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# Boosting SME productivity: How to evaluate the impact of SME training programmes – Evidence from Ghana, India and Vietnam

## 1. Key findings

- Sustaining Competitive and Responsible Enterprises (SCORE) is a practical training and in-factory consulting programme that improves productivity and working conditions in SMEs with 50 to 250 workers. The programme has reached over 1,400 enterprises since 2010, representing a total workforce of 300,000 workers.
- To evaluate the impact of the training programme, the ILO first considered using a randomized control trial (RCT) or a quasi-experiment. However, feasibility studies found that experimental approaches would not be practical or cost effective due to challenges of sample size and the training's demand-driven design. As an alternative approach, ILO decided to use a qualitative approach using theory-based case studies to evaluate the impact of SCORE Training. It commissioned a series of independent impact studies on 10% of firms that participated in SCORE Training in Ghana, India and Vietnam. Data was collected through the programme's regular monitoring and evaluation system, and supplemented through qualitative and quantitative research in factories to observe changes.
- The case studies found evidence that SCORE Training led to significant results at each stage of the theory of change. SCORE Training increased the knowledge and attitudes of managers and workers, led to the adoption of advanced management practices, and contributed to positive changes in SME productivity measures including defect rates, waste produced and delivery times.
- The limitation of this evaluation approach is that results focus on specific improvements in individual firms and cannot be generalized to the entire sample of SMEs. Also, the contribution of SME management training to higher-level results such as firm profits, job creation and wages cannot be assessed due to the lack of a control group. The qualitative analysis of changes in the firms based on a theory of change is, however, better suited to generate learnings on how the programme works.

## What Works in SME Development

The What Works in SME Development Series is presenting key findings of interventions promoting small and medium enterprises as a means to create more and better jobs. It covers ILO programs as well as interventions of other agencies using ILO products.

The main objective of the new Series is to increase the take up of effective SME programs by leading actors in this field. The issue briefs target ILO constituents, other policy makers, development practitioners, and the private sector presenting key evidence at a glance. Preference is given to rigorous quantitative research, but the Series also covers other research approaches contributing to more evidence on what works and what does not work.

The What Works Series is coordinated by the SME Unit of the International Labour Organization, for more info see [www.ilo.org/sme](http://www.ilo.org/sme)



## 2. The problem

Small and medium-sized enterprises (SMEs) account for two-thirds of all jobs worldwide. However, in developing and emerging economies, SMEs are far less productive than larger firms and provide inferior working conditions.

Due to lower productivity and the inability to meet international product standards, SMEs struggle to deliver the required product quantities at consistent quality and are less likely to export. Low levels of compliance with national and international labour standards and codes of conduct is another reason why international buyers are wary about contracting SME suppliers.

In many countries, low SME productivity is related to factors external to individual enterprises, such as business regulations, infrastructure, and access to finance. However, recent research also points to factors within enterprises that contribute to low productivity.



Many firms in developing countries, especially SMEs, are poorly managed.<sup>1</sup> According to a series of case studies by Sonobe and Otsuka<sup>2</sup>, shortage of

managerial capacity is a major constraint on industrial development in most developing countries. Bloom and Van Reenen<sup>3</sup> who have gathered management practice measures from nearly 6,000 firms in 16 countries, find a strong association between management practices and indicators of firm performance. They also find significant cross-country and within-country variations in management practices.

One way to improve productivity in SMEs is to provide management training that helps SMEs to modernize their business operations. But how effective are management training programmes? There is a lot of evidence concerning the provision of training to micro and small enterprises. Yet, for established companies with larger number of employees and capital investments, there is a lot less evidence to show whether and how management training programmes work.

The research presented here tries to close this gap by discussing appropriate evaluation approaches for management training programmes targeted to larger SMEs and offers evidence of their impact on productivity and working conditions.

## 3. The program and evaluation design

The ILO's Sustaining Competitive and Responsible Enterprises (SCORE) is a practical training and in-factory consulting programme that improves productivity and working conditions in SMEs and helps them to participate in global supply chains.

The training is comprised of five modules that demonstrate best international practice in the manufacturing and service sectors on topics including lean manufacturing, quality management, clean production, human resources, and occupational health and safety. SCORE Training targets SMEs with between 50 and 250 employees.

