

IFC Advisory Services in East Asia and the Pacific

# Supervisory Skills Training in the Cambodian Garment Industry: A Randomized Impact Evaluation

*In partnership with*





# Supervisory Skills Training in the Cambodian Garment Industry: A Randomized Impact Evaluation

This report is an abridged version of an evaluation report authored by researchers at ideas42 at Harvard. The full evaluation report is available upon request from IFC at [erichardson1@ifc.org](mailto:erichardson1@ifc.org)

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## Executive Summary

In June 2008, IFC partnered with ideas42 at Harvard on a year-long randomized-experimental impact evaluation to rigorously measure the effects of a supervisory skills training (SST) program for garment factory supervisors. This report discusses the results of the evaluation and concludes with recommendations for future SST delivery.

The purpose of this rigorous evaluation was to investigate whether the training program achieved its objectives of (1) improving working relationships between garment supervisors and workers, and (2) improving productivity. The study also evaluated whether and to what extent the impact of the training might have been greater if both direct and indirect supervisors were trained. Direct supervisors oversee a line of workers directly, whereas indirect supervisors oversee several direct supervisors and do not directly manage workers.

The study showed that the training improved workers' perceptions of relationships with their supervisors and led to moderate improvements in overall firm productivity. However, these results varied depending on the management level of the supervisor trained. To improve the 'soft' dimensions of the work environment (such as job satisfaction and day-to-day management) training direct supervisors mattered most. In contrast, for 'hard' dimensions such as improved production timelines and communication about deadlines and target outputs, training the indirect supervisor mattered most. Overall we can infer that the supervisory skills training program made a meaningful impact in improving working conditions and business results in participating Cambodian garment factories.

## I. Background

### Launching supervisory skills training in Cambodian garment factories

In 2005 and 2006, the International Finance Corporation (IFC) and multinational clothing retailer The Gap Inc. began offering training to develop the managerial skills of supervisors working in seven Cambodian factories. This program was initiated by Gap with IFC's assistance because supervisors in Cambodia's garment factories often had little or no training for their jobs, which involve leading teams in undertaking complicated tasks that change frequently while meeting high standards of quality and tight deadlines. Language and cultural differences make supervisory work very challenging in an environment where many supervisors are Chinese and workers are Cambodian. Poor workplace relationships are believed to indirectly increase factory costs due to worker dissatisfaction, production mistakes, and lower productivity.

Gap's decision to offer supervisory skills training in Cambodia followed the retailer's successful experiences in its Indian and Indonesian supplier factories. IFC was asked to partner in localizing, piloting, and measuring the results of the training because of its extensive experience developing training curricula and training trainers in finance and also in SME management (under the *Business Edge* brand).

IFC welcomed the partnership because supervisors play an important role in adhering to labor laws and achieving productive relations with workers, and the garment industry is an important contributor to economic growth in Cambodia. The industry is Cambodia's largest private sector employer and in the first six months of 2009, garment exports were worth US\$ 1 billion and the industry employed more than 290,000 workers. More than 80 percent of workers are young rural women whose incomes improve the living standards of their extended families. At least 1.5 million poorer Cambodians more than 10% of the population benefit from the garment industry<sup>1</sup>.

In late 2004, a study<sup>2</sup> released by the World Bank/IFC Investment Climate Advisory Service (then FIAS) showed that Cambodia's garment industry had a promising future because of its commitment to achieving good labor standards. This study showed that more than 60% of international buyers sourcing garments from Cambodia planned to continue sourcing garments from the country after the end of favorable US tariffs in 2005, as long as Cambodia continued to maintain its good labor standards.

In 2005 and 2006, IFC asked *Business Dynamics Indonesia* (the company behind the initial training design) to adapt and translate the course for use in Cambodia, train Khmer and Chinese-speaking trainers, and pilot the training to 650 garment supervisors overseeing an estimated 20,000 workers.

