

## **RoI Evaluation model for non formal models of education in the civil service**

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### ***Abstract***

The capacity building and training has over years been and still is a key instrument in nearly all development cooperation programmes provided by donors and as such should be considered an effective tool for making progress in human development. Historically, training has been measured from the perspective of what transpired during the training programme: did the participants enjoy the experience; was the content relevant; did learning occur? This approach is still used in many public institutions, and a great deal of training is not measured beyond participant – reaction smile sheets and self-reported learning, which are easy to complete and tend to reflect positive results. The training function and the participants often have not been held accountable for the transfer of learning to the work setting and the impact on key organizational measures. The use of Kirkpatrick's and Phillip's methodology for training evaluation in development cooperation has not been impressive, so the measurement and evaluation are useful tools to help internalize the result-based culture and to track progress.

### ***Key words***

Strategic human resources development, training system, evaluation of training programmes, training impact assessments.

### **1. Introduction**

Strategic human resources development (HRD) policies are closely associated with that aspect of strategic human resources management (HRM) that is concerned with investing in people and developing the organization's human capital (Armstrong, 2011). Capacity building and training has over the years been and still is a key instrument in nearly all development cooperation programmes provided by donors, and as such should be considered an effective tool for making progress in human development (Sorensen, 2011).

However, while support to capacity building and training has included assumedly well-designed and implemented programmes based on needs assessments, too few efforts have been made to evaluate the training delivery at a comprehensive scale, i.e. beyond the immediate reaction to the training course itself and acquired knowledge and skills. Putting it simply, the training function and the participants often have not been held accountable for the transfer of learning to the work setting and the impact on key organizational measures (Phillips, 2000).

Too often, training has been viewed as a line-management responsibility or a responsibility of the HR department. Often, the training staff, managers and others have been led to believe that the effects of the training cannot be measured credibly and cannot be isolated from the influence of other performance-improvement factors or that it is too difficult or too resource intensive to measure the effects of trainings (Silberman, 2006).

Depending on the organization and the culture, one or more of these factors contribute to the lack of evidence that training brings benefits to the organization, which are greater than the costs incurred. In the case of BiH it does not mean that there has not been any impact, it only means that there was a lack of information to make a well-informed judgement. The training cycle in BiH is complete, meaning that the information circulation from training needs analysis up to training evaluation is real and measurable, but only for specified training programmes (Hoof, 2015).

The ROI process involves five types of data (associated with five levels of measurement) and a sixth type of data represented by intangible benefits.

The following sections contain case study of one training programme with the whole evaluation methodology.

## 2. ROI evaluation model on Project Cycle Management training programme

In the training system<sup>1</sup> for municipalities and cities in BiH, within the Project “Municipality Training System”<sup>2</sup>, a training impact assessment mechanism has been developed and it has been piloted in the training programme on Project Cycle Management (PCM). It delivered valuable information of effectiveness of that training programme. The evaluation process has been based on a systematic approach using the developed ROI<sup>3</sup> impact assessment methodology, a process guide with practical tools for operationalizing the evaluation system, and conduct of the workshop for training managers and piloting of a training programme for validating the methodology and tools.

The ROI methodology has been chosen because it has proven to be a flexible and systematic methodology that others can learn and implement, in order to measure and assess the impact of trainings. This methodology comprises of a five-level chain of impact (Reaction, Learning, Application, Impact and ROI) as it is illustrated in Table 1.

**Table 1: Five-level chain of impact**

| CHAIN OF IMPACT | VALUE OF INFORMATION | CUSTOMER FOCUS | FREQUENCY OF USE | DIFFICULTY OF ASSESSMENT |
|-----------------|----------------------|----------------|------------------|--------------------------|
| 1.Reaction      | Lowest               | Participants   | Frequent         | Easy                     |
| 2.Learning      | ↓                    | ↓              | ↑                | ↓                        |
| 3.Application   |                      |                |                  |                          |
| 4.Impact        |                      |                |                  |                          |
| 5.RoI           | Highest              | Stakeholders   | Infrequent       | Difficult                |

Source: (Phillips, 2000)

<sup>1</sup> The training system in BiH is divided between two entities. Local governments are politically and administratively autonomous units with their own competences and revenue-raising powers with directly elected mayors and councillors. There are 145 local governments in BiH. The average population size of a local self-governments is approximately 26,000 inhabitants.

<sup>2</sup> A Project implemented by United Nations Development Programme and financially supported by SiDA in BiH, started in January 2008 and finished in December 2015.

