Cost-Benefit Analysis

Instrument for Strengthening Business Sector Engagement in TVET

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KfW Entwicklungsbank

Đột phá Chất lượng Đào tạo nghề TVET Quality Breakthrough
Content

• TVET financing sources in Viet Nam
  Status Quo | Importance of business sector participation

• Basis for analysis of in-company training
  3 key questions to be answered

• How can cost and benefits be made transparent?
  The methodology

• Exemplary survey in Viet Nam
  Conditions | Results | Interpretation

• Conclusions and Recommendations
  Opportunities and limitations | Next steps
Financing Sources of TVET

Status Quo on contributing stakeholders

• State budget
  Amounts to ~60% of all income sources in TVET in Viet Nam*
  Total funds shall grow, but still insufficient for high-quality TVET offers

• Individuals (trainees and their families)
  Already contributing with ~20%*
  Further ability-to-pay is limited (danger of social exclusion)

• Donors: Financing lacks long-term sustainability

• Enterprises: Weak involvement in TVET delivery and financing (~5%)*

Diversification of funding sources towards business sector is necessary and targeted.

* according to MoLISA
Financing Sources of TVET

Private sector participation

• Generally, there are 2 ways of private sector involvement
  Direct contribution (in-company training)
  Indirect monetary contribution (levies, levy-grant-systems etc.)

• Preferable: Strengthened in-company training, because...
  ...in-company training is employment-relevant | Effectiveness.
  ...utilization of workplaces for training increases efficiency of TVET.

But: Direct contribution needs motivation of enterprises
(whereas monetary contribution could be imposed by law).
3 Questions to be Answered

Background of the cost-benefit approach

• How to motivate enterprises to contribute in TVET?
  Identification of employers’ benefits of own training
  Awareness raising among employers about these benefits

• What are potential benefits for enterprises?
  Financial benefits (short-term view) | Trainees’ productivity
  Non-quantifiable benefits (long-term view) | Later employment

• What is the extent of these benefits (compared to the cost) and how can they be made transparent?
  Completely unknown in Viet Nam at the moment!

Data collection, analysis, discussion / publishing is needed.
How can enterprises be motivated?

Employers’ perception

- TVET delivery is „traditional” task of public sector
- High cost of in-company training
- Investment cannot be directly related to the product
- Benefits are unclear / unpredictable, often underestimated

Approach

Entering into discussions to overcome negative prejudices - based on more reliable knowledge on cost and benefits.
## What benefits may be relevant?

### Key categories

<table>
<thead>
<tr>
<th>Financial</th>
<th>Non-quantifiable</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Productivity of interns</td>
<td></td>
</tr>
<tr>
<td>• Replacing core staff: “Opportunity” benefit, avoidance of vacancies</td>
<td></td>
</tr>
<tr>
<td>• Employment after training</td>
<td></td>
</tr>
<tr>
<td>Saved cost of external recruitment (fairs, campaigns etc.)</td>
<td></td>
</tr>
<tr>
<td>Saved cost for re-training of new staff</td>
<td></td>
</tr>
<tr>
<td>• Higher quality of products</td>
<td>Lower defection rate</td>
</tr>
<tr>
<td>• Improved reputation</td>
<td>Part of CSR strategy</td>
</tr>
<tr>
<td>• Good relationship to TVET institutes</td>
<td></td>
</tr>
<tr>
<td>• ...</td>
<td></td>
</tr>
</tbody>
</table>
How to make cost/benefits transparent?
Excel-based analysis tool

• Cost Recorded
  Trainees’ remuneration and related costs
  Salaries of staff involved in training | Share of working time for training
  Amounts invested in infrastructure training infrastructure
  Training material expenditures

• Direct / indirect and average cost for the employer*

<table>
<thead>
<tr>
<th>occupation</th>
<th>trainee remuneration</th>
<th>trainer salaries</th>
<th>infrastructure cost</th>
<th>training material</th>
<th>total direct cost</th>
<th>total indirect cost</th>
<th>total cost per trainee</th>
</tr>
</thead>
<tbody>
<tr>
<td>mechanics (3)</td>
<td>34</td>
<td>64</td>
<td>0</td>
<td>0</td>
<td>99</td>
<td>42</td>
<td>141</td>
</tr>
<tr>
<td>welding (5)</td>
<td>382</td>
<td>145</td>
<td>147</td>
<td>27</td>
<td>701</td>
<td>42</td>
<td>743</td>
</tr>
<tr>
<td>electrics (3)</td>
<td>34</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>109</td>
<td>42</td>
<td>151</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>95</td>
<td>147</td>
<td>27</td>
<td>303</td>
<td>42</td>
<td>345</td>
</tr>
</tbody>
</table>

