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MODEL FOR CALCULATING THE RETURN ON INVESTMENT OF WORKED-BASED LEARNING AND APPRENTICESHIP

RoI of WBL and apprenticeships

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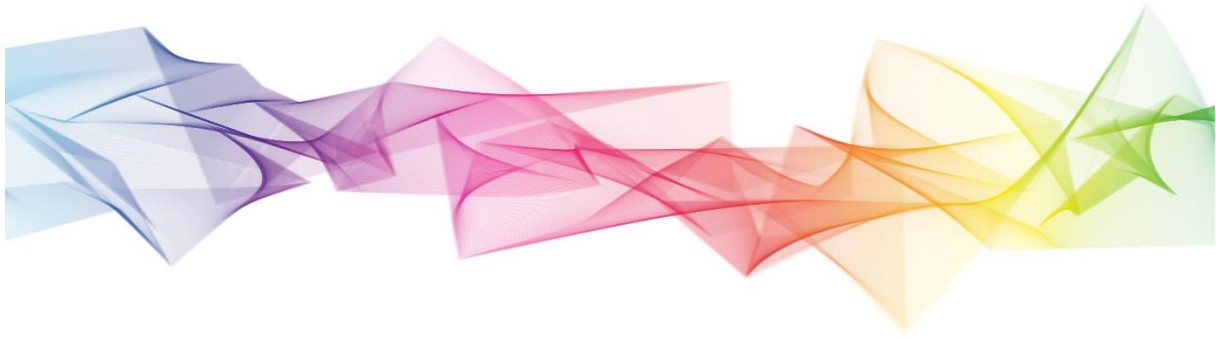


ROI

Return on Investment of Work Based Learning and apprenticeships

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RoI of WBL and apprenticeships - Return on Investment of Work Based Learning and apprenticeships

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Index

Executive summary	4
1. Introduction.....	4
2. What does WBL and apprenticeship mean?	5
3. ROI of WBL and apprenticeship.....	5
What is ROI?	5
Why is ROI important to SMEs?	6
Why a digital tool?.....	7
What does it mean to invest in WBL?	7
Which are the main costs and benefits for SMEs?	8
How can SMEs measure the costs and outcomes?	10
What is Social Value?	11
4. Conclusions.....	13
4. References.....	14
5. Annex.....	15
5.1. Glossary	15
5.2. Questions of the online tool.....	18

Executive summary

The Model for calculating the return on investment (ROI) of worked-based learning and apprenticeship reflects the perspective of the consortium “Return on Investment of Work Based Learning and Apprenticeships”, project coordinated by Slovakia, with partners from Portugal, Greece, Bulgaria, Cyprus, Italy, Cyprus, United Kingdom and Spain.

The “RoI of WBL and apprenticeships” is based on the traditional model of calculating roi, taking in consideration the costs and benefits of the SMEs regarding their investments in WBL and the apprenticeship courses.

The list/menu of key “costs” and “benefits” proposed by the model are based on national research reports, developed for partner’ countries (as Slovakia, Portugal, Greece, Bulgaria, Italy and Spain), highlighted the SMEs needs and their national apprenticeship system.

1. Introduction

The document outlines the model that is the overarching framework that has identified the associated costs and benefits associated with apprentices/ work-based learning (WBL).

This document provides also an overview of the digital tool that is designed to help European SME decision-makers better understand the costs and benefits associated with apprentices and WBL.

This work underpins the development of an online free-to-access digital tool that provides SMEs with the ability to quickly identify the value of engaging with apprentices/WBL.

In particular, this document aims:

- To explain what the ROI is;
- To examine why ROI is important for SMEs,
- To outline the structure of the ROI calculations for SME managers,
- To present the model of ROI target to SMEs - European small and medium enterprises managers who want to measure their impact of WBL and apprenticeships investments;
- To present the digital tool to support managers to calculate the impact using a user-friendly tool.

SMEs are Europe's motor for growth and employment. They represent 99% of all businesses in the EU and account for two thirds of EU28 employment. The availability of skilled labour is an important prerequisite to their prosperity. Nonetheless, there is often a mismatch between the skills the labour market demands and those that the education and training system provides.