<sup>3</sup> Jack and Patricia Phillips have since the 1990s developed an approach towards results based evaluation of projects and training programmes. More information on <http://www.roiinstitute.net>

As it is illustrated on the left side of the table, for training to produce measurable results, the chain of impact must occur. In evaluating training programmes, evidence of results must be collected at each level up to the top one that is included, in order to determine that this linkage exists. For example, if level 3 will be for selected training programme as the highest level evaluated, then the data must be collected at level 3 and level 2 to show the chain of impact, but it is not necessary to collect level 4 and level 5 data. Simple evaluations such as level 1 – Reactions are done more frequently than are evaluations at higher levels, which involve more complexity.

As already mentioned, the sample table can be used to gather data and get a feedback of how training is making a contribution to the organization. Having in mind that the level 4 and level 5 evaluations consume the most resources, it is suggested that evaluation at this level are reserved for training programmes that meet one or more of the following criteria (Phillips, 2000):

- The life cycle of the programme is such that it is expected to be effective for at least 12 to 18 months;
- The programme is important in implementing the organization's strategies or meeting the organization's goals;
- The cost of the programme is in the upper 20% of the training budget;
- The programme has a large target audience;
- The programme is highly visible;
- Management has expressed an interest in the programme

Systematic ROI approach towards Phillips *et al* includes 10 steps (Figure 1)

### 3. ROI calculation on Project Cycle Management Course

The Project Cycle Management training programme was selected<sup>4</sup> for piloting of the ROI evaluation methodology used in the case of BiH. It was a challenge to execute a ROI methodology in the civil service in BiH due to limited accessibility to performance related data. All the information needed for such analysis were collected from PCM participants. Several tangible success indicators, at all evaluation levels were identified, and they are presented in the following tables (Sorensen, 2013):

#### • Level 1 – Reaction:

The first type of data, reaction from the participants is measured with generic questionnaires was used to capture reaction and learning data. The sample, used in this evaluation process, constitutes 53, 6% of the total number<sup>5</sup> of PCM participants. At this level first and foremost CSA evaluated the immediate satisfaction of the training delivered. The main questions for evaluating this level focused on whether the training and learning were relevant, important and helpful. Feedback data focused also on event support and resources. A composite rating

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<sup>4</sup> This training programme was selected because it was identified as one of the high priorities training programmes during training needs analysis conducted within the MTS project. Also, the PCM training programme contains skills and knowledge capacity building, and specifically determined objectives in the use and application of an important instrument for high quality project design. The programme comprised of three two-day modules and participants were requested to prepare homework in between the three modules. Furthermore, the PCM programme is a critical prerequisite for gaining access to important and large funds for social and economic development of BiH.

<sup>5</sup> The total number of participants was 289 from 52 local self-government units. A total of 17 PCM courses have been delivered to municipalities since course initiation in 2008 and up to mid-2013

of average 4, 2 on a scale from 1 to 5 was achieved relating to the usefulness, suitability, trainer's approach and methodology of the course observed. After the training, data has been collected regularly and analysed by CSA and MTS project team, as well as by PCM course leader (Table 2)

**Table 2: Level 1-Reaction**

| Objectives  | Measure                                 | Method/<br>tools   | Data source  | Timing   | Feedback/<br>QA  |
|---|---|--|--|--|--|
| Satisfaction with course content and instruction delivery | Average at least 4,2 on a 5-point scale | Standard feedback <i>questionnaire</i><br><br>Coordinator's <i>checklist</i><br><br><i>Lead-trainers' report</i> | Participants (internal)<br><br>coordinator (external)<br><br>Lead-Trainer/<br>Trainers | End of training, i.e. after all three training modules | Lead trainer /<br><br>Civil service Agency<br>MTS project team |

Source: (Sorensen, 2013)

• **Level 2 - Learning:**

The learning level is foremost skills, knowledge and attitude driven (SKA). In BIH case study learning is measured to check the progress and achievement of the participants' SKA. Entry and end Exit Quiz tests were used and they related to the training objectives. The results showed that the pre-course test score was averaged at 2, 3 out of 5 and the post-course test averaged a score of 3, 9 out of 5, which demonstrated an increase in learning of almost 70% (Table 3). A majority of participants managed to design a project proposal as a result of the course to be submitted for funding.