* per trainee and internship
How to make cost/benefits transparent?
Excel-Based analysis tool

Financial Benefits:
Salary of employees replaced by productive trainees*

<table>
<thead>
<tr>
<th>group of trainees</th>
<th>occupation</th>
<th>average salary of employed personnel per year</th>
<th>assumed percentage of substituted productivity per year per trainee</th>
<th>total benefit per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>interns in mechanics</td>
<td>mechanics (3)</td>
<td>6.137,14</td>
<td>30%</td>
<td>64,440,00</td>
</tr>
<tr>
<td>interns in welding</td>
<td>welding (5)</td>
<td>7.097,14</td>
<td>50%</td>
<td>141,942,86</td>
</tr>
<tr>
<td>interns in electrics</td>
<td>electrics (3)</td>
<td>6.137,14</td>
<td>20%</td>
<td>24,548,57</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6.457,14</td>
<td></td>
<td>230,931,43</td>
</tr>
</tbody>
</table>

* per trainee and internship

- Average salary of employee who can be replaced by trainee
- Share of productive work out of total training time
- Quantifiable benefit out of productive work of the student
**How to make cost/benefits transparent?**

**Excel-based analysis tool**

**Financial Benefits: Saved cost for external recruitment**

<table>
<thead>
<tr>
<th>Description of the benefit provided by all trainees</th>
<th>Appraisal of the financial benefit per year all trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>further quantifiable benefits through all trainees per year</td>
<td></td>
</tr>
<tr>
<td>benefit</td>
<td>occupation</td>
</tr>
<tr>
<td>employment after training: saved costs incurred by external recruitment (fairs, campaigns, HRD)</td>
<td>welding (3)</td>
</tr>
<tr>
<td>employment after training: saved cost for re-training of new staff</td>
<td>mechanics (2,5)</td>
</tr>
</tbody>
</table>

*per trainee and internship

**These benefits are not quantifiable for most companies.**

**Exemplary calculations for re-training cost: 800 - 1,300 $ / person**
How to make cost/benefits transparent?
Excel-based analysis tool

<table>
<thead>
<tr>
<th>occupation</th>
<th>cost</th>
<th>benefit</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>welding (3)</td>
<td>253</td>
<td>409</td>
<td>156</td>
</tr>
<tr>
<td>mechanics (2,5)</td>
<td>198</td>
<td>276</td>
<td>78</td>
</tr>
<tr>
<td>Total average</td>
<td>226</td>
<td>343</td>
<td>117</td>
</tr>
</tbody>
</table>

Overall cost and benefits of company’s participation in training per year and per trainee

This comparison is excluding all non-quantifiable benefits, which „come on top“!
Exemplary Survey

Frame conditions

- Structured Interviews among 5 companies (diverse sectors) Dong Nai | Vung Tau | HCMC (in coop. with LILAMA 2)
- 110-2,200 employees, 30-200 interns (share: 1-15 %)
- Only internships were analyzed, 2-5 months duration
- Focus: welding (4 samples), mechanics (3), electrics (3)
- Different reasons to provide in-company training
- Add-on: 2 companies without training activities | Estimation of cost for recruitment of external staff

Internships are not standardized, results not statistically firm. But they „draw a picture“.
Survey Results
Comparison of quantifiable cost and benefits*

Quantifiable benefits are mostly equal or higher than cost.