Apprenticeships and WBL provide an option to address the mismatch of skills. Doing so will entail costs to the SME, but also provide a range of associated benefits. It is therefore important to communicate these to provide SME decision makers with information that can assist in their decisions to engage with these practices.

2. What does WBL and apprenticeship mean?

According to CEDEFOP online glossary, 2011, by definition WBL is the:

“Acquisition of knowledge and skills through ‘carrying out – and reflecting on – tasks in a vocational context, either at the workplace (such as alternance training) or in a VET institution”.

According to CEDEFOP online glossary, 2011, by definition apprenticeship is the:

“Systematic, long-term training alternating periods at the workplace and in an educational institution or training centre. The apprentice is contractually linked to the employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation”. In practice, WBL and apprenticeship can have the same meaning with different levels of implementation.

3. ROI of WBL and apprenticeship

What is ROI?

ROI is the calculation that compares the value of outcomes (changes as a result of an activity) to the value of the resources needed to create them.

Presented as a ratio, the value of outcomes is divided by the value of resources required to create them. The results of the calculation demonstrate the efficiency of an investment or activity. This can aid decision making by highlighting if an investment provides a positive return, and if there is more than one option, it can help decide which option provides the greatest return.

The return on investment formula is:

$$\text{ROI} = \text{Value of outcomes} / \text{Value of investment}$$

In the above formula, "Value of outcomes" refers to the aggregated value of all of the included outcomes of investing in WBL.

As well as presenting results as ROI, the net present value of money can also be used to aid decision making. This is calculated by subtracting the value of the investment from the value of the outcomes.

The net present value formula is:

$$\text{Net present value} = \text{Value of outcomes} - \text{value of investment}$$



Using a simple example: An SME produces shoes costing 200 Euros per item and sells them at 1,000 Euros. Dividing the value of each sale by the costs of producing it provides a return on investment of **5:1** (1,000 / 200).

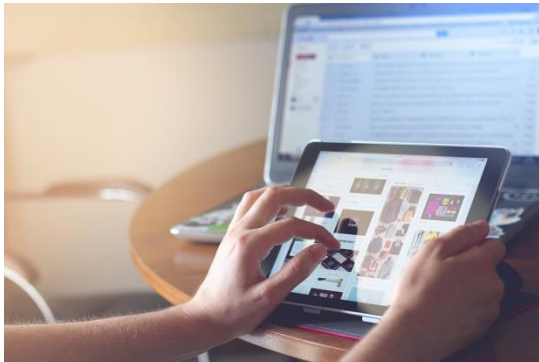
If expressed as the net present value, the result would be 1,000 – 200 = 800 Euros.

Why is ROI important to SMEs?

ROI is an important determining factor as to whether or not an SME or any business is successful. It is essential for any business to understand the costs and benefits of any investment. Having a **positive return on investment** means that the business is making money; a **negative return on investment** means that SMEs are losing money. Ensuring profitability is obviously a relevant factor to maintain a sustainable business.

Based on this need, the "ROI of WBL and apprenticeships" project developed a model that underpins the ROI calculation. This is designed to allow European SMEs to better appreciate the value of an investment in WBL and apprenticeships.

Why a digital tool?



The digital tool is a free-to-access online facility that can help SMEs to calculate the ROI of engaging with apprenticeships/WBL.

Many SMEs may not have the finances, knowledge or the time to fully undertake themselves or hire someone to do their ROI calculations. The digital tool is therefore designed to provide an efficient and easily accessible approach for SMEs to appreciate the costs and benefits of apprenticeships/WBL. To provide confidence in the results from the digital tool, it is therefore important to make sure that SME managers are aware of the important issues that underpin the online tool (the structure of the tool is outlined later in this document).

The tool can be used by SMEs with a track record of apprenticeships/WBL as well as those considering it for the first time. It is also designed to be intuitive for those managers and entrepreneurs with limited digital knowledge, enabling them to understand the ROI of their WBL and apprenticeship investments.

What does it mean to invest in WBL?