**Table 3: Level 2-Learning**

| Objectives   | Measure  | Method/<br>tools  | Data source   | Timing                                       | Feedback/QA  |
|--|--|---|---|--|--|
| Overall objective:<br><br>To enable participants to prepare proposals according to EU/national standards<br><br>Specific objectives <sup>6</sup> | Improvement of questions correctly answered for each of the 9 objectives (before and after). | <i>Entry Quiz</i> based multiple choice on SKA of the subject (25+ questions) – at least two questions per objective – three or more for important objectives<br><br><i>End Quiz</i> based multiple choice on SKA of the subject (25+ questions) – same or theme related questions as in Entry Quiz | Participants (internal)<br><br>Lead Trainer/<br>Trainers (external) | During and end of all three training modules | Lead trainer<br><br>Civil service agency<br><br>MTS project team |

Source: (Sorensen, 2013)

<sup>6</sup> 1. Familiarity with financial instruments for local self-government; 2. Knowledge of PCM methodology; 3. Skills to analyse current situation for project proposals; 4. Skills to produce a log frame; 5. Skills in making proposals; 6. Familiarity with application form; 7. Skills in QA of log frame and project proposal; 8. Familiar with way of application to open calls for proposals; 9. Knowledge in administration and financial management of projects.

- **Level 3 – Application:**

The survey on use of the learned skills, knowledge and attitudes (SKAs) in the municipalities showed that 60% of participants *use* them ‘frequently’ and ‘very frequently’. A similar, yet stronger, pattern was observed with *effectiveness* in application, where 7 out of 10 participants are in categories ‘effective’ and ‘very effective’ (70%). About 10% of the surveyed participants still did not have the opportunity to apply SKAs, as their job descriptions did not relate to project preparation activities (they either did not take part in the training based on their job descriptions they or were moved to other job posts after the training). For the application level the sample comprised of a questionnaire sent out to 100<sup>7</sup> randomly selected PCM participants. The response rate was 54%. Then, two focus groups meetings were held in which 12 randomly selected participants discussed and analysed critical features related to the application level Table 4.

**Table 4: Level 3 Application**

| Objectives   | Measure  | Method/ tools  | Data source   | Timing   | Feedback/ QA                              |
|--|--|--|---|--|---|
| Applying and submitting successfully a concrete development proposal for funding | Objective criteria based on EU/national standards, e.g. log frame structure, SMART indicators, etc.<br><br>Learned SKA: Frequency, effectiveness, importance, change, barriers, enablers | Expert <i>written</i> review (1 page) Standardised <i>questionnaire</i> addressing the application level issues (participants) | Expert (external) Participant (internal) Civil service Agency | After a proposal has been drafted for financing<br><br>After 2-3 years | Civil service Agency<br><br>(MTS II team) |

Source: (Sorensen, 2013)

- **Level 4 – Impact:**

It was obvious from the information delivered by respondents that the number of municipal or inter-municipal projects submitted and financed were significantly higher now than before the PCM course was conducted. Out of 54 respondents 42 (80, 7%) were involved in project preparations, while 12 (19, 3%) were not. The questionnaire respondents were involved in the preparation of project proposals 351 times, meaning an average number of project proposals that each participant contributed to was 6,5 (351/54 respondents). The questionnaire asked for data on the 3 (three) latest project proposals and based on those data 40% of the latest projects which were financed. The remaining 60% are currently in the process of being evaluated by the funder or they were not approved or submitted at all for various reasons. The total budget for the funded project amounts to 14, 8 million KM, or €7, 6 million.

The impact data would have been difficult to collect from the municipalities' HR development or finance offices. Therefore, impact data was included in the post-course questionnaire, as it was assumed that many of PCM course participants would have better knowledge on the number of project proposals funded in their respective municipalities.

<sup>7</sup> The total number of participants was 289 out of 52 local self-government units.

**Table 5: Level 4 Impact**

| Objectives                    | Measure   | Method/<br>tools    | Data source   | Timing                           | Feedback<br>/QA               |
|-------------------------------|---|---------------------|---|----------------------------------|-------------------------------|
| Proposal awarded and financed | Ratio of no of calls from EU/national vs. proposals submitted vs. no of proposals awarded | Proposal statistics | Participants (internal) / Central and municipal records | When a proposal has been awarded | National partner institutions |

Source: (Sorensen, 2013)

- **Level 5 –RoI:**

Monetary benefits were calculated based on respondents’ perception in relation to two criteria: (a) ‘time saved’, in producing project proposals; and (b) ‘improved effect on project implementation’<sup>8</sup>. With regard to “*improved time savings*”, including less re-work and duplication, the percentage provided by the respondents was converted into ‘hours saved’ and the hourly salary of a mid-level public servant in the BiH local self-government system used as a unit of value (=4,37 EUR/hour). With regard to the monetary benefits of the “*improved effect of the implementation of municipal or inter-municipal projects*”, the estimate of questionnaire respondents having experience from 5 or more projects (7, 57 million EUR) was taken into consideration (Table 6).

