International Labour Organization

FIT Indicators guide

Capturing results of FIT interventions

Factory Improvement Toolset

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Factory Improvement Toolset

The Factory Improvement Toolset (FIT) is an innovative self-facilitated, activity-based learning approach designed by the International Labour Organization (ILO) to create more decent and sustainable employment. FIT supports manufacturers in global supply chains to improve productivity, competitiveness and working conditions by upgrading production systems and factory practices.

FIT has been developed to be a sustainable, time- and cost-efficient option for supporting factories to enhance productivity through improved business practices and working conditions. FIT focuses on areas of production improvement and actions to be taken specific to each participating factory. It can be utilized as stand-alone learning tools or to complement other training programmes.

With each module lasting no more than 2.5 hours, FIT enables factories to train personnel, whilst minimizing interference with production realities. The easy-to-use methodology makes it possible to rapidly scale the implementation to reach a large cohort of trainees across multiple production facilities.

Working in small groups, participants review real-life situations and engage in discussions to determine improvements to be made in factory without an external trainer or specialist. This self-facilitated, activity-based and highly participatory learning approach positions participants as both student and teacher and makes the toolset self-tailored to the needs and interests of each group.

About this guide

When to use this guide?

This Indicators guide outlines how to calculate and interpret results for all FIT indicators that are part of the FIT monitoring framework. This guide should be used as a reference document that can provide useful guidance during the following activities:

1. When taking the baseline survey and/or end-line survey and/or tracer survey as part of monitoring activities.
2. When taking the “Measuring productivity” training module, to select indicators to add to the factory measurement plan.
3. For factories that wish to expand their measurement system during or after completing the FIT programme.

This guide can also serve as a reference for understanding how to measure the performance of your factory in relation to each FIT module. The indicators and their linkages to FIT modules are presented in the next pages. Key indicators that can be used to measure the performance of your factory in relation to the topic of each individual FIT module can also be found on page 7 of each corresponding module.

How to use this guide?

The FIT monitoring framework has indicators related to all areas covered by the FIT programme. You should refer to this guide to better understand the following:

- **Definition:** The meaning of each indicator.
- **Purpose:** How using the indicator can help you capture factory performance, whether productivity, environmental performance and/or working conditions.
- **Calculations:** How to calculate each indicator.
- **Frequency:** How often each indicator should be measured.
- **Responsible:** Who could be responsible for measuring each indicator in the factory. Please note that this is for reference only, and may vary based on each factory’s situation.

At the end of this guide (Appendix), you will find additional documents to help your monitoring activities, including surveys, and a template to help you record and report factory performance and monitoring results.

Overview of FIT indicators

Indicators per FIT module

Modules	Indicators
Production tools	
Sample room operations	
SR1 - Using tech packs	(1) Average sample turnaround time (Hours); (2) Sample hit rate (%)
SR2 - Sampling & pattern-making	(1) Average sample turnaround time (Hours); (2) Sample hit rate (%)
SR3 - Storing & record-keeping	(1) Average sample turnaround time (Hours); (2) Sample hit rate (%)
SR4 - Organizing the sample room	(1) Average sample turnaround time (Hours); (2) Sample hit rate (%)
Storeroom operations	
ST1 - Receiving materials	(1) Space utilization (%); (2) Average material retrieval time (Min)
ST2 - Inspecting materials	(1) Space utilization (%); (2) Average material retrieval time (Min)
ST3 - Storing materials	(1) Space utilization (%); (2) Average material retrieval time (Min)
ST4 - Record keeping	(1) Space utilization (%); (2) Average material retrieval time (Min)
ST5 - Issuing materials	(1) Space utilization (%); (2) Average material retrieval time (Min)
ST6 - Organizing the storeroom	(1) Space utilization (%); (2) Average material retrieval time (Min)
Cutting room operations	
CR1 - Planning for cutting	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR2 - Marker planning	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR3 - Ensuring marker efficiency	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR4 - Receiving fabric	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR5 - Spreading fabric	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR6 - Cutting fabric	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR7 - Preparing for sewing	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR8 - Cut inspection	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR9 - Issuing bundles	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
CR10 - Organizing the cutting room	(1) Fabric utilization (%); (2) Marker utilization (%); (3) Re-cuts (%)
Sewing room operations	
SL1 - Using the bundle system	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL2 - Making an operation bulletin	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL3 - Line planning	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL4 - Setting new lines	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL5 - Receiving materials	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL6 - Assembling garments	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL7 - Tracking production	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL8 - Line balancing	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL9 - Checking garments	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL10 - Issuing garments	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
SL11 - Organizing the sewing room	(1) Target achievement (%); (2) Work-in-progress; (3) Defects per Hundred Units
Finishing operations	
FN1 - Washing garments	(1) Defects per hundred units (%); (2) Shipment audit passing rate (%)
FN2 - Finishing garments	(1) Defects per hundred units (%); (2) Shipment audit passing rate (%)
FN3 - Inspecting garments	(1) Defects per hundred units (%); (2) Shipment audit passing rate (%)
FN4 - Packing garments	(1) Defects per hundred units (%); (2) Shipment audit passing rate (%)
FN5 - Dispatching garments	(1) Defects per hundred units (%); (2) Shipment audit passing rate (%)