There are strong arguments to invest in WBL and apprenticeship! WBL and apprenticeships can help young people to transition from school to work (CEDEFOP - European Centre for the Development of Vocational Training)¹. They are central to the development and implementation of the Youth Guarantee schemes.

¹ <http://www.cedefop.europa.eu/pt/events-and-projects/projects/apprenticeships-work-based-learning>

The Youth Guarantee is a commitment by all Member States to ensure that all young people under the age of 25 years receive a good quality offer of employment, continued education, apprenticeship and traineeship within a period of four months of becoming unemployed or leaving formal education.

When implemented successfully, they can create multiple benefits for the SMEs that employ/support them, such as improving the mismatch of skills required and those available and avoiding recruitment costs. They also provide potential benefits to the individual apprentices and students, such as providing them with necessary skills and networks, as well as also creating society wide benefits in the form of tax income and welfare support.

But there are costs involved!

As with any investment it is important to consider the resources required to create outcomes. This includes actual costs such as with paying the salaries of apprentices and any required equipment, as well as other resources such as the time of other members of staff.



In countries where there is a well-established apprenticeship system, such as the UK, Austria and Germany, SMEs contribute strongly to the training of the future work force through their involvement in WBL and apprenticeship schemes. The acceptance of WBL and apprentices in these nations also demonstrates an acceptance from SMEs that they contribute value to the organisations and the individuals involved.

On the contrary, in countries with more school-based systems, like Slovakia, Spain, Portugal, Greece and Bulgaria, the engagement of SMEs in the supply of apprentices may be more challenging as they lack the support systems and often fail to realise the added financial and social benefits (Apprenticeship Joint conference of European Social Partners, May 2016).

Which are the main costs and benefits for SMEs?

The costs and the benefits below were identified during research carried out by 6 partner countries with SMEs and other relevant stakeholders. Some of them may not be relevant to all situations, with variations dependent on factors such as the size and sector of the SME.

EXAMPLE

Main SME costs

- Time spent on recruiting apprentices and students
- Time spent by internal employees – this can be further broken down as below:
- Average time spent on administration
- Average time spent on training
- Average time spent on mentoring
- Average costs of external collaborators spent on administration
- Average costs of external collaborators spent on training
- Average costs of external collaborators spent on mentoring
- Equipment costs / specific to the WBL and apprenticeship
- Wages of the apprentices/students
- Overheads
- Insurance

EXAMPLE

Main benefits to SMEs

- Apprentices/WBL learners who remain in the firm after graduation;
 - Reduced labour turnover / Increased retention of employee
 - Reduced recruitment costs
 - Reduced cost of initial training/induction
- Faster integration of graduates into company's work environment;
 - Reduced overtime requirements
 - Increased in productivity
 - Value of avoided mistakes or errors
 - Reduced time of supervision
- Students are able to work in several positions within the company;
 - Increased flexibility,
 - Reduced time spent on ongoing training,
- Enhancement of company image and reputation;
 - Increase in brand value,

Other benefits highlighted from research:

- Improved interpersonal skills between colleagues
- Strengthened language skills,
- Enhanced digital skills,
- Improved team building,
- Enhanced creativity/ new skills.



Individual benefits to apprentices and wider societal benefits

- Increased employability through more effective preparation of learners for the labour market and fostering the acquisition of soft and employability skills;
 - avoided welfare support
 - increased local/regional/national employment,
 - increased local/regional/national youth employment,
 - increased cooperation between government, education, business, citizens and students
 - increased entrepreneurship among young people
- Developing more relevant and integrated curricula at schools;
 - increased cooperation between government education business citizens/students
 - facilitation in school-to-work transition
- All benefits for other companies as well (if apprentices are not subsequently employed by the SME)
 - more skilled workforce
- Higher inclusion in society, helps social integration and participation, particularly for vulnerable groups;
 - reduced number of drop outs from educational system,
- Wage returns: higher apprentices' wages compared to non-apprentices
- Effective way to address the problem of inadequate skills supply.

How can SMEs measure the costs and outcomes?

