



Return on investment or an investment without return?

A cost-benefit ratio analysis of in-company training in Pakistan

Chief Finance Officer asks CEO:

“What happens if we invest in
developing our people
and they leave us?”

CEO:

“What happens if we don’t,
and they stay?”

IMPRESSUM

Published by:

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered Offices

Bonn und Eschborn

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GIZ is responsible for the content of
this publication.

WHY IT IS WORTH TO INVEST IN VOCATIONAL TRAINING?

A country's most valuable resources are its human resources!

An investment in people and their skills is not only imperative for a nation's economy but a social responsibility not limited to the government only.

Technical and vocational education and training (TVET) tend to have little practical orientation and not meet the actual requirements in the workplace. Upon completing their training, many graduates are thus not prepared for the requirements of potential work areas that match their training profile.

They are often not familiar with the actual work context or at most have experience from brief internships at companies. **Therefore, companies often find they have to provide training to compensate for this, which involves making investments, undermines trust in the capabilities of state institutions for vocational education and training, and makes entrepreneurs reluctant to hire young qualified trainees without work experience.** Formal state certificates lose their value if the holders have only a tenuous grasp, or none at all, of the skills required to do the job.

The private sector is often not consulted in designing the framework conditions for vocational education and training. Curricula, standards of training, and examination standards are defined almost exclusively by state actors, and are often not in line with the actual labour market needs.

The funding of vocational education and training often is also the sole responsibility of the state. Practical training components are negligible. Companies are not systematically considered or institutionalised as training providers to convey practical skills. Likewise, the business community is not systematically involved in examinations or certifications.

TVET is much more than just the mere acquisition of skills, but a **tool to empowerment**. This mutual belief has been the foundation of Germany's and Pakistan's cooperation in TVET and unites them in a joint vision.

Only if TVET considers industry needs and is responsive to national, regional and global dynamics, it will generate a competitive workforce.

TVET is often not considered a desirable career path. Despite a large number of unemployed university graduates, the notion persists, that TVET is for those who have failed to enter higher education. We strongly object this narrative and advocate that TVET is more than a second best option but sets the ground for future prospects – for an individual and a nation's economic development.

**But let's talk business:
Will investing in people's skills benefit my company?
- Yes, it will and here is why:**

If private companies get involved in TVET, they can build up the **workforce they need!** This will lead to **more productive outcome** for the company but also to a motivated staff equipped to perform a job well! There is a wide range of possibilities for the private sector to get involved in workplace-based training. Any profit-seeking company will carefully assess their engagement in TVET in the light of **cost-benefit considerations.**

A promising model for private sector engagement is the implementation of a **cooperative TVET system** in which trainees receive work-based training at a company complemented by theoretical input at school. In Germany, for example, the practical part can reach up to 80%. Evidence shows that such **dual TVET systems are more effective for all stakeholders involved.** Countries like Germany and Switzerland proof that the provision of work-based training builds the backbone of sustainable economic growth. Additionally, in 2018 youth unemployment rate in Germany was at 6.2 % - the lowest rate in Europe with an ever declining tendency. Another figure illustrates this even more drastically: From all TVET trainees of the year 2013-2014 only 5.7 % got unemployed after graduation.



SO, HOW DO COMPANIES EXACTLY BENEFIT?

Companies can pursue different strategies creating either direct or downstream benefits from their TVET involvement. A company seeking to maximize direct benefits follows a **production-oriented strategy**. This is the case for example in Switzerland, where companies seek to maximize their cost-benefit ratio by raising the trainee's productivity in skilled tasks as fast as possible and at minimal costs. In a production-oriented TVET system trainees **perform tasks of skilled workers at lower salaries**.

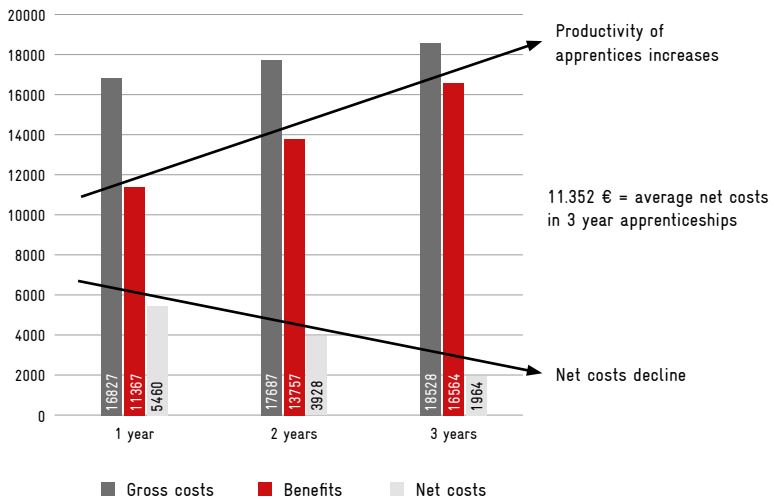
An **investment-oriented strategy** on the other hand implies a focus on downstream costs and benefits. Benefits arise from significantly reduced recruitment and induction costs. German firms save up to 75% of the total expenses for a three-year TVET track because a great percentage **of trainees stay with the company that trained them after graduation**.