Systems tools	
Production systems	
PR1 - Planning production	(1) On-time delivery rate (%); (2) Capacity utilization (%); (3) Order-to-ship ratio
PR2 - Identifying bottlenecks	(1) On-time delivery rate (%); (2) Order cycle time (days); (3) Order-to-ship ratio
PR3 - Measuring productivity	(1) Capacity utilization (%); (2) Pieces per employee; (3) Order cycle time (days)
PR4 - Improving processes	(1) Capacity utilization (%); (2) Pieces per employee; (3) On-time delivery rate (%)
PR5 - Material productivity	(1) Material waste (Kg); (2) Cut-to-ship ratio
CP1 - Cleaner production 1	(1) Water consumption per unit of production / per worker (Ltrs); (2) Energy consumption per unit of production (kWh); (3) Material waste (Kg)
CP2 - Cleaner production 2	
Factory systems	
FS1 - Organizing the factory	(1) Order cycle time (Days); (2) Turnover rate (%); (3) Number of accidents and near-misses
FS2 - Maintaining the factory	(1) Turnover rate (%); (2) Pieces per employee
FS3 - Managing machinery	(1) Order cycle time (Days); (2) Number of accidents and near-misses
Staff management systems	
HR1 - Improving communication channels	(1) Employees' satisfaction with the quality of communication; (2) Turnover rate (%); (3) Absenteeism rate (%)
HR2 - Improving communication skills	
HR3 - Setting up an HR system 1	(1) Turnover rate (%); (2) Overtime as a % of total working hours (%); (3) Absenteeism rate (%)
HR4 - Setting up an HR system 2	
HR5 - Training workers	
HR6 - Reducing turnover	
Working conditions tools	
Health & Safety	
WC1 - Introduction to OSH	(1) Number of accidents and near-misses; (2) Employees' perception of health & safety in the factory
WC2 - Better ergonomics	(1) Employees' perception of health & safety in the factory; (2) Turnover rate (%)
WC3 - Improving welfare	1) Employees' perception of welfare quality in the factory; (2) Turnover rate (%)
Gender & Disability	
WC4 - Dealing with sexual harassment 1	(1) Turnover rate (%); (2) Gender ratio in manager & supervisor positions; (3) Absenteeism rate (%)
WC5 - Dealing with sexual harassment 2	
WC6 - Inclusive factory practices	(1) Gender ratio in manager & supervisor positions; (2) Share of employees with disabilities (%)

Indicators

Competitiveness indicators

Competitiveness indicators help you measure how competitive your factory is, for instance in terms of net income, order profit and number of buyers.

Indicator	**Factory net income as percentage of total sales (%)**
Definition	Net income is the actual profit made from sales by your factory over a certain period of time after all expenses are removed, as a percentage of total sales.
Purpose	To understand how much profit you made compared to sales over a certain period of time, and evaluate your factory's profitability.
Calculation	(Total sales – Total expenses / Total sales) x 100% Notes: Sales = The amount of money made from sales (revenues). Expenses = ALL expenses of the factory, including salaries, bills, taxes, etc.
Example	Your factory made 80,000$ from sales revenues last year. In total, it spent 60,000$ on costs. Net income for last year = 80,000 – 60,000 = 20,000$ Net income as percentage of total sales = (20,000 / 80,000) x 100 = 25%
Frequency	Calculate at the end of each month and at the end of the year.
Responsible	Accountant

Indicator	**Average net order profit (USD)**
Definition	The average profit (in USD) made for each order completed by the factory over a certain period of time.
Purpose	To understand how much profit you made per order on average over a certain period of time, and whether average profit is increasing, decreasing, or remaining constant.
Calculation	Total profit ($) / # of orders Note: Total profit = Total revenues – Total expenses
Example	Last year, your factory made 80,000$ from sales revenues, and spent 60,000 on costs. During that time, the factory completed 20 orders. Average net order profit = 20,000 / 20 = 1,000$
Frequency	Calculate at the end of each month and at the end of the year.
Responsible	Accountant / Merchandiser