**Table 6: Level 5 RoI**

| Objectives                 | Measure            | Method/<br>tools                                  | Data source              | Timing | Feedback<br>/QA      |
|----------------------------|--------------------|---|--------------------------|--------|----------------------|
| Return on Investment (RoI) | RoI being positive | Participants’ estimates<br><br>Managers’ estimate | Participants<br>Managers |        | Civil service Agency |

Source: (Sorensen, 2013)

The PCM expenditures have come to a total of 280.158 USD including development, implementation and evaluation costs as well as participants’ salary costs. The total development costs were 17.436 USD for the implementation of the 17 courses, including trainers’ salary, training venue, per diem/food, transport, accommodation and CSA staff. For training development, planning, organization, evaluation and monitoring were 179.722 USD. Salary costs of all participants for six days amounted to 82.950 USD. The total improved time saving came to 111.987 USD and improved effect on project implementation came to 1.006.406,00 USD. The return on investment for the PCM course is using the course benefits and costs. The key components are the benefit/cost ratio (BCR) and the RoI. The monetary benefit for the ‘time saved’ amounted to USD 111.987,06, for the ‘project implementation effect’ the amount was 1.006.406, 00 totalling USD 1.118.393, 00.

<sup>8</sup> Units of improvements were identified in the evaluation plan.

ROI CALCULATION:

BCR (Benefit Cost Ratio)

$$\text{BCR} = \text{Total course benefit} / \text{Total course costs}$$

$$\text{BCR} = 1.118.393,00 / 280.158 = 3,99$$

ROI

$$\text{ROI} = (\text{Course benefit} - \text{Course costs}) / \text{Course costs} \times 100\%$$

$$\text{ROI} = (1.118.393, 00 - 280.158) / 280.158 \times 100\% = 299, 2\%$$

The ROI was calculated to 299%, meaning that, for those two criteria, for every 1 USD that has been spent on the PCM courses 1 USD was returned and almost 3 USD provided as an added value.

**Table 7: RoI evaluation analysis**

|                                    |  |
|------------------------------------|--|
| <b>Methods to isolate training</b> | Municipal records, participants’ estimates<br>(i) workshop, (ii) focus groups, (iii) Questionnaire   |
| <b>Methods to convert data</b>     | Average salary records of mid-level / senior municipal employee; Total budgets of financed projects; Participants’ estimations of improvement  |
| <b>Cost categories</b>             | Development costs, delivery costs per course (training materials, Instructor’s and participants’ salaries, travel, per diem, venue rental, accommodation, etc), experts’ assessment<br><br>Course coordination<br><br>Evaluation costs (observers, QA management & analysis) |
| <b>Non-monetary benefits</b>       | Institutional strengthening; improved investment planning; skills and capacity enhancements; improved awareness on calls for projects  |
| <b>Other influence</b>             | None identified  |
| <b>Communication targets</b>       | Mayors & Dept. heads<br><br>Peers<br><br>Partners in development   |

Source: (Sorensen, 2013)

**5. Conclusion**

The RoI methodology is a new way to evaluate the impact of training and projects in BiH. The methodology was a useful framework and guide for further improvement of training programmes in BiH. The piloting showed reliable results on one side, however on the other it is considered as expensive and relevant only for selected training programmes.

**The Pros**

It is worth to mention that capacity of ROI implementation is enhanced in the training system in BiH and knowledge in the ROI is shared among all interested parties, which represents an important enabler in giving high quality results of training programmes. Measuring effects of the training is one of the most convincing ways to earn the respect and support of the government institutions and senior management. Because a variety of feedback data are

collected during the programme, the comprehensive analysis provides data to drive changes and make adjustments during training programme implementation.

With the development of training programmes focusing on results, CSA is now in position to alter or eliminate inefficient training programmes and the ROI process will prompt changes or modifications. In the piloted case in BiH, the overall assessment showed a ROI of 299%, which means that the ROI for the two units/estimates of improvement of ‘saved time’ and ‘improved project implementation’ effect positive. More concretely, it means that for each 1 USD spent on PCM courses, almost 3 USD produced value worth 3 USD. In addition, several non-financial results were identified such as interdisciplinary team work, increase in job satisfaction, institutional strengthening, building of employees’ capacities, etc.

After the first ROI evaluation process was completed, the CSA continued the process on selected training programmes such as “Train the trainer” and “Strategic planning and reporting for the Government”. The internal CSA capacities developed evaluation plans and followed the chain of impact at each of the five levels. The most challenging issue in the process was identification of hard and soft data and identification of objectives for each level of the evaluation process.