From 2010 to 2017, SCORE Training has been used by over 1,400 SMEs representing a total workforce of

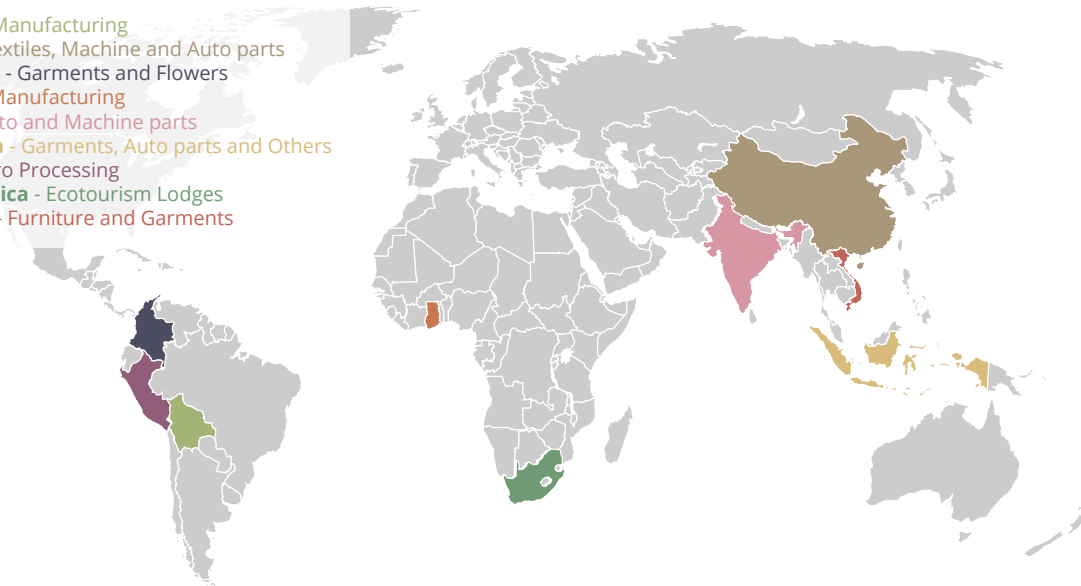
<sup>1</sup> See for example: Bloom, N., and Van Reenen, J. (2007) "Measuring and Explaining Management Practices across Firms and Countries," *Quarterly Journal of Economics*, 122(4), 1351-140; Bruhn, M., Karlan, D., and Schoar, A. (2010a) "What Capital is Missing in developing Countries," *American Economic Review: Papers and Proceedings*, 100 (2), 629-33; Syverson, C. (2011) What determines productivity?, *Journal of Economic Literature*, 49(2): 326-65.

<sup>2</sup> Sonobe, T. and Otsuka, K. (2011) *Cluster-Based Industrial Development: A Comparative Study of Asia and Africa*. Basingstoke: Palgrave Macmillan.

<sup>3</sup> Bloom, N., and Van Reenen, J. (2010) "Why Do Management Practices Differ across Firms and Countries?" *Journal of Economic Perspectives*, 24 (1), 203-224.



**Bolivia** - Manufacturing  
**China** - Textiles, Machine and Auto parts  
**Colombia** - Garments and Flowers  
**Ghana** - Manufacturing  
**India** - Auto and Machine parts  
**Indonesia** - Garments, Auto parts and Others  
**Peru** - Agro Processing  
**South Africa** - Ecotourism Lodges  
**Vietnam** - Furniture and Garments



**SCORE Countries and target sectors**

300,000 workers from 9 core countries.<sup>4</sup> The training is delivered through a decentralized Training of Trainers (ToT) model, with licensed Expert Trainers who certify local industry experts and partner institutions to deliver modules. Each SCORE Training module begins with two days of classroom training (attended by two managers and two workers from each SME), followed by on-site consultations to put the training into practice in the workplace.

### Evaluation design

The ILO first looked to the “gold standard” of conducting a randomized control trial (RCT) or a quasi-experimental evaluation. SCORE commissioned two external feasibility studies to determine the requirements of these approaches. The studies concluded that experimental methods would not be a practical or cost effective approach to evaluate SCORE for several reasons.

The first obstacle is sample size. SCORE Training targets formal SMEs, mostly factories, with 50 to 250 employees, of which there are few in most developing countries.<sup>5</sup> A small total population (N) of SMEs in the relevant target size means that a large sample size (n) would be required to reduce the probability of statistical errors.

For example, in Peru it was determined that 220 firms would be needed as a representative sample

for an RCT. However, an analysis of the administrative enterprise data showed that there are only 550 firms of this size class in the greater Lima region in the identified sectors.<sup>6</sup> It was considered unlikely that half of these firms could be convinced to participate in SCORE Training within the 12 months treatment period.

The second challenge is that SCORE Training would need to change core elements of its programme design to fit experimental methods. A key feature of SCORE Training is its demand-driven design. After completing the compulsory Module 1 on Workplace Cooperation, SMEs are free to choose other modules based on their relevance and operational needs. For an experimental evaluation to work, the selection and sequencing of modules needs to be standardized across all SMEs. This means the evaluation would be assessing a modified version of SCORE Training rather than the live programme as it is currently implemented.

It was thus determined that the proposed methodologies would be unlikely to uncover meaningful quantitative impacts that go beyond output level indicators of the intervention (such as adapting certain business management techniques). These changes could just as easily be observed by less sophisticated and less costly evaluation methods.