### Industry-wide scale up of the Supervisory Skills Training Program

In April 2006, several months after the last of the 650 supervisors were trained, IFC commissioned an independent evaluation of the pilot which surveyed trained supervisors, workers, department heads, and human resources managers (1,800 in all) and also reviewed factory productivity data. The evaluation showed the training produced positive results, and helped hand the training program off to a capable provider. IFC

<sup>1</sup> International Finance Corporation. (2009) The Cambodia Garment Buyers' Forum, Phnom Penh, Cambodia

<sup>2</sup> FIAS, IFC, World Bank Group. (2004) Labor Standards and the Apparel Sector: Building on Competitive Advantage through CSR. Phnom Penh, Cambodia

also helped recruit additional garment brands, to promote the training to their producer factories and contribute to training costs. Brands now supporting the training include *Adidas*, *A&F*, *Gap Inc.*, *H&M*, *Levi Strauss*, *PVH*, *Sears Corp*, *Walt Disney*, and *Wal-Mart*.

The Supervisory Skills Training Program is currently administered by Better Factories Cambodia (BFC), the International Labour Organisation’s innovative labor monitoring and training initiative, which has played a major role since 2001 helping to raise labor standards in Cambodian garment factories. BFC oversees management and delivery of the training program, in collaboration with experienced trainers from *Business Dynamics Cambodia*. In initial phase the SST program is targeting an expected 2,500 direct and indirect supervisors, who are being trained in classes taught in Khmer, Chinese, or English.

## Content and design of the Supervisory Skills Training Program

The main goals of the SST program are to teach leadership skills, including how to communicate effectively, maintain and project a positive attitude, and discharge their duties in a firm and fair manner that balances the interests of the factory with those of the staff. Supervisors enrolled in the four-day, six-hour a day training program attend two-day sessions twice, with a four to six-week break between the sessions that enables participants to put their new supervisory skills into practice<sup>3</sup>.

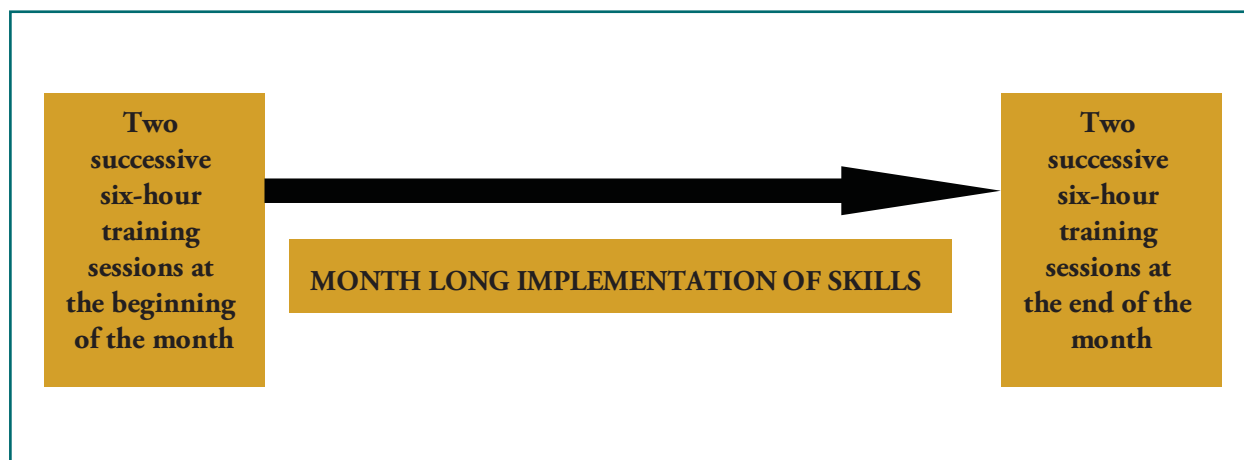
The main objectives of the training course are to “equip supervisors with *knowledge, supervising skills and a positive attitude*,” eventually professionalizing them so that they can cope with the many problems that arise on factory production floors. This training does not teach technical sewing skills; rather, it is oriented towards improving supervisor-worker relations by teaching supervisors effective leadership and communication skills. The behaviors and principles that the SST aims to instill in supervisors include the following:

<ul style="list-style-type: none"> <li>• Enforce high work standards</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate effectively with superiors and workers</li> </ul>
<ul style="list-style-type: none"> <li>• Coach and give feedback to workers</li> </ul>	<ul style="list-style-type: none"> <li>• Solve work problems as they arise</li> </ul>
<ul style="list-style-type: none"> <li>• Enforce discipline fairly</li> </ul>	<ul style="list-style-type: none"> <li>• Respect and uphold workers’ rights</li> </ul>

The training itself is highly interactive. Trainers have expertise in team-building activities and attempt to create a comfortable environment for participants to learn and practice their new skills. After each class, supervisors are encouraged to openly discuss and present what they have learned. Courses are taught by native Khmer and Chinese speakers who tailor the course material to their respective audience to keep them actively engaged. Courses taught in Chinese, for instance, place special emphasis on developing strategies to help Chinese supervisors overcome cultural and language barriers.

