DC dVET
DONOR COMMITTEE FOR DUAL VOCATIONAL EDUCATION AND TRAINING
GEBERKOMITEE FÜR DUALE BERUFSBILDUNG

Cost-Benefits Studies: Overview of Types, Requirements and Suitability

When does a cost-benefit study make sense and how does it work?

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1. INTRODUCTION & OVERVIEW

In recent years, there has been a growing interest in cost-benefit studies for companies involved in dual VET in the partner countries of development cooperation. This is mainly because the results of such studies in countries with an established dual VET system have shown that engaging in dual VET can be financially beneficial for companies – in the short and/or the long run. However, to what extent the methods used in these countries are applicable to the contexts of partner countries is less clear and less known. For this reason, it is crucial to understand the potential and limits of such studies well and be aware of alternatives; What are the requirements? What needs to be considered? What steps are to be taken to ensure a successful implementation and meaningful results? What are potential alternatives?

This document gives a short and concise overview of these issues and questions.

2. REASONS FOR DOING COST-BENEFIT ANALYSES

To convince companies to engage more strongly in VET, one needs to understand their way of thinking and speak their language. Typically, (private) companies all over the world have a for profit purpose and calculate costs and benefits for their investments. In principle, this also applies to their engagement in VET. Even though not all costs and particularly benefits related to such an engagement may be measurable in quantitative terms, the most important ones are. Making them visible helps companies better understand what they will get out of investing in training, both in the short and long run. The main cost factors of training are usually quite intuitive, e.g., salaries of in-company trainers and apprentices, training material, etc. Less intuitive or *visible* are the measurable benefits. In the short run, they include the productive contribution of learners during their training at the company. In the long run, it is mainly the securement of skilled workers for the future. For an individual company the cost-benefit ratio is (financially) beneficial if the benefits are higher than the costs, i.e., engaging in training provision is a valuable alternative to recruiting skilled workers from the external labour market. An internal cost-benefit analysis therefore allows individual companies to weigh up the two potential sources of recruiting skilled workers and serves as a basis for their decision to engage in training or not.

This overview focuses on cost-benefit analyses at system level and there are different reasons to conduct them.

The main reasons are:

- Producing evidence as basis for the adaption and further development of existing dual VET systems, programs, or project approaches,
- Providing a marketing tool to convince companies and other stakeholders to engage in (dual) VET in case the results of the analyses indicate that an engagement is potentially (financially) beneficial for companies,
- Simulating and comparing potential cost-benefit ratios for new dual VET programs, models, or occupations.

Depending on the context and purpose, different methods of cost-benefit studies are being used. Which method is adequate and suitable in which case is elaborated in chapter 2.

3. DIFFERENT METHODS FOR DIFFERENT PURPOSES WITH DIFFERENT REQUIREMENTS

Depending on the question to be answered, a different method must be used. In principle, there are evaluation and simulation studies. When and how one or the other is suitable is explained below. In addition, there are situations when a cost-benefit study might not (yet) make sense, but alternative approaches can be considered. These considerations are elaborated in chapters 3 and 4.

3.1 EVALUATION STUDIES

Overall Aim

Generally, evaluation studies are applied to assess the situation of an existing system / project approach. For many years, Germany and Switzerland have regularly been conducting such studies. In the meantime, they have become an important contribution to the further development of these dual systems. In principle, evaluation studies can be considered in all cases where companies bear part of the training costs (i.e. in dual type approaches).

Overall Process

In general, the process of an evaluation study is straightforward:

- A detailed questionnaire about costs and benefits related to their engagement in VET are sent to the training companies.
- The answers are analyzed, and the results are interpreted by occupation (and potentially other factors like company size, region, etc.). The aim of the interpretation is to provide a precise picture of the actual costs and benefits for the participating companies.
- Conducting such studies with a representative sample of companies on a regular basis helps to discover important changes in companies' behavior and allows for evidence-based adaptations in the system / project approach.

Key Issues to be clarified beforehand

Even though the above-described process sounds rather easy, it usually gets complicated when it comes to the actual implementation. Therefore, the following issues should be carefully assessed before deciding for or against conducting an evaluation study:

- **How likely is it that a cost-benefit study will really answer the questions of interest?**
  In case the main purpose of conducting a cost-benefit study is to use it as a marketing tool, it should be carefully assessed beforehand whether the cost-benefit considerations are really the main reason why companies are reluctant to engage in VET. If cost-benefit considerations are not the main reason, alternative approaches assessing the reasons should be considered (for more details see chapter 4).
- **Are competent researchers available?**
  An evaluation study is typically implemented or assisted by researchers. The involved researcher(s) should have experience in the topic and a good understanding of the local context or sufficient access to local knowledge. This ensures that the adapted questionnaire captures all aspects that have an influence on the costs and benefits of the concerned companies. Only then will the study produce meaningful results.
- **Are you prepared to handle both favorable and unfavorable results?**
  It is usually not clear ex-ante how the results will look like. Therefore, one needs to be prepared to handle both favorable and unfavorable results and draw adequate conclusions. In addition, the relevant stakeholders need to be ready to initiate the necessary changes in the system / project approach based on the results.
- **Do you have a convincing communication strategy to accompany the study?**
  As an evaluation study provides the basis for changes and further development of an existing system / project approach, it is important that the training companies are participating in the survey and that key stakeholders are on board. In order for this to happen, information events should be planned before starting the study and before sending out the questionnaire, and the results and conclusions must be communicated - using adequate formats and a broadly understandable language.