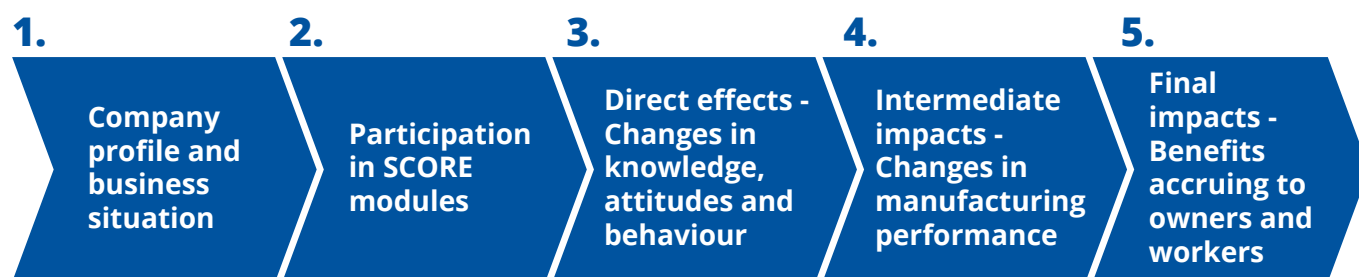
<sup>4</sup> SCORE Training core countries are Bolivia, China, Colombia, Ghana, India, Indonesia, Peru, South Africa and Vietnam.

<sup>5</sup> The lack of larger SMEs (and prevalence of small informal and micro-enterprises) is a well-documented challenge in developing countries often described as the « missing middle »

<sup>6</sup> The prioritized sectors were textiles and garments, agro-processing and metal-works.







### SCORE Training Theory of Change

As an alternative evaluation method, the ILO chose a theory-based case study approach to evaluate the intervention. The SCORE programme commissioned a series of impact studies in 2016 conducted by an independent evaluator in three countries: Ghana, India and Vietnam.

A sample of 10% of firms were selected for case studies from a total pool of SMEs that had participated in at least one SCORE module in 2016. The goal of this purposive sample was not to be random or representative, but to validate the theory of change through before and after case studies of individual firms.



Evidence for the studies was drawn from programme data, interviews and direct observations. Fieldwork was conducted for an average of two weeks in each country, including visits of 4 hours in each SME to interview managers and workers as well as tour the factory. Interviews were also conducted with local SCORE staff, Expert Trainers and officials from industry associations.

The studies also used firm-level data collected through SCORE's standard monitoring and evaluation (M&E) system. Local trainers conduct baseline assessments before every training through on-site factory visits. They collect firm data through questionnaires and direct observations, including information on existing management practices and productivity indicators (e.g. defect rates, wastage, delivery times). Progress assessments are then conducted at periodic intervals after the training (during the consulting visits) and track results on the same range of performance indicators. M&E data was supplemented by ex-poste data collected from firms during the fieldwork.

SCORE Training is based on a theory of change that connects learning outcomes to final impacts on SME productivity. The logic is as follows: Managers and workers who participate in SCORE Training gain new knowledge, attitudes, and behaviours. This knowledge is retained and put into practice in the workplace by adopting or improving management practices. Changes in management practices result in firm-level productivity improvements, which (under the right circumstances) can lead to higher profits, more jobs and increased wages.

The impact studies evaluate the results of SCORE Training by assessing to what extent the programme's theory of change can be observed at firm-level. A

The limitation of a case study approach is that the results cannot be generalized to the entire sample of SMEs. While lower-level results can be attributed with plausible certainty, higher-level impacts (e.g. changes in productivity and profitability) cannot be attributed with final certainty to the SCORE intervention. The benefits of case studies are that they allow for the collection of more detailed information than would normally be obtained through experimental designs and can provide deeper insight into whether, how and why SCORE Training works in different contexts.



## 4. What we found

The Ghana, India and Vietnam studies confirmed that SCORE has had a positive impact on most participating SMEs and their workers. Evidence collected demonstrates that SCORE Training is producing results at each stage of the theory of change.

### Step 1 in the Theory of Change: Changes in knowledge, attitudes and behavior

SCORE Training has led to detectable changes in the knowledge of managers and workers in areas related to the particular modules in which they participated. The India impact study found that SCORE Training led to changes in attitudes and motivation among managers and workers in 9 out of 10 factories and significantly increased manager awareness of good management practices.

Workers and managers interviewed for the Ghana impact study reported gaining a better appreciation of the importance of good communication, teamwork, and workplace organization. Managers most often mentioned improvement in worker attitudes as the single most significant impact of SCORE. Workers cited benefits with respect to improved working conditions and greater job satisfaction.