Depending on the particular factory’s preferences, training sessions are held on the factory grounds or at the ILO-BFC’s main office. Courses that are taught in the ILO-BFC main building are attended by supervisors from multiple factories. Each training course takes approximately 24 hours to complete and is attended by 20-25 supervisors.

<sup>3</sup> An appendix providing more information on the timeline for the implementation of the training classes relating to this survey is available upon request. Please contact [rma1@ifc.org](mailto:rma1@ifc.org)



As the above diagram illustrates, two days of training are held in the beginning of a month long period and two days are held at the end of the period, giving supervisors the chance to implement what they learned and share with the class their successes and failures.

## II. Data Collection Methods and Outcomes Measured

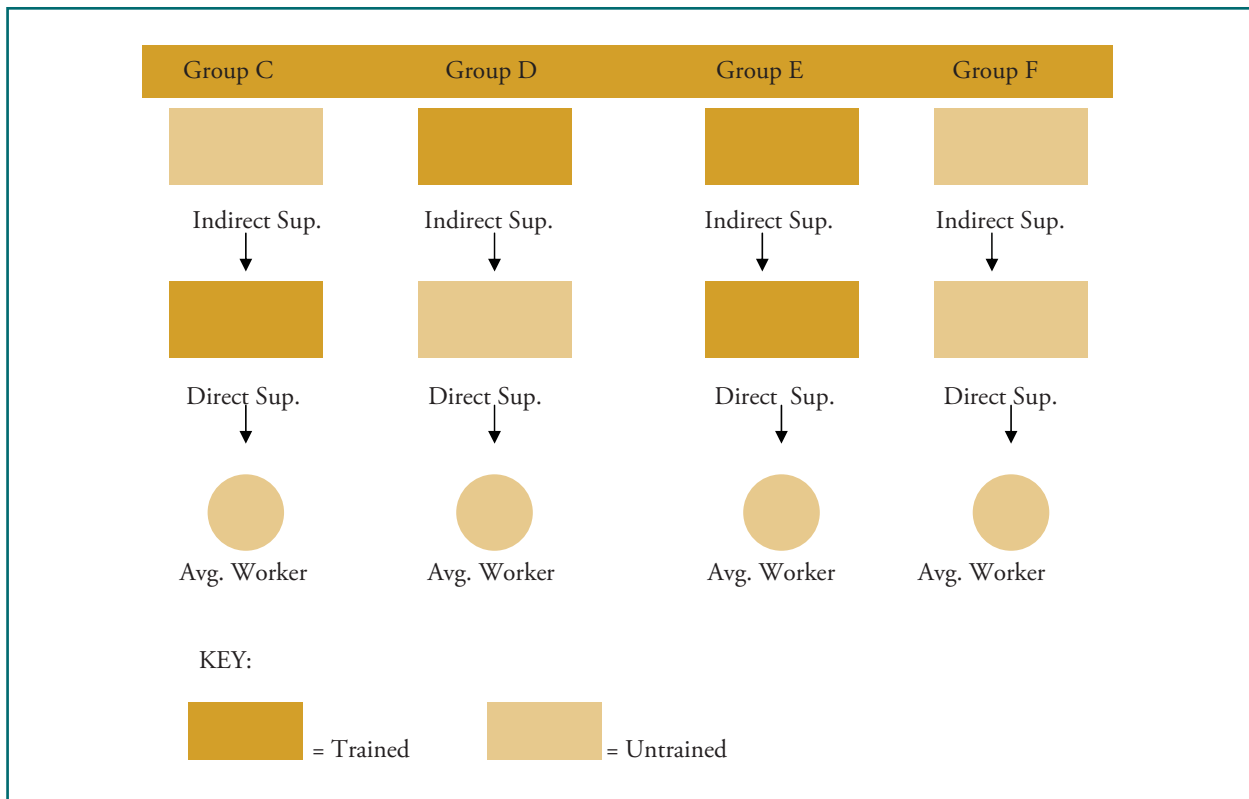
### Why and how the evaluation study was conducted

In the first evaluation conducted in 2006, the impact of the training was measured with surveys conducted after the training. Gap-producer factories that participated in the supervisory skills training were compared with Gap-producer factories that had not participated in the training program.