Naturally, employers are free to pursue both strategies at a time as long as they are not contradicting. A company might substitute apprentices for unskilled or skilled workers (production-oriented) as well as provide work-based training to secure future skill supply (investment-oriented). In a nutshell: The **production-oriented strategy implies lower salaries** for the trainees to increase immediate net benefits, whereas higher salaries are paid under an **investment-oriented model to increase the loyalty** of the trainees. Additionally, companies involved in TVET will always benefit from the indirect effect of an increased reputation and recognition within society.

TYPE	DEFINITION	EXAMPLES	STRATEGY
DIRECT	Arise during the provision of the training and are direct consequence of it.	Benefits: Productive output Costs: Salaries, Training material	Production-oriented training strategy
DOWN-STREAM	Arise after the provision of the training and are direct consequence of it.	Benefits: Reduced recruitment costs (hiring and induction) Costs: -	Investment-oriented training strategy
INDIRECT	Arise during or after the provision of training but are not a direct and automatic consequence of it.	Benefits: Increased reputation Costs: -	

Switzerland and Germany are considered as pioneers concerning private sector involvement in TVET. In **Switzerland**, an impressive total of **52'000 companies (25% of all companies) provide work-based training** at upper-secondary level. In **Germany**, **20% of all companies** actively participate in TVET. Both German and Swiss firms benefit from the provision of work-based training, but since German firms are confronted with tighter wage regulations, they realize a positive cost-benefit ratio mostly thanks to reduced hiring and induction costs, while Swiss firms already achieve net benefits during the training itself.

DEVELOPMENT OF COSTS OVER A THREE YEAR TRAINING PERIOD IN GERMANY



→ Source: Wenzelmann, Felix; Jansen, Anika; Schönfeld, Gudrun; Pfeifer, Harald
Kosten und Nutzen der dualen Ausbildung aus Sicht der Betriebe.
Ergebnisse der fünften BIBB-Kosten-Nutzen-Erhebung, 2016.

However, actual net benefits vary widely between different occupations due to variation in costs of the required training materials, differing need for induction or because of the duration of the training as such.



In a globalised economy, **a skilled workforce is considered an important competitive advantage**; for companies, workers and national economies alike. Collaboration between the private sector and public institutions ensures that the workforce meets industry requirements. **It is proven that the provision of work-based training benefits a company in a variety of financial and non-financial ways.**

It is a common misconception that the provision of work-based training only leads to costs but no benefits.

This perception does not stand up to reality. The productivity gap between the trainee and a trained worker is minimized during training: The longer the training, the smaller the remaining gap. This mechanism and the lower salaries of the trainees make it possible to **compensate the expenses over the entire duration of the work-based training**. In Switzerland, for example, **net benefits reach PKR 145'063 p.a.** on average, depending on the profession and duration of the training.



The provision of work-based training is an **excellent opportunity to assess the performance of potential future employees** before offering them a regular position. Therefore, recruitment costs for external staff (e.g. job ads or interviews) can be reduced noticeably. Furthermore, the induction phases can be shortened. **The filling of a vacancy without any training is a myth.** 50% of German apprentices still work for the training firm one year after graduation. German **companies save 75% of the total expenses for a three-year TVET track.**



Companies that employ both unskilled and skilled workers can **increase the loyalty of staff if there is a chance to climb up the career ladder** thanks to the participation in work-based training. This helps to reduce hiring and induction costs and may also **foster productivity** of the lower skilled workers when staying longer at a company due to the **provided perspective**.

Unemployment and especially **youth unemployment are considered a major challenge** in many economies around the world. Companies which are contributing to the labour market integration of young people might benefit from an increased reputation.