It would be a risk to provide a one-size fits all to SMEs managers that pre-determines the costs and benefits of apprenticeships/WBL. Therefore, through a series of questions that users of the digital tool need to answer, a meaningful indication of the costs and benefits can be identified, along with overall ROI results. The questions are designed to be as straight-forward as possible, and the more precise responses a user can provide, the more reliable the results will be.

There are also costs and benefits that do not have a direct financial value. These often relate to intangible changes to people such as the apprentice/learners and other members of society. It is possible to value these changes, and this is the foundation of the concept of social value. However, these are not included in the digital tool.

What is Social Value?

Although the digital tool does not include concerns of social value, SME managers and other stakeholders should also be aware of the potential that other important outcomes are created by their activities. These can be intended/unintended and positive/negative changes.

Social value is the quantification of the relative importance that people place on changes in their lives. It is important to consider and measure this social value from the perspective of those affected by an organisation's work. There are likely outcomes experienced by stakeholders including the apprentices/learners, others in their lives, as well as the SME managers themselves.



Examples of changes to people's lives include such outcomes as increasing employees' confidence and reducing isolation/loneliness. These aspects could be important to SME managers, but are not commonly expressed or measured in the same way that financial value is. If valuing changes such as these monetarily there is a range of different options – the key is to ensure that value is understood from the perspective of those stakeholders affected. Further information about these issues can be found on the Social Value UK website (socialvalueuk.org).

Guiding Principles:

To ensure consistency and replication of the evaluation, operating standards should be applied in the calculation process. The standards in the ROI tool are applied as Guiding Principles and are listed below. The 7 Social Value Principles provided by Social Value International² are generally accepted by partners and form a basis of the tool.

Those 7 Principles allow creating a consistent and credible account for the impacts of the WBL and apprenticeships. The principles are described in Table 1.

² SOCIAL VALUE INTERNATIONAL: <https://socialvalueint.org/the-sroi-network-and-the-social-impact-analysts-association-relaunch-as-social-value-uk-and-social-value-international/2015/>

Table 1: The Social Value Principles		
Social Value Principles	Explanation	How they apply to the tool
1. Involve stakeholders	«Involve stakeholders to inform what is measured, valued, and managed.»	Involve those stakeholders that have an understanding of the costs and benefits of apprenticeships/WBL.
2. Understand what changes	«Identify the intended, unintended, positive, and negative changes that are a result of our activities»	For SMEs this includes investments of time and other resources (e.g. trainers, work space), and outcomes such as recruitment of new employees, contribution to skills supply
3. Value the things that matter	«Recognise the relative importance of the different changes, from the perspective of those affected. This will help us to make decisions about different options in how we allocate our resources - identifying changes that can create the most impact»	It is important to identify the value of different costs and outcomes.
4. Only include what is material	«Determine what information and evidence should be included in our account of social impacts»	This means only including costs and outcomes that are both relevant and significant. The tool doesn't measure and value all changes – just those that SMEs identified as most important. For SMEs this includes time, money, skills,, performance, productivity, etc.
5. Do not over-claim	«Only claim the amount of change that is a result of our activities»	This principle intends to ensure that we take account of what could have happened anyway and the contribution of others. These are not included explicitly within the tool – it is therefore important that SMEs avoid over-claiming the amount and value of changes as this could affect the decision taken.
6. Be transparent	«Demonstrate that the information within our account of social impacts is accurate and honest, and that it will be reported to, and discussed with stakeholders»	We need to be transparent about any judgements included in our calculations
7. Verify the result	«Ensure that our results are appropriately assured. This can include discussing results with stakeholders, other people with relevant knowledge, or external independent assurance»	The issues that are included in the investments and outcomes have been informed and tested by SMEs in the 6 different countries to increase the confidence that we are including appropriate issues. Users should also verify the evidence they include by asking stakeholders who can verify the data.

4. Conclusions

Return On Investment tells us if an investment creates positive returns. Expressed as a ratio, it divides the value of outcomes by the value of investments to produce them.

Because ROI is measured as a **ratio**, it can be compared with returns from other investments. This allows SMEs to compare a variety of types of investments against one another and can therefore help us to make decisions about which investment to make.