In the evaluation discussed in this report, a rigorous randomized control trial (RCT) was used to evaluate the impact of the program<sup>4</sup>. The study was conducted with 173 supervisors in four garment factories in Phnom Penh, Cambodia, to examine whether trained supervisors had better relationships with workers than untrained supervisors and whether workers' productivity was higher if supervisors were trained versus untrained. To ensure that the results for the trained and untrained supervisors were as comparable as possible in every way except whether or not they had been trained, the two groups were randomly selected from a large pool of supervisors. This enabled the selection of treatment and control groups of participants that were as similar as possible at the start. Therefore, if there was a mix of experienced, inexperienced, young, old, nice, and callous supervisors in one group, there was also the same mix of those characteristics in the comparison group. (This assumption is statistically tested for our particular groups<sup>5</sup>). The trainings performed in the study were conducted as closely as possible to the standard SST format used across the garment industry and delivered by the same ILO-BFC training teams.

<sup>4</sup> Additional information on evaluation design and data analysis is available upon request. Please contact [rma1@ifc.org](mailto:rma1@ifc.org)

<sup>5</sup> Appendices providing more information on regression tables are available upon request. Please contact [rma1@ifc.org](mailto:rma1@ifc.org)



The study was designed in such a way that all supervisors were able to take part in the training. This means that supervisors in the ‘treatment’ group were allocated to the training sessions first, while supervisors in the ‘control’ group were trained three months later. This phase-in allowed for all supervisors to eventually participate in the training, but enabled data to be collected during the period when comparison was possible (when one group has been trained and the other has not.) The pool of supervisors taking part in the study included supervisors from two different managerial levels: those who directly oversee a line of workers and those who oversee several of these direct supervisors.

The effectiveness of the SST program was measured using data collected from two separate sources. First, the researchers conducted in-person surveys of employees and supervisors among treatment and control groups. These surveys were designed by ideas 42 at Harvard and conducted in collaboration with IFC and the Economic Institute of Cambodia (EIC). Second, workplace effectiveness of the training was measured using factory records of output targets, productivity, absenteeism, and turnover. Additional data was also collected from trained supervisors immediately after the training, to measure satisfaction with the training itself. As stated above, the major outcomes measured in the study fall into two major categories: worker-supervisor relationships and firm level productivity.

### Worker-supervisor relationships

Workplace relationships were measured through a set of surveys conducted on trained and untrained supervisors (treatment and control groups). For that purpose the team randomly chose a sub-sample of two to four of the subordinate workers for each supervisor. Surveys were administered twice, at a set interval before the training (‘baseline survey’) and after the training had been implemented (‘follow up survey’). The questions were aimed at measuring supervisors’ attitudes and behavior toward their workers, as well as the condition of the lines they supervised.

The surveys also asked line workers whether they had attained or exceeded their weekly or monthly work quota; or if they had received a performance bonus for the week or the month. These are indirect measures of worker performance on the line which supplement the direct output measure received from the factories. As the surveys were given to both supervisors and their subordinates, relationship outcomes were measured in terms of the workers' perception of their managers' attitudes and fairness, as well as the supervisors' perceptions of themselves. For each worker, questions were asked about their direct and indirect supervisor to see if impact is far-reaching, or whether it changes according to which superior is trained. Questions focused not only on perceived attitudes, but also on recent and actual behavior of supervisors when workers made mistakes or needed guidance on their work.

### Firm- level productivity

Analysis related to the factory's overall productivity was measured using the worker/supervisor surveys, as well as data collected monthly from factory-maintained records. The factory-recorded productivity measures were collected from May 2008 to February 2009 and included information on production line productivity (i.e. the number of items completed per week or per month), measures of work quality (i.e. the internal product rejection rate of pieces that are not of appropriate standard) and employee absenteeism<sup>6</sup>. Additionally, employee rosters were collected, before and after the training, to measure overall worker and supervisor turnover. Survey data collected from supervisors and workers recorded whether they, or their production lines, had received bonuses for meeting production targets or for good attendance.