TVET MADE IN PAKISTAN

Nearly 17% of the youth in Pakistan complete secondary education and a **very small percentage of them acquire employable skills**. A major portion of the youth gets absorbed by the informal sector and learns various vocational skills through the traditional Ustad-Shagird (master-apprentice) system. This traditional training system is prevalent mostly in manufacturing, crafts, trade and transport. Formation of skills is slow, not organized systematically and depends on the willingness of the Ustad. The system is based on demonstration, learning by doing, and trial and error. Due to the absence of a regulatory framework within the Ustad-Shagird system **exploitative practices** such as child labour, long working hours, etc. are easy to exert. Additionally, the technological know-how is not very advanced in most of the informal learning and working settings, the knowledge imparted is less codified and tacit in nature. Therefore, apprentices hardly get to know advanced trades or the use of new technologies and processes.

Annually 2.4 million young people enter the job market, but as of 2015 there are only 476,850 places available in the formal TVET system through 3,581 institutes across Pakistan. Apart from this mismatch between demand and supply, even quality and relevance of the training delivered does not match the demands of the job market.



The provision of work-based training not only secures access to a workforce that meets the company's requirements but also **promotes innovation**. TVET systems that follow a regular and institutionalized curriculum development provide access to new knowledge and thus drive innovation. If companies collaborate for the provision of work-based training, they also exchange about production methods. This is an **opportunity to raise both a single company's but also an industry's productivity and foster its competitiveness**.

To improve the access, quality, equity and relevance of TVET, the Government of Pakistan has embarked upon a comprehensive reform in 2011 with the support of the European Union and the governments of Germany, the Netherlands and Norway. Up to now, a number of milestones have been achieved such as a national TVET policy, National Vocational Qualifications Framework (NVQF) and Competency Based Training & Assessment (CBT&A).

Leading Pakistani and multinational companies like **Suzuki Pakistan, Archroma, General Tyre, World Wide Group, BMW - Dewan Motors and Siemens** already provide work-based training for different occupations in different industries. Their long-time commitment demonstrates that benefits from the provision of work-based training are real and applicable to the Pakistani context.



Dewan Motors



+30% increase of productivity

In Pakistan, productivity of trainees compared to the productivity of a skilled worker **increases from 18% to 48%** during the training. This **remarkable increase** surpasses the corresponding values achieved in Switzerland and Germany, when taking the duration of the training into account.

up to 100% retention rate

Retention rates **indicate the overall quality of a TVET system**. If the acquired skills meet the labour market requirements, companies are more prone to offer their trainees regular jobs after graduation. The average retention rate of the five interviewed companies is 37% and thus close to the numbers of the Swiss TVET system. On the disaggregated level, the company specific retention rates vary between 18% and 100%.

PKR 462'000 SAVED recruitment COSTS per company

In addition, **high retention rates improve the company's cost-benefit ratio** of the provision of work-based training. Hiring and induction costs are saved when skilled workers do not have to be recruited externally and trainees are hired instead. Overall, the five interviewed companies saved PKR 2'310'000 on recruitment costs in total respectively PKR 462'000 on average. Naturally, **increasing the retention rate also leads to further savings**.

"Use TVET as a recruitment TOOL!"

Given the figures presented above, the message of the participating firms to those not yet participating in TVET is: **"Embed TVET as a regular feature in the organization and use this medium as a recruitment tool to get semi/trained skilled human resources!"** In addition, several companies also report that the provision of work-based training brought **new perspectives and ideas** into the company and helped to replace traditional mind sets. To provide work-based training, staff and **technical managers have to be trained in pedagogical** and technical skills. This might lead to innovations with regard to a company's work processes.

Social BENEFITS

Besides the financial motives, the provision of work-based training is also linked to the company's **corporate social responsibility**. The benefits of TVET and motivation to provide work-based training can be manifold and can serve different purposes.