Indicator	Number of buyers
Definition	The total number of buyers (or brands) who are supplied from your factory, whether or not they are regular buyers, ranked by order volume (# of pieces ordered).
Purpose	To understand how many buyers are supplied from your factory, and whether their number is increasing, decreasing, or remaining stable. Note: Ensure that you do not depend on one buyer, and that you do not have an excessively large amount of buyers.
Calculation	Simply consult Merchandising records for orders placed. List down all buyers, ranked by order volume (buyer who ordered the largest amount of pieces first).
Example	Buyer A: 60,000 pieces Buyer B: 52,000 pieces Buyer C: 49,500 pieces Etc.
Frequency	Record this at the end of each year.
Responsible	Merchandiser

Indicator	Number of full-time jobs supported / created
Definition	The total number of full-time jobs that are supported in your factory (total number of positions filled or to be filled) at a certain point in time.
Purpose	To understand how many jobs are supported by your factory, and evaluate whether that number is decreasing, remaining stable, or increasing (providing new employment opportunities).
Calculation	Calculate the current total number of full-time positions filled or to be filled in your factory. This should include employees from all levels and all departments, who are hired for at least 3 months. Part-time jobs count for 0.5 full-time jobs (so, 2 part-time jobs = 1 full-time job).
Example	Currently, in your factory, there are 307 full-time employees, and 46 part-time employees (50%). There are also 18 full-time positions that must be filled and that you are recruiting for. Number of full-time jobs supported = 307 + 18 + (46/2) = 348
Frequency	Calculate at the end of each year.
Responsible	HR manager

Environmental performance indicators

Environmental performance indicators help you measure how efficiently resources (energy, water and materials) are used in the factory, and how much waste is generated over a period of time.

Indicator	**Water consumption per unit of production / per employee (Ltrs)**
Definition	The amount of water used in your factory over a certain period of time to produce one piece of garment, or for each employee.
Purpose	To understand how efficiently water is used in your factory, set a water consumption target, and begin to identify ways to reduce water consumption and water costs in the factory.
Calculation	If you are a washing plant: Total water used in litres / total # of garments produced If you are a garment manufacturer: Total water used in litres / total # of workers in the factory
Example	Example for garment manufacturers: Your factory used 20,000 litres of water over the past month. There was an average of 2,000 workers in the factory. Water consumption per employee = 20,000 / 2,000 = 10 litres per worker.
Frequency	Calculate and record monthly.
Responsible	Production manager / Designated administrative staff

Indicator	**Energy consumption per unit of production (kWh)**
Definition	The amount of energy (electricity) consumed in your factory over a certain period of time (such as one month) to produce one piece of garment.
Purpose	To understand how efficiently energy is used in your factory, set an energy consumption target, and begin to identify ways to reduce energy consumption and energy costs in the factory.
Calculation	Total energy used / total # of garments produced For electricity, consumption should be measured in kilowatts (kWh).
Example	Your factory used 10,000 kWh over the past month. It produced 20,000 garment pieces during the same month. Energy consumption per unit of production = 10,000 / 20,000 = 0.5 kWh per unit
Frequency	Calculate and record monthly.
Responsible	Production manager / Designated administrative staff

Indicator	Material waste (Kg)
Definition	The amount of material (fabric, thread, trims, cardboard, packaging, etc.) wasted in your factory over a certain period of time (such as one month).
Purpose	To understand how much material gets wasted in your factory, set a material waste reduction target, and begin to identify ways to reduce material waste in the factory.
Calculation	Pick up all material waste and store it in different bins (fabric, trims, others) in each production room (sampling, cutting, sewing, finishing, packing), then weigh it daily or weekly and record the quantities.
Frequency	Calculate and record monthly.
Responsible	Department managers & Designated administrative staff

Working conditions indicators

Working conditions indicators help you measure workers' satisfaction and well-being in the factory in several areas, including health and safety, welfare, gender equality and non-discrimination, and human resources management.

Indicator	Turnover rate (%)
Definition	The amount of employees who leave the factory over a period of time and must be replaced, as a percentage of the total amount of employees.
Purpose	To understand how high your turnover rate is, set a turnover reduction target, and identify solutions to reduce turnover in your factory.
Calculation	(# of employees who left and must be replaced / average # of employees) x 100% Note: Average # of employees = (# of employees at the start of the time period + # of employees at the end of the time period) / 2
Example	Over the last month, 32 employees left the factory. At the start of the month, there were 402 employees. At the end of the month, there were 398 employees. Average # of employees = (398 + 402) / 2 = 400 Turnover rate = (32 / 400) x 100 = 8%
Frequency	Calculate monthly.
Responsible	HR manager