## III. Results of the study

### Result 1: Worker-supervisor relationships; 'Soft Factors'

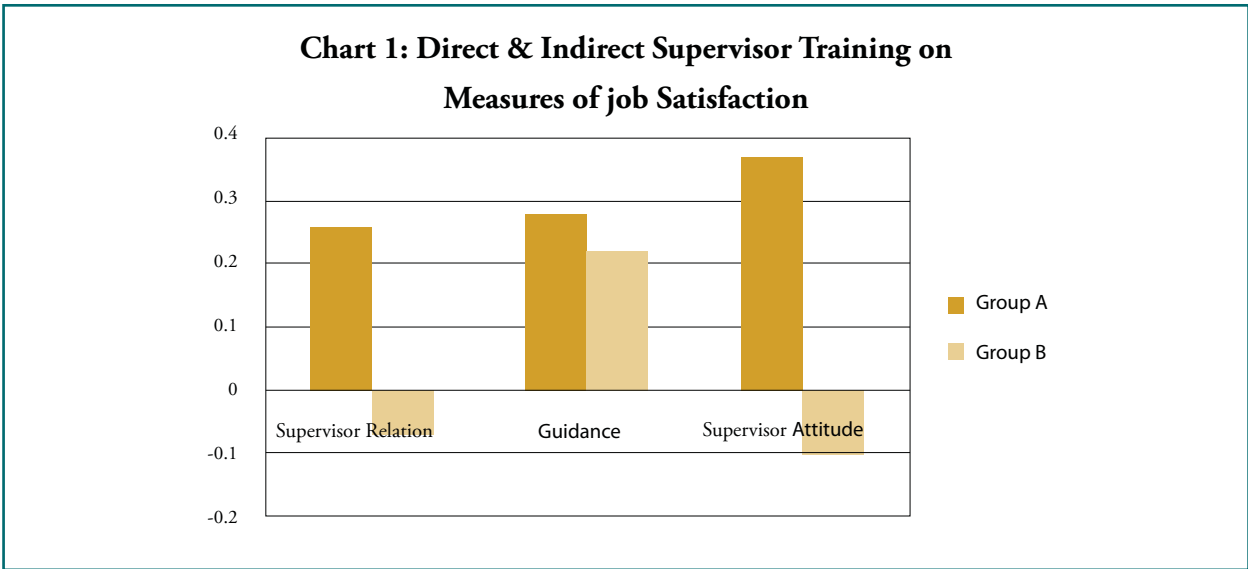
#### Effect of training the direct supervisor (Group A) or the indirect supervisor (Group B)

When evaluating the survey results one sees statistically significant evidence that workers in lines where the *direct* supervisor was trained show a strong improvement in the relationship with their direct supervisor. The workers of trained direct supervisors are 20% more likely to report an improvement in the relationship with their supervisor after the training than the workers of supervisors who did not go through the training. Similarly, results show that workers of trained direct supervisors have a 25% higher awareness of their production targets than workers of untrained direct supervisors. They also report a 10% increase in incidences per week where they receive guidance and feedback on work from their supervisors, compared with those who have not had their direct supervisor trained.

In contrast, when indirect supervisors were trained, there does not seem to be an impact on workers' job satisfaction or their relationship with their direct superiors or indirect supervisors. So in contrast to the training of direct supervisors, none of the 'soft' dimensions of work relationships seem to be affected. However, workers whose indirect supervisors received training show a significant difference in terms of how much overtime they reported working per week versus those whose indirect supervisor was not trained. On average, employees whose indirect supervisors were trained report one hour of overtime less per day, as well as one day less of overtime per week when compared with those whose indirect supervisor was not trained.