Siemens commitment for TVET made in Pakistan

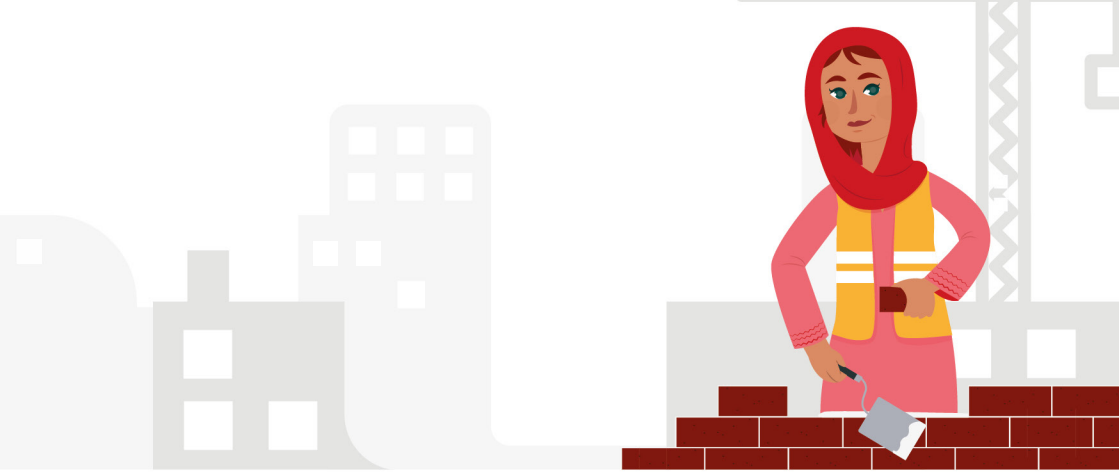
Training is and has always been an imperative part of corporate culture at Siemens. This strategy of imparting in-company and on-job training has enabled Siemens to not only fulfil its own requirement for skilled labour, but also of the industry for trained manpower. The work-based training program at Siemens provides young people from diverse and in some cases less privileged backgrounds, the opportunity to acquire industry-relevant skills, leading to a more sustainable career.

There has been a traditional supply and demand gap in Pakistan for skilled manpower in the industry. Siemens' engagement in TVET in Pakistan has helped address this gap. For Siemens it has meant an increase in staff loyalty, enhanced the reputation of the company and a better matching of individuals to industry related job profiles.

Siemens employs more than 700 people and maintains manufacturing facilities in Pakistan which do not only focus on employment but also on life-long learning by regularly conducting training programs for upskilling and reskilling its workforce. Siemens has been able to maintain its strong position in the market by ensuring that its workforce remains abreast of new technologies.

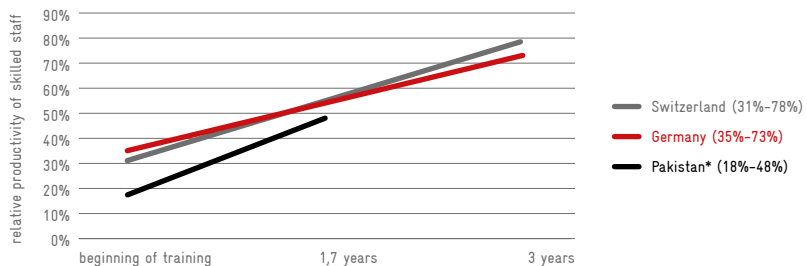
In 2014, a joint pilot project on mechatronics was launched by GIZ's TVET Sector Support Programme in Pakistan, Siemens and the private-sector vocational training institute Aman Tech in Karachi. As part of the cooperation arrangement, a mechatronics laboratory with a Siemens control unit was procured for practical training. In addition, three teachers received training on using the equipment at the Siemens Academy in Germany over a period of six weeks and obtained certificates. So far three courses, each with 25 trainees, have been conducted.

Currently, two Pakistani students are enrolled as ambassadors of learning in the Siemens International vocational apprenticeship program in Germany with a commitment to hire them back in Pakistan after completion. Siemens is also investing in enhancing the quality of TVET (curriculum, training equipment, teacher qualification) in close cooperation with local TVET institutes. In order to conduct work-based training more effectively and to realize greater productivity gains from the trainees, Siemens plans to train existing staff of partnering companies to develop pedagogical and technical skills of in-company trainers.



TRAINEE'S PRODUCTIVITY

Data from Muehleemann (2016) and interviews conducted by GIZ Pakistan



→ How to interpret

The net benefit a company can draw from the provision of work-based training mainly depends on the productivity of the trainee. Not only therefore, the increase achieved is a key indicator to assess the **overall performance of TVET systems**. The graphic plots the overall mean values for different occupations in Germany, Switzerland and for the interviewed Pakistani companies. It is important to keep in mind that the TVET tracks do not have the same duration. Against this background, it is remarkable that productivity increases in Pakistan are realized in a significant shorter time span compared to German or Swiss trainees. However, Pakistani companies reported a lower productivity level at the beginning (18%) compared to their counterparts in Germany and Switzerland. Significant differences between the interviewed companies underline the relevance of companies **to actively involve into TVET for achieving positive net benefits** form by providing work-based training.

*The figures for Pakistan were reported by Suzuki Pakistan, Archroma, BMW - Dewan Motors, World Wide Group and General Tyre.

BUILD4SKILLS: TVET AND INFRASTRUCTURE - AN INNOVATIVE VISION



TVET systems, globally, often lack alignment with industry requirements. Even though they are formally certified, graduates from vocational training institutes often have little to no exposure to the workplace they have been trained for. Industry representatives highlight a poor level of competencies and skills taught at vocational training institutes.