More than half of all case studies reviewed reference improved workplace cooperation as a major benefit of the SCORE programme. The SCORE Vietnam impact study finds that company directors had adopted a more positive view of workers following SCORE Training. Six out of seven firms have introduced daily worker-manager meetings and department and general meetings and maintain them.

The extent to which knowledge, attitudes and behaviours change depends largely on the extent of involvement of managers and workers in SCORE Training. Only four participants per enterprise attend the classroom training. As a result, staff turnover has in many instances posed a challenge to maintain the newly acquired knowledge in the companies.

### Step 2 in the Theory of Change: Changes in manufacturing practices and working conditions

Enterprises clearly take actions to adopt new management practices taught in SCORE Training. Some practices, such as following a quality policy, were already present in close to half of the firms, in which case trainers worked with firms to improve existing practices. Lean manufacturing through 5S was the most common practice adopted, as well

as employee suggestion systems and daily worker-manager meetings. Depending on the particular modules in which they participated, enterprises have taken actions to improve quality, reduce waste, and better ensure occupational health and safety.

In India, companies implemented between 12 and 210 improvement projects per enterprise, and on average 4-42 projects per module. Many of the improvement projects were specific to current operational challenges in the enterprises and yielded positive results. For example, one SME improved delivery times by 60%, another reduced in-line and customer rejections by 50%, while a third improved operational efficiency from 48 to 62% and reduced accidents at work from an average of 3-5 per month to 0. The study shows that where changes are evident, they are generally attributable to SCORE Training.



The Vietnam impact study confirmed that enterprises remain better organized than before participation in Module 1. The most significant change within enterprises occurred as a result of the establishment of well-functioning continuous improvement (kaizen) programs which have increased resource efficiency and lowered production costs.

### Benefits to owners and workers

Assessing the employment impact of SCORE Training is complex. On the one hand, many improvements reduce the amount of labour needed to produce a given level of output (which is per se desirable to







improve productivity). For example, one participating SME reduced defects by 2%. The number of workers dedicated to rework fell from 60 to 50, leading to cost savings but also job losses. On the other hand, due to increased productivity and competitiveness, the factory was growing and able to re-assign the workers to higher-value adding activities as well as hire additional staff.

Because this research looks at specific improvement projects of individual firms, it is not possible to calculate general averages of results. SCORE's standard M&E system confirms that 70% of firms that have participated in SCORE Training report cost savings as a result of the programme, ranging from \$500 to \$50,000. SMEs that participated in SCORE have also created 6,000 jobs, though job creation cannot be attributed to SCORE Training as there are many other factors impacting on firms at the same time.

## 5. Policy Recommendations

### **Programmes that do not lend themselves to RCTs can still be evaluated**

Some SME training programmes will not be well suited to RCTs or quasi-experimental methods. If an experimental approach requires re-designing the programme to fit the evaluation method (and not the other way around), then it is worth considering alternative approaches. Although qualitative methods like before and after case studies cannot yield generalized results, these approaches provide valuable insights. In particular, independent case studies help to validate the theory of change and

refine programme design based on implementation challenges in different contexts.

### **Quality of the consultant is a key factor in obtaining results**

The experience, skills, and teaching quality of enterprise consultants are critical to ensure that SME training programmes are substantive and respond to real operational needs. Many enterprises need assistance in different managerial and technical areas that a standardized training programme might not include. Experienced consultants are able to identify key constraints in enterprise operations and assist managers and workers in overcoming them. Enterprise training programmes should allow for this flexibility for example by combining a standardized classroom curriculum with enterprise consulting visits, where assistance can be tailored to the needs of the business.

### **Impact depends on the absorptive capacity of SMEs and their employees.**

In order to be effective, managers and workers need to be able to understand and act on what is being taught. The absorptive capacity of SMEs is a function of underlying management skills, in-house technical expertise, worker competencies, machine capabilities, and, if necessary, the ability to finance investments. Training programmes must bear in mind that these attributes vary across firms and adapt content to meet the capacities of participating SMEs. The commitment and motivation of owners and managers is also a key factor to ensure new management practices are implemented and retained in the factory.





## 6. Further Readings

Bloom, N., and Van Reenen, J. (2010) "Why Do Management Practices Differ across Firms and Countries?" *Journal of Economic Perspectives*, 24 (1), 203-224

ILO (2013) "SCORE Sustaining Competitive and Responsible Enterprises: Phase I Final Report 2013", 21 October 2013

**Note on Methodology:** The methodology applied for this research was a qualitative, theory-based case study approach of individual firms to track the results of specific improvement projects undertaken after their participation in SCORE Training. The limitation of this design is that the results cannot be generalized to all participating SMEs. Case study firms were specifically chosen because of their successful completion and implementation of the SCORE Training modules, and therefore do not represent a random or representative sample. ***While the research confirms the validity of SCORE's theory of change, the results are firm-specific and cannot be generalized for other contexts or countries.***

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