* per trainee and internship
**Survey Results**

**Summary: Quantifiable cost and benefits**

<table>
<thead>
<tr>
<th>Internships</th>
<th># Interns</th>
<th>Total Cost</th>
<th>Total Benefit</th>
<th>Result (Net Benefit)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Average</td>
</tr>
<tr>
<td><strong>Welding (2)</strong></td>
<td>30</td>
<td>--</td>
<td>--</td>
<td>327</td>
</tr>
<tr>
<td><strong>Welding (3)</strong></td>
<td>100</td>
<td>253</td>
<td>880</td>
<td>566</td>
</tr>
<tr>
<td><strong>Welding (5)</strong></td>
<td>40</td>
<td>--</td>
<td>198</td>
<td>743</td>
</tr>
<tr>
<td><strong>Mechanics (2,5)</strong></td>
<td>20</td>
<td>--</td>
<td>--</td>
<td>189</td>
</tr>
<tr>
<td><strong>Mechanics (3)</strong></td>
<td>55</td>
<td>141</td>
<td>732</td>
<td>436</td>
</tr>
<tr>
<td><strong>Electrics (2,5)</strong></td>
<td>200</td>
<td>355</td>
<td>355</td>
<td>355</td>
</tr>
<tr>
<td><strong>Electrics (3)</strong></td>
<td>32</td>
<td>151</td>
<td>630</td>
<td>390</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>477</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* per trainee and internship

Monetary results are mainly positive!
Qualitative benefits are not included herein.
**Survey Results**

**Where do employers see their long-term benefit?***

<table>
<thead>
<tr>
<th>non-quantifiable benefit</th>
<th>Very important</th>
<th>Important</th>
<th>Minor importance</th>
<th>No influence</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>9</td>
<td>16</td>
<td>18</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>good relationship to the TVET institute to recruit their graduates later on</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>employment after training: saved costs incurred by external recruitment</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>employment after training: saved cost for re-training of new staff</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>avoidance of vacancies in the production process</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>avoidance of cost of external further training through utilization of training equipment</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>higher quality of products/services &amp; lower defection rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>improved reputation valuable for sales / part of CSR strategy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tax shield for training cost / other benefits provided by the state</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>improved loyalty of staff / lowered effect of staff fluctuation in long term</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fulfillment of pre-qualification conditions at public tenders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>more influence / eased representative work at associations or public authorities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Statements of all interviewed companies*
Survey Results

Main motivation factors for enterprises

• Screening of trainees
  Internships don’t cause positive financial results – Cost savings in future recruitment process are more important, even if benefits cannot be quantified.

• Saved cost for re-training
  Often relevant for same enterprises with screening motive – regarding interns as potential later employees.

• Short-term availability of (cheap) labour
  Monetary results are clearly positive. Investment, supervision cost and material consumption are limited.
Survey Results

Interpretation

• Differences between the three occupations
  Internships in **welding** cause slightly higher cost and benefits – but occupation has less influence than other factors (see below)

• Differences between training concepts
  Internship organized in **training facilities** with negative quantifiable result – company not interested in raising short-term financial benefit. In internships organized **on-the-job**, cost are always covered or exceeded by financial benefits.
Conclusions
Which companies can be motivated with the tool?

• Enterprises interested in inexpensive labourers
  Motivation through proof that quantifiable benefits exceed cost
  Focus on realistic quantitative estimations
  May offer more internships, but not improve the training quality

• Enterprises following the screening motive
  Creating awareness of positive impact to later recruitments
  Qualitative discussions | Support to quantify non-quantifiable benefits
  May engage in TVET through improving in-company training quality

Qualitative discussions during interviews are at least as important as „bare figures“. 
Conclusions

Opportunities and limitations of cost-benefit analysis

• Interviews (micro-level):
  May initiate thinking processes in companies

• Publishing large-scale studies:
  May underline discussions on policy level

• Challenges | Limitations:
  Benefits are more difficult to calculate than cost.
  Viet Nam: Internships not standardized, analyses base on estimations.
  Quality of the analysis is dependent on the interviewer.

Cost-benefit analysis can support the stakeholder dialogue, but is not a „panacea“ for company engagement in short notice.
Recommendations

Possible next steps

- Continuing on a larger scale
  Raising ownership among enterprises to take a greater stake in TVET
  Cross-checking exemplary results of this survey

- Further investigation: Recruitment / re-training cost
  Gaining arguments for stronger participation of enterprises

- Mid-term view: Web-based tool with database system
  Decentralized data collection and automatized analysis in GDVT/NIVT
Thank you
...for your attention!