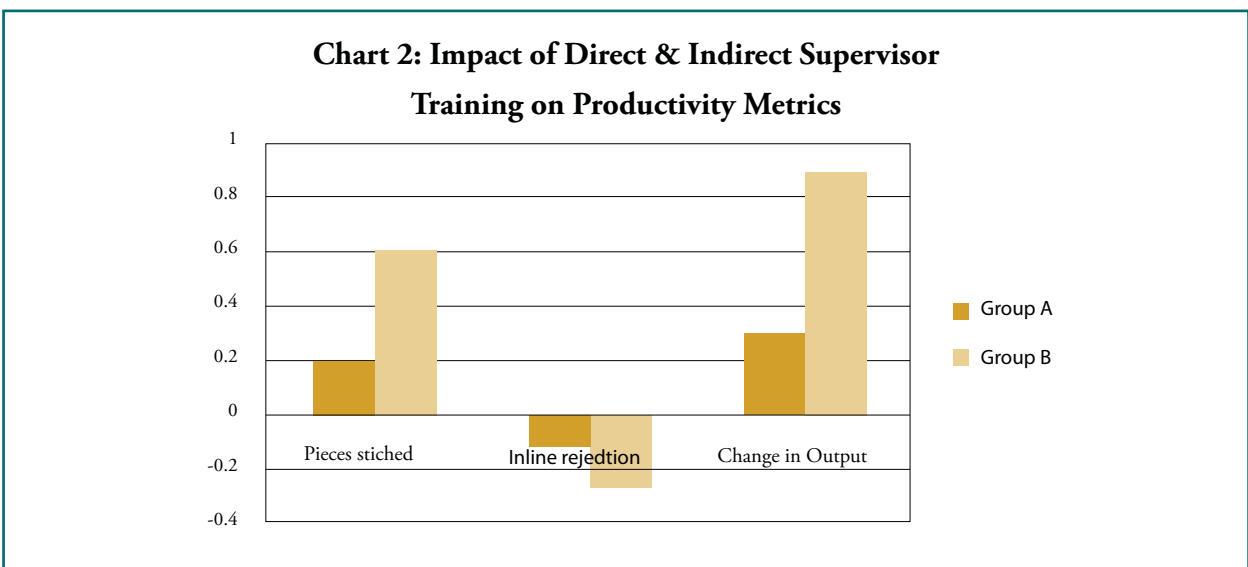
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<sup>6</sup> To enable a uniform measure of productivity and to account for the variation in time and difficulty required for each garment produced, factory-set target rates are created using the average rate of an outside sample line. This is referred to as the "IE" or "internal efficiency rate".



### Result 2: Factory productivity outcomes

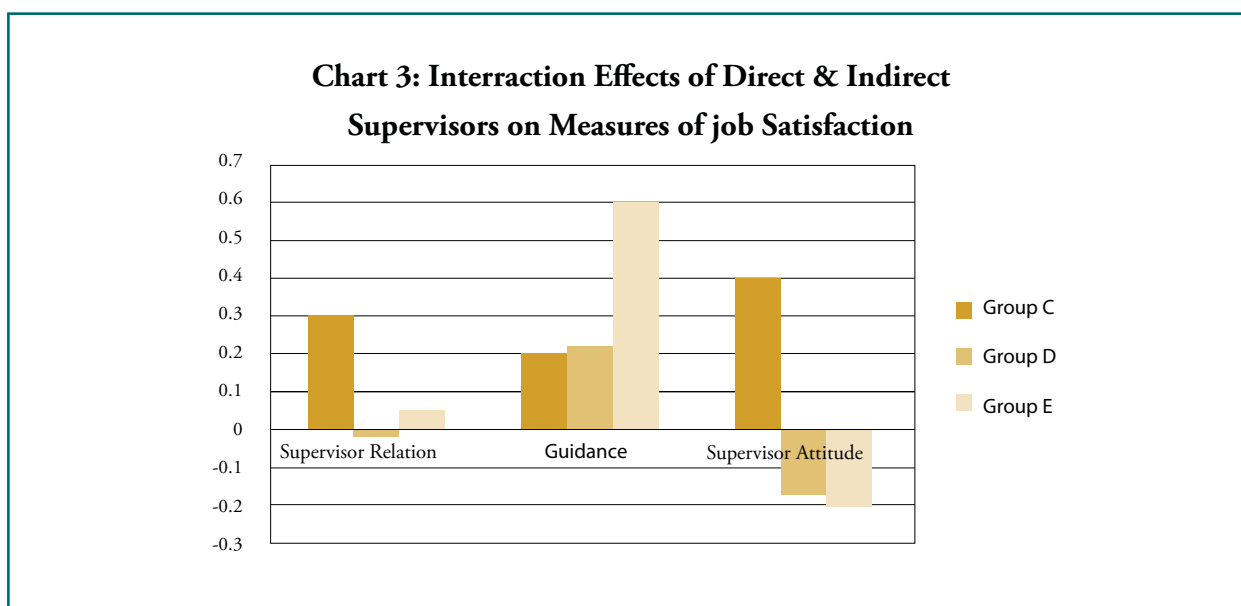
Researchers did not find a significant impact of direct supervisor training on any of the productivity and production measures. For example, based on the survey answers, it does not appear that training of direct supervisors leads to an increase in production bonuses for workers or hours of overtime. Similarly, when using the factory level data on productivity, there appears to be no significant impact of training of the direct supervisor on productivity improvements or inline product rejection rate. It is important to note as well that there does not appear to be a drop in any of these measures, since some of the factories were concerned that production would suffer if workers were treated more ‘softly’. However, when looking at the factory data, one finds that workers who have had their indirect supervisors trained show a significant 10% increase in output. They also show a decrease in their in-line rejection rates. The effect is smaller immediately after training (in the first two months after the training) but grows stronger starting in month three. Graph 2 below highlights the differences across direct (Groups A) and indirect supervisors (Group B).