Build4Skills' primary objective is to make use of the untapped potential of infrastructure projects for on-site training measures. A workplace-based and nationally accredited training on construction sites of infrastructure projects will enhance the employability of the local workforce. Further, training that is oriented towards the needs of the labour market will increase the chances of TVET graduates for decent work and higher incomes.

The German Federal Ministry for Economic Cooperation and Development (BMZ) and the Asian Development Bank (ADB) jointly set up Build4Skills in 2018. The first pilot was launched in Mongolia in January 2019. There, the ADB funded "Ulaanbaatar Urban Services and Ger Areas Development Investment Programme" with its considerable number of ongoing and planned infrastructure measures will be the operational frame for the trainings. The German development organization Gesellschaft für Internationale Zusammenarbeit (GIZ) will be responsible for the TVET component. Further, a digital interface, that is to be facilitated by the project, will enable better evidence-based policy making by providing labour market data.

Build4Skills Pakistan in brief

In Imran Khan's First 100 Days Agenda, the prime minister indicates that **vocational education and training will play an important role in transforming Pakistan's economy**. The first point in his ten-point economic plan reads: "Rapidly create jobs for the youth: Unveil Pakistan's most ambitious Job Creation Strategy to create 10 million jobs across five years, along with a special focus on skill-building through TVET training." Executive Director of the National Vocational and Technical Training Commission (NAVTTTC), seconds his statement by saying: "The **industry has a strong role to play** in the policy formulation for skill development and bringing a paradigm shift in the delivery of TVET in the country."

Build4Skills is based on the vision of establishing vocational education and training in the long term as a standard in public invitations to tender for infrastructure programmes. Given the complexity of such change processes, Build4Skills seeks to enter into **dialogue with (regional) banks and national stakeholders** to analyse both the feasibility of the approach and the political commitment. In addition, alternative **models of a non-binding nature** will be examined and developed. The recently approved national TVET strategy “Skills for All” recommends “making TVET training component mandatory for all companies participating in bidding for government tenders” in the medium to long term.

This strong political commitment to TVET will leverage Build4Skills’ vision to boost the potential of infrastructure projects for providing quality work-based training in Pakistan.

The innovative approach to make the provision of work-based training an awarding criterion for tendering processes has never been applied to the extent of such big infrastructure projects financed by regional development banks. However, the arguments listed above also hold true for the construction sector.

Examples from South Africa where a similar approach was conducted on a smaller scale show:

- Companies involved made use of the **screening opportunity** coming with the provision of work-based training. The best trainees were offered a position after completion of the training.
- Trainees who received an accredited certificate had **better chances to find decent employment** on other construction sites. This effect ought to be even stronger in formalized TVET system.



WHY SHOULD YOUR COMPANY PROVIDE WORK-BASED TRAINING?

The German TVET System is a promising model to demonstrate how the government and the private sector share mutual responsibility in governing Germany's TVET system and how significant work-based learning is to acquire the knowledge and skills needed to perform a job well.

We do not promote to transfer the German TVET system 1:1 to our partner countries as it is often demanded, but we do encourage considering to adapt constituting elements of our system. The consultation of the private sector, the investment in research to generate relevant labour market data, the relevance of work-based learning and the training of teachers and instructors are such elements.

The provision of work-based training holds manifold potential benefits. Empirical evidence and **examples from Pakistan contradict the often-voiced assumption that involving in TVET systems results in a losing deal for private companies.** However, net benefits are not guaranteed either. Only companies that are successfully mastering the accompanied challenges will achieve net benefits.

A company willing to invest in work-based training with the prospect of medium- and long-term net benefits, should consider the following:

Companies and all stakeholders involved in TVET like the government, TVET schools and the civil society need to **collaborate closely** to shape an efficient TVET system. For example, firms willing to introduce in-company training can receive support from focal points and networks of experienced colleagues. Exchanging with other companies involved in work-based training will help to **improve the performance of a single company but also the whole TVET system** (e.g. training plans for work-based training, curricula development). In order to increase the productivity of trainees employers and TVET schools should explore how to **better match theoretical and practical contents** so trainees are well prepared for the workplace-based training. For a positive cost-benefit ratio, companies should consider offering a **number of training places that does not exceed the expected vacancies.** Otherwise, returns on investment achieved through saved recruitment costs are not optimized.

We strongly advocate for getting involved in TVET as a training company! This paper shows that well organized and planned training will result in a **return on investment** for a company! **The monetary and social benefits gained do not only compensate but exceed the investments made in training one's workforce!**

Let's face the challenge and create benefits!



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