The ROI digital tool is based on research conducted with a range of SMEs in different European countries. This outlined the key costs and outcomes that needed to be included within the calculations for the ROI on apprenticeships/WBL.

The ROI methodology is guided by key principles. The structure of the tool requires SME managers and decision-makers to answer a series of specific questions that help to calculate the value of both investments and outcomes. The results are then displayed highlighting the ROI and this can be used to assist decision-making.

The tool focuses on costs and outcomes that have direct financial values. However, there are also other outcomes (and possibly inputs) that are the result of apprenticeships/WBL. These fall beyond the scope of the digital tool, although they should also be considered as part of the decision-making process of an SME.

We hope that SMEs make use of the digital tool to help them make important decisions about investing in apprenticeships/WBL. It can provide them with useful information to assist their decision-making, and one that has the potential to create benefits for the organisation, the individual and other stakeholders.

4. References

Maximizes your impact: a guide for social entrepreneurs, 2017.

The guide was developed within “Know Your Impact: Social Impact Management Tools for Young Social Entrepreneurs” by Estonian Social Enterprise Network, Koç University Social Impact Forum, Mikado Sustainable Development Consulting and Social Value UK.

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<https://www.thinknpc.org/publications/theory-of-change/>

<http://www.theoryofchange.org/what-is-theory-of-change/>

<https://www.bmj.com/content/324/7337/606.1>

5. Annex

5.1. Glossary

Concepts	Designation
Accountability	Obligation to demonstrate that an activity has been conducted in compliance with agreed rules and standards or to report fairly and accurately on performance results vis-à-vis mandated roles and/or plans. Is also about consequences of actions, i.e. failure to achieve targets can result in negative consequences.
Apprenticeship	Systematic, long-term training alternating periods at the workplace and in an educational institution or training centre. The apprentice is contractually linked to the employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation.
Benefits of education and training	<p>Added value of education and training for training individuals, the economy and society. Examples:</p> <ul style="list-style-type: none"> • Benefits of education and training can be private, received by individual persons or enterprises, or public, benefiting a whole region, economy or society; • Benefits of education and training can be monetary (e.g. wages), economic (e.g. employment, productivity, growth) or nonmonetary (e.g. health, wellbeing, social cohesion, reduced crime).
Cost benefit analysis	Comparative analysis of the costs and benefits of an education or training service or activity – and of the value of that service or activity – to select the most profitable solutions and thus maximise investments.
Impact	<p>This is the amount of a change that we can claim is a result of our activities, taking into account what would have happened anyway (deadweight), and the contribution of others (attribution).</p> <p>This shows how important each of the changes is for our important stakeholders. It is calculated by multiplying the number of people that have changed, by the relative importance of each change. This is then multiplied by as much information as we have in terms of the length of time we are measuring changes, as well as taking into account how much is down to our activities.</p> <p>General term used to describe the effects of a programme, policy or socioeconomic change. Impact can be positive or negative as well as foreseen or unforeseen.</p> <p>Example: impact research analyses the effects of an intervention or programme or changes in society such as demographic or technological change.</p>
Indicator	Quantitative factor or variable that provides a reliable means to measure achievement, reflect the changes connected to an intervention, or to help assess the performance of a development actor.