- **Do you have direct access to training companies and is a sufficiently high number of them willing to answer an extensive questionnaire?**
  The success of the study depends on the quantity and quality of the responses to the questionnaire. As the questionnaire is rather extensive and contains many questions also on sensitive issues, a high commitment is required from participating companies. Companies need to clearly understand the importance and value of their participation in such a survey.
- **Do the companies apply a comparable training model in terms of its general characteristics like duration, division between time in the company and at school etc.?**
  This requirement is critical because if those general characteristics are not comparable, neither will their cost and benefit structure.
- **Are other stakeholders informed and convinced about the suitability, value, and impact of a cost-benefit study?**
  Besides individual companies there are other relevant stakeholders (e.g., associations, chambers, ministries, VET schools, donors etc.) that will have to play a key role in the discussion of the results, formulation of conclusions and implementation of the changes and further development in the system / project.

About the Questionnaire

If one decides to conduct a full-fledged evaluation study, the questionnaire used in Germany and Switzerland can serve as a basis. However, it will need to be adapted to the local context of the partner country. Adaptations include deleting or adding questions depending on the specificities of the training model, changing terminology, and translating it to the local language. All those points are crucial to ensure that companies understand the questions and the questionnaire captures all relevant factors in the context. One should be aware that this step will take some time at the beginning of the process and should be concluded with a pilot implementation of the questionnaire to ensure that it is well understood by the companies.

During the Process

Once the questionnaire is ready and successfully piloted, it is important that there is dedicated internal or external staff that assists participating companies in case of questions and for follow-up clarifications. To ensure answers of sufficient quality and quantity, it is important that companies have a direct contact person they can contact whenever needed. Ideally, this person is someone who speaks their language, is discrete and trustworthy. In addition, she or he should be on board from the beginning of the process and be in direct contact with the researcher(s) to make sure that the answers come in the form that is needed for the analysis. Furthermore, enough time should be planned for the follow-up after having received the answers. Even though companies will try their best to answer the questions, still some concepts or terms might be new or some questions not entirely clear for them. Therefore, it is likely that some answers will not be entirely clear, not consistent, or simply missing. In these cases, a follow-up is necessary. Apart from the quality of the collected data, quantity may also be an issue. As analyses are eventually done by occupation, it is important to have a critical number of complete answers per occupation to allow for generalizable conclusions. If there are only one or few answers per occupation, this is rather a company case study and not an evaluation of a system / project and no generalizable conclusions for system/project adaptions should be drawn from that.

Use of the Results

Once robust results are available, it is important to present them in an understandable way to all involved stakeholders, to learn from them and to actually use them to improve the existing system / project approach. For this, a proper and participative communication and follow-up process is required involving all relevant stakeholders.

Examples

There are three examples of evaluation studies outside of the DC dVET member countries, using the described methodology; Singapore, Chile, and the Philippines.

3.2 SIMULATION STUDIES

Overall Aim

Simulation studies illustrate what would happen if a dual VET approach were to be introduced in a new context. Compared to an evaluation, a simulation study does not look at an existing system / project approach but rather at a potential new system / project approach or new occupation to be introduced. For such a study typically, a limited number of potential and promising occupations are chosen and different parameters like apprentice wage, division of time at the workplace and in school and total duration of the training are varied to assess how different set-ups affect the cost-benefit ratio of companies. The result of a simulation study therefore provides the basis to design new approaches and/or apply an existing approach to a new occupation or context.

In the following situations, a simulation might be a suitable option:

- The **heterogeneity** of training models currently in use in a country is too big to be generalized.
- **The training companies** engaged today are not **representative** of the ones that should be attracted to participate in dual VET in the future.
- **The data base** that one could extract from training companies is too thin to draw general conclusions.
- **The current training models** may not be the ones that promise success in the future e.g., the dual approach does not currently exist at all.

Required Pre-Conditions

Conducting a simulation study requires less information and effort from companies than conducting an evaluation study. However, there are at least three pre-conditions for a simulation study:

- First, there needs to be a genuine willingness and openness of key stakeholders towards changes and further developments of the current system. If this is not the case, a simulation study is most likely a waste of resources as the recommendations drawn from it are unlikely to eventually be realised.
- Second, companies must still be willing to provide some information (i.e., hiring costs for skilled workers).
- Third, the approach depends largely on the availability and quality of wage data in the concerned sector(s), something that is often not (publicly) available in partner countries of development cooperation.