Indicator	Absenteeism rate (%)
Definition	The amount of time (days) your employees were absent over a period of time, as a proportion of the total amount of time (days) they worked during that time.
Purpose	To understand how high your absenteeism rate is, set an absenteeism reduction target, and identify solutions to reduce absenteeism in your factory.
Calculation	(# days lost due to absences / total # of available days) x 100% Notes: Total # days worked = (total # employees) x (# working days during that month) # days lost due to absences = summation of all absences during the period of time (record all absences for all employees)
Example	Over the past month, a total of 270 absent days were recorded for all employees. There was a total of 24 working days (6 days a week) during that month, and a total of 400 employees in the factory. Absenteeism rate = (270 / (24 x 400)) x 100 = 3%
Frequency	Calculate monthly.
Responsible	HR manager

Indicator	Overtime as a percentage of total hours worked (%)
Definition	The amount of overtime hours your employees worked over a period of time, as a percentage of the total amount of time (hours) they worked during that time.
Purpose	To understand how much overtime your employees work and its cost for your factory, and to set an overtime reduction target.
Calculation	(# overtime hours worked / total # hours worked) x 100%
Example	Over the past month, your workers worked a total of 150,000 hours. Out of those 150,000 hours, 10,000 hours were overtime hours (hours worked in excess of the standard daily working time set by the factory – 8 hours for example). Overtime rate = (10,000 / 150,000) x 100 = 7 %
Frequency	Calculate monthly.
Responsible	HR manager

Indicator	Workers' perception of the quality of communication
Definition	Your workers' opinion on the quality of communication between workers, supervisors and managers.
Purpose	To understand your workers' opinion and situation, and identify what can be done to improve communication in your factory.

Calculation	Have your workers fill out the simple online survey (provided by the ILO – ask your FIT focal point for more information), and consult the results. Don't forget that surveys should be anonymous!
Frequency	Measure every 6 months, or once a year.
Responsible	HR manager

Indicator	**Gender ratio in manager / supervisor positions**
Definition	The amount of male employees in manager and supervisor positions compared to the amount of female employees in manager and supervisor positions. Example: A ratio of 1:2 (male to female) means that there is 1 male for every 2 females.
Purpose	To understand whether there are more male or female employees in manager / supervisor positions, and identify ways to balance the numbers to make the factory more inclusive.
Calculation	Calculate the amount of men and women in supervisor and manager positions, then simplify the numbers you find to obtain a ratio. Example: 5 women and 20 men is a ratio of 1 woman to 4 men (1:4).
Example	In your factory, there are 40 manager and supervisor positions in total, across all departments (not only production departments). Out of 40, 4 are occupied by women. Gender ratio = 4/36 = 1/9. It means that there is a ratio of 1 female manager or supervisor for every 9 male manager or supervisor.
Frequency	Calculate every 6 months, or once a year.
Responsible	HR manager

Indicator	**Share of employees with disabilities (%)**
Definition	The amount of employees with disabilities (both physical and mental) in your factory as a percentage of the total amount of employees in your factory.
Purpose	To understand how many employees with disabilities are currently working in your factory, and how you could increase this amount to make the factory more inclusive.
Calculation	(# of employees with disabilities / total # of employees) x 100%
Example	There are currently 40 employees with disabilities working in your factory, out of a total of 1,200 employees. Share of employees with disabilities = (40 / 1,200) x 100 = 3%
Frequency	Calculate every 6 months, or once a year.
Responsible	HR manager

Indicator	Workers' perception of health & safety in the factory
Definition	Your workers' opinion on the level of safety and health (how safe and healthy they feel) in the factory.
Purpose	To understand your workers' opinion and situation, and identify what can be done to improve health and safety in your factory.
Calculation	Have your workers fill out the simple online survey (provided by the ILO – ask your FIT focal point for more information), and consult the results. Don't forget that surveys should be anonymous!
Frequency	Calculate every 6 months, or once a year.
Responsible	HR manager / OSH manager

Indicator	Workers' perception of the quality of welfare in the factory
Definition	Your workers' opinion on how good they find welfare (water, sanitation, worker facilities such as the canteen and the sick room) in the factory.
Purpose	To understand your workers' opinion and situation, and identify what can be done to improve welfare in your factory.
Calculation	Have your workers fill out the simple online survey (provided by the ILO – ask your FIT focal point for more information), and consult the results. Don't forget that surveys should be anonymous!
Frequency	Calculate every 6 months, or once a year.
Responsible	HR manager / OSH manager

Indicator	Number of accidents and near-misses
Definition	The number of accidents and near-misses (accidents that almost happened) that took place in the factory over a certain period of time.
Purpose	To understand how often accidents happen or almost happen in your factory, what type and where, and which measures to take to avoid future accidents.
Calculation	Record every accident and near-miss happening in the factory (separately in each department), and consult records every month to calculate the total.
Frequency	Calculate monthly
Responsible	HR manager / OSH manager

Productivity indicators