### **The Cons**

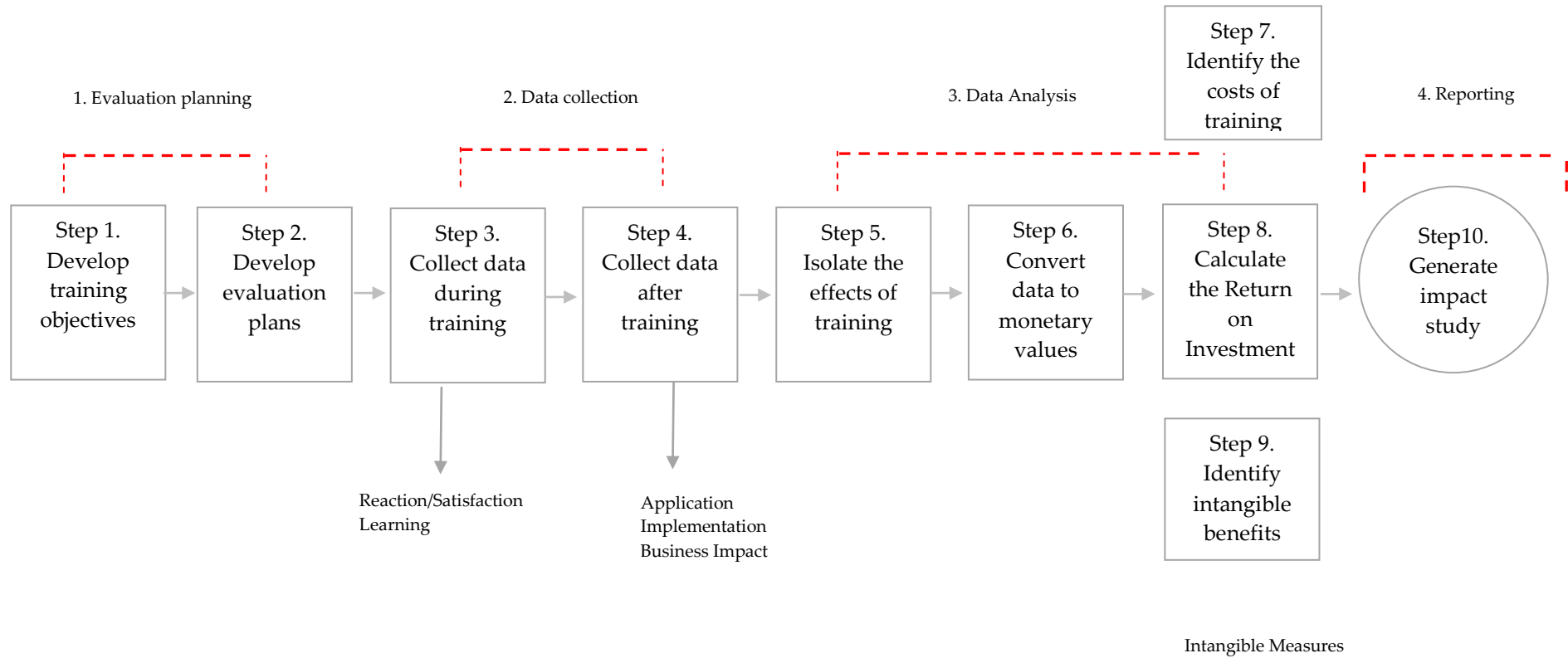
The ROI evaluation process adds additional costs, as well as extra contributions by all interested parties. That is why many training institutions in BiH consider it costly, complicated and difficult to handle. This barrier often stops many training institutions to use it frequently. Some HR units in BiH are not willing to coordinate with CSA and to implement this process because the implementation procedure has not been yet regulated by by-laws. That’s why it is perceived much more as individual performance evaluation tool (only the willingness of CSA) instead of a process improvement tool, for all civil service system in BiH.

As with any change, it is also, in some cases, resisted by training managers and heads of HR departments as well as by other stakeholders. Some of the resistance is based on realistic barriers (time for the implementation of the process, and associated costs), while part of it is based on misunderstandings and lack of fruitful communication among all interested parties.

The existing training impact assessment mechanism is solid and several elements of the first three steps are easily integrated. The last step, the ROI, is complicated for the civil service system and might be used only for selected training programmes. The accuracy and data collection, analysis and handling with data is critical for a successful implementation of the ROI methodology. Developing evaluation plans at the time of needs assessment can greatly influence the outcome of the trainings.



**Figure 1: The RoI model and process**



Source (Phillips, 2000)

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