Overall these results suggest that training the direct supervisors leads to higher personal job satisfaction for workers and more pleasant work relationships, but it does not lead to a significant change in worker productivity. These findings seem sensible if one takes into account that direct supervisors are the people who interact with workers on a daily basis but are not independently responsible for setting work targets or overtime hours. Indirect supervisors do not interact with workers at the same level of frequency as the direct supervisors who are with the workers throughout the day. Thus any change in the personal demeanor of indirect supervisors would be less observable and less visceral to the workers than changes in their direct supervisors. Thus it might not affect how workers answer the survey questions about their relationship with the indirect (and direct) supervisors. However, if indirect supervisors benefit from the training via better work planning and better communication with their own direct subordinate (which is the direct supervisor to the workers), the organization of work might become more efficient, with fewer mistakes being made. This seems to be borne out in the data.

**Result 3: Interaction effects (only direct supervisor trained, only indirect trained, both supervisors trained, none of the supervisors trained)**

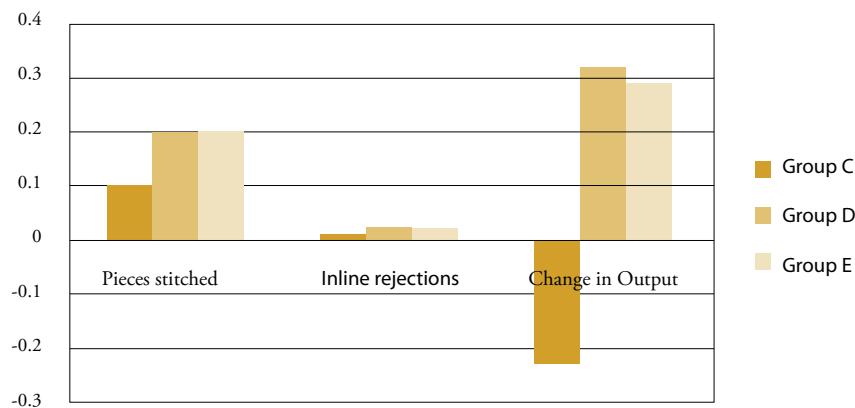
A third consideration is whether there are important interaction effects if both levels of supervisors direct and indirect receive training. One could imagine that providing training to both levels of supervisors could reinforce the overall impact of training. The researchers also wanted to understand if the training effects vanish if only supervisors at one level of the firm are trained. The results show that the positive effects of worker job satisfaction from training the direct supervisors (Group A) are reinforced and stronger if the indirect supervisor is also trained (Group E). But even if the indirect supervisor is not trained, there is an increase in worker job satisfaction when the direct supervisor is trained (Group C).