Process

In general, the process of a simulation study has many similarities with an evaluation study; the existing approach needs to be adapted to the local context, suitable experts and key stakeholders need to be on board, a communication strategy must be elaborated, etc. The main difference compared to an evaluation is that the questionnaire for companies is much less extensive. However, the involved experts need to gather and analyse relevant labour market data. So, while an evaluation is less resource intensive for companies, it is not necessarily for the researcher(s) and other involved staff. In addition, simulation studies are a rather new method so there is not as much existing material, reference studies and experienced experts available as there is for evaluations.

Examples

There are three examples from Spain, the UK and Italy illustrating how such simulations can look like and what to conclude from them.[1]

3.3 ASSESSMENT OF METHODOLOGIES

The above-described methods are extensive and resource-intensive. Consequently, the question arises whether there are also approaches that are simpler and less costly (at first glance). Such approaches based on simplifications[2] or approximation of costs and benefits exist but they always come at a cost. Even though a short(er) questionnaire might be more attractive for companies and raise their willingness to participate, they tend to be less precise and therefore

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[1] One very specific form of simulation study, or hybrid between evaluation and simulation, is a more recent methodology called "projection study". Projection studies may be suitable in cases where a program or project has already started, and one would like to know which costs and particularly benefits can be expected. The following example shows the results from a recent projection study in Nepal, particularly focusing on the projection of net benefits.

[2] Simplifying includes e.g., not incorporating important cost components, aggregating individual cost components, or trying to quantify benefits that are not (easily) quantifiable.

less credible. Excluding key components of costs and benefits may lead to under- or overestimations. As a result, the study might produce misleading results and in the worst case lead to conclusions producing wrong decisions, e.g., if benefits such as the productive contributions of apprentices are not included resp. underestimated, companies might decide against an engagement in VET and eventually pay more money for skilled workers from the external market or even encounter difficulties to find them at all. In addition, no compromises should be made on a representative sample to ensure that conclusions and recommendations are relevant on a generalizable level. The following points highlight the main reasons why one should at least consider taking the "long way" i.e., applying one of the above-described approaches:

- The methodologies developed and used in Switzerland and Germany have been established for many years.
- They have been verified by the international research community through different scientific publications.
- They give a complete picture of all costs and benefits that are connected to dual VET in companies.
- They are so general that they can be adapted to and applied in other contexts. The examples mentioned above show that this is possible.

4. QUALITATIVE STUDIES ON TRAINING MOTIVATION AS A VALUABLE ALTERNATIVE

As mentioned above, in some situations a cost benefit study sounds interesting at first glance but might eventually not serve the purpose. This is particularly the case when first signs already indicate that there are (also) other reasons than an unfavorable cost-benefit ratio that makes provision of training unattractive for companies. Especially in partner countries of development cooperation, there are often (also) other parameters that are not conducive to an engagement, e.g., a missing or unclear legal basis, lack of knowledge about the existing models by the companies, missing support from authorities, etc. To be able to improve those issues, it is important to collect credible and robust evidence on the hindering factors and to develop targeted measures. One possibility to find out why some companies train and others do not is to apply one specific part of the cost-benefit analysis, i.e., the "qualitative part". The main goals of the questions in the qualitative part are to find out about the main motivation and hindering factors of training companies to train and non-training companies not to train. Cost-benefit considerations might be one of the reasons why non-training companies do not train. However, there might be many other reasons complicating an engagement and one cannot know them without surveying training and non-training companies and analyzing the differences between them. Such a qualitative study about the motivation of companies can therefore be a good starting point to better understand whether a full-fledged cost-benefit study is feasible and makes sense in the given context.

5. DC DVET EXPERIENCES AND THEMATIC RESOURCES

Cost-benefit considerations have always been an important topic in DC dVET's work. Since 2020, we have more intensively worked on this topic and its use for partner countries, starting with a webinar organized together with Prof. Dr. Stefan C. Wolter (for the documentation see DC dVET website) and continued in the frame of exchanges with and support services to our members and their projects in Georgia, Indonesia and Moldova.

With Dr. Katharina Jaik, the DC dVET secretariat has internal resources with experiences in conducting cost-benefit studies. So please get in touch with us if you have any specific questions or are considering conducting a study in your context. In case you have already done such an analysis we would be very interested to know more about the approach you applied, results, and experiences. Please get in touch with us: coordination@dcdualvet.org.

Sources: This overview builds on different sources including the documentation around the DC dVET webinar with Prof. Wolter and his publications as well as the DC dVET experiences from discussions and activities related to cost-benefit considerations in different contexts.

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