mobility ___ greater job security ___ increased self-confidence ___ improved pay and benefits ___ less stress ___ other:



Sample ROTI Worksheets for a Business

Benefits	<i>One Time Benefit over Pay-Back Period</i>	<i>One Time Benefit per Person</i>	<i>Benefit per Person per Month</i>
1. Time savings			
1.1. shorter lead time to reach proficiency (hrs saved x \$)			
1.2. less time required to perform operation (hrs saved x \$)			
1.3. less supervision needed (hrs saved x supervisory \$)			
1.4. better time management (hrs freed up x \$)			
1.5. other...			
2. Better productivity (quantity)			
2.1. faster work rate (\$ value of additional units, sales)			
2.2. time saved by not having to wait (hrs saved x \$)			
2.3. less down time (\$ value or reduced nonproductive time)			
2.4. other...			
3. Improved quality of outputs			
3.1. fewer rejects (to scrap, lost sales, returns... \$ value)			
3.2. valued added to output (bigger sales... \$ value)			
3.3. reduced accidents (\$ value of savings on claims, etc.)			
3.4. reduced legal fees (\$ value of savings on settlements)			
3.5. improved competitiveness (change in market share...\$)			
3.6. other...			
4. Better personnel performance			
4.1. less absenteeism / tardiness (\$ saved)			
4.2. improved health (\$ saved on medical and lost time)			
4.3. reduced grievances, claims, job actions (\$ saved)			
4.4. same output with fewer staff (\$ saved on jobs)			
4.5. better time management (hrs freed up x \$)			
4.6. other...			
5. Better business performance			
5.1. increased sales (\$ value)			
5.2. increased variety in products/services (\$ value)			
5.3. other...			
A. Total of all one-time benefits			
B. Total of all benefits occurring once per participant			
C. Total value of all improvements per participant per month			
D. Length of payback period in months			
E. Number of staff affected during this period (D)			
F. Total of B x E			
G. Total of C x D x E			
H. Total benefits (sum of A + F + G)			

Costs	<i>One-Time Costs</i>	<i>Cost per Offering</i>	<i>Cost per Person</i>
1. Course development (time) or purchase (price, fees)			
1.1. training needs analysis and research			
1.2. design and production of training plan			
1.3. design and production of training materials			
1.4. design and production of training evaluation plan			
1.5. other...			
2. Instruction and testing materials			
2.1. per participant (expendables: notebooks, tests)			
2.2. per instructor (durables: videotape, software, overheads)			
2.3. other...			
3. Equipment (hardware)			
3.1. projectors, computers, training aids, AV equipment			
3.2. rentals (e.g., projectors, computers, training aids)			
3.3. other...			
4. Facilities			
4.1. telecommunications (e.g., Internet access)			
4.2. rental or allocated "fair share" use of classrooms			
4.3. other...			
5. Off-site expenses (if applicable)			
5.1. participants: travel, hotel, meals, childcare, parking			
5.2. trainers: travel, hotel, meals			
5.3. shipping of materials			
5.4. other...			
6. Salary			
6.1. participants (# of instructional hrs x average hourly rate)			
6.2. instructors, course administrator, program manager			
6.3. fees to consultants or outside instructors			
6.4. fees to evaluators			
6.5. support staff, e.g., audiovisual, administrative			
6.6. other...			
7. Lost productivity (if applicable)			
7.1. production rate losses or material losses			
7.2. other...			
A. Total of all one-time "up front" costs			
B. Total of all costs incurred each time the course is offered			
C. Sum of B x number of times course is run (____)			
D. Total of all costs incurred per participant			
E. Sum of D x number of participants (____) over the course life			
F. Total costs (sum of A, C, and E)			

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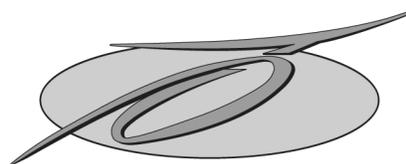
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