In contrast, it appears that the significant effects from indirect supervisor training occur independently of whether or not a direct supervisor is additionally trained. There is no additional positive effect on the level of worker productivity when training the direct supervisor. These results suggest that job satisfaction is mainly affected by the quality of the interaction with the direct supervisor, which shows that training of direct supervisors leads to higher job satisfaction but no impact on productivity. Job satisfaction seems to get an

additional boost when the indirect supervisor is trained in addition to the direct supervisor. However, it also appears that just training the indirect supervisor (without the direct one) has no impact on job satisfaction, but does have productivity effects. One could therefore surmise that training both levels of supervisors allows workers to become more aware of the improved productivity, and in turn enjoy their job more. Alternatively, the improvement in job satisfaction when both levels of supervisors are trained might suggest that direct supervisors have more leeway to implement the changes learned in the training if their direct boss also approves of them. Overall, these results suggest that there does not seem to be a tradeoff between job satisfaction and productivity, but the two effects appear to go in the same direction.

**Chart 4: Interaction Effects between Direct & Indirect Supervisor on Productivity**



## IV. Caveat

When looking at possible productivity improvements in the factories, one finds strong evidence that training indirect supervisors leads to higher productivity and efficiency. These improvements are measured via reduction of the mistakes that are made in production (in-line rejection rates), the number of hours worked to achieve the same output, and the ability of workers to meet their weekly target production rates. These metrics suggest clear cost savings for the factories.

However, it also appears that workers whose supervisors have been trained work fewer overtime hours and, as a result, receive fewer overtime bonus payments. While this constitutes a cost saving for the firm in the short term, it represents a reduction in pay for the workers. One might argue that this leaves workers less well off financially than before the training, but it is important to put this finding into context: First, in the medium term, these cost-savings could be very important in ensuring the competitiveness of the factory itself, and with it, job security for the workers. Second, the specific time period when the training was implemented was the fall of 2008. After the implementation, the garment industry across the world was hit by severe reductions in orders due to the global recession. The onset of the global financial crisis in late 2008 also had a crippling

effect on the Cambodian garment sector, forcing two of the factories in the study to restructure their production lines, and a third factory to lay-off workers and ultimately to change ownership. While in normal times these cost savings might have led to more orders and thus additional work for the factories, in the severe recession of 2008, factories did not receive additional work.

## V. Conclusion

Overall, the researchers found that the training program had a positive impact on both the perception of job satisfaction and on productivity of employees. Since these results are both statistically significant and economically meaningful, there is a strong case to be made that the supervisory skills training program made a meaningful impact in improving working conditions in garment factories in Cambodia. Interestingly, these improvements for workers do not come at a cost to productivity as some factories had feared prior to the training. If anything, training has positive effects on worker productivity and the quality of output.

However, the findings also show that the decision about whom to train in a given managerial hierarchy has important implications for where positive effects are seen, and what outcome variables are affected. In order to improve the ‘soft’ dimensions of the work environment such as job satisfaction and day-to-day guidance, the training of direct supervisors matters most. These are the people with whom workers interact the most, and thus the direct supervisors shape the perception of workers about their firm. In contrast, for ‘hard’ dimensions such as improved production timelines and communication about deadlines and target outputs, it appears that training the indirect supervisor matters most.

The effect of interactions resulting from the training of direct or indirect supervisors vary depending whether considering a ‘soft’ or ‘hard’ dimension. For instance, it appears that direct supervisors matter for the day-to-day interaction with their employees, and that this impact is actually heightened if the indirect supervisor is also trained, which suggests that the attitudes of direct supervisors are affected or limited by their own boss. Conversely, when we find that indirect supervisors matter for production goals and time management of lines, we also find that this impact is independent from and unaffected by direct supervisor training.

### Lessons Going Forward

If a firm’s main objective is to improve worker job satisfaction and relationships between workers and supervisors, then it is most cost-effective to train direct supervisors. But the training of indirect supervisors heightens this effect at the margin. This might suggest that the work style of lower level supervisors (direct supervisors) does depend on their superiors. Therefore, the best outcome for changing the work environment is guaranteed when training both levels of supervisors. However, if financing for training is limited, it is more important to train the lower level supervisors in order for workers to achieve higher work satisfaction.

In contrast, if the goal is to improve the productivity of line workers and reduce costly mistakes being made in production, it appears that it is most important to invest in training for indirect supervisors. These higher level supervisors seem to be the ones determining production schedules, and how production targets are communicated to workers. Direct supervisors, however, do seem to have an independent effect on this dimension: one could imagine that they act more like a conduit for the planning decisions made at the higher level.

## About IFC

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