Material changes	Those outcomes that matter most to people, and will influence the decisions we take to maximise our impact.
Outcomes	Changes as a result of an activity. It can be positive, negative, intended, or unintended changes in people's lives as a result of our activities. It is outcomes that can tell us if our activities are being successful or not.
Outputs	Immediate and direct tangible result of an intervention.
Output indicator	Data that provide a quantitative measure of the result of an education or training intervention.
Outputs	The summaries of our activities in numbers, and are the easiest things to count. For example, the number of practical training classes/job training attended, or the quantity of the internship and the effects in the company (linked with the benefits for the SMEs).
Ranking outcomes	Putting outcomes in order of importance from lowest to highest, from the perspective of the stakeholders experiencing the changes. For example, if a stakeholder experiences 3 changes which do they say is the most, and least important?
Relative importance	Relative importance - identifying the worth/value of different outcomes experienced by students/trainees/SMEs/VET providers.
Relevance	Relevant changes are those that are identified by stakeholders as important through qualitative evidence. Different stakeholders may have different outcomes they consider to be relevant, and we will often have to make a judgement, based upon the connection to our activities.
Significance	Significant changes are those that having been identified as relevant and also are considered large enough to be material. This depends on the quantity of people experiencing a change, how long we measure the change, and their relative importance.
Social Value	Is the quantification of the relative importance that SMEs manager place on the people/organisations places on the changes they experience in their SMEs;. Some, but not all of this value is captured in market prices. It is important to consider and measure this social value from the perspective of those affected by an organisation's work.
Stakeholders	All those individuals and organisations that can affect or be effected by an activity. Those who have an interest, whether financial or not, in VET activities, for example, policymakers, citizens/customers, employers/employees, society, public service organisations, etc.
Theory of Change	Is a way to visualise our how our activities intend to create changes for people, and how these help us to achieve our impact. Essentially, we need to identify the necessary inputs, outputs, and outcomes of activities.
VET provider	Any organisation or individual providing or training provider education or training services. Examples: <ul style="list-style-type: none"> • education and training providers may be organisations specifically set up for this purpose, or they may be others, such as employers, who provide training as part of their business activities.

Worked-based learning	Acquisition of knowledge and skills through 'carrying out – and reflecting on – tasks in a vocational context, either at the workplace (such as alternance training) or in a VET institution.
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5.2. Questions of the online tool

Some of the questions at the online tool must be clarified. See the explanations in the next table:

Questions	Additional information to support the user
1	Discount rates are used so SMEs can discount money in the future to present values. National governments will identify appropriate discount rates that can be used. The online tool includes national discount rates, but if SMEs want to include a different rate you can.
2	Number of apprentices SMEs have/ Number of apprentices SMEs expect to work with this year
3	Number of months on average SMEs has the apprentice(s) working with them
4	Number of employees SMEs would employ this year
7	Costs of recruiting and selecting a new apprentice
8	Average costs of recruiting, selecting and induction a new apprentice Induction costs as the costs of admission of new employee
9	Costs of recruiting a new employee
10	Please provide the following numbers in order to calculate the costs
11	Differences between the costs of recruiting a new employee and the costs of recruiting an apprentice
12	Annual costs of providing internal training/mentoring to a new apprentice
13	Annual cost of internal training for a new apprentice
14	Differences between the internal training/mentoring costs for hiring a new employee and the costs of hiring an apprentice
16	Differences in internal training/mentoring costs for hiring a new employee and the costs of hiring an apprentice
17	Annual average costs of external training/mentoring for a new apprentice
18	Annual average cost of providing external training to a new apprentice

19	Differences between external training/mentoring costs for a new employee and the costs of an apprentice
21	Differences between external training/mentoring costs for hiring an employee and the costs of an apprentice
22	Average monthly wage of a new apprentice (this should be the gross wage, including all taxes and any insurance contributions etc.)
23	What would be the Differences in wages for a new employee and the costs in wages of an apprentice
25	Annual cost of providing equipment to an apprentice
26	Differences in equipment costs for a new employee rather than an apprentice
28	Difference in equipment costs for a new employee rather than an apprentice
29	Other annual costs associated with apprentices that would not be incurred for a new employee
30	Differences in other costs for a new employee rather than an apprentice
31	Average productivity of an apprentice in comparison to their salary
33	Average avoided overtime costs for other members of staff as a result of working with an apprentice
36	Differences between employing someone who has not previously worked with you , what is/would be the average annual difference in internal training and mentoring costs for a former apprentice
37	Differences between employing someone who has not previously worked with you, what is/would be the average annual difference in external training and mentoring costs for a former apprentice
38	Differences between employing someone who has not previously worked with you, what is/would be the average annual difference in salary for a former apprentice (this should be the gross wage, including all taxes and any insurance contributions etc.)
39	Differences between employing someone who has not previously worked with you, what is/would be the average annual difference in productivity for a former apprentice
41	Differences between employing someone who has not previously worked with you, what is/would be the average annual difference in the cost of mistakes/errors for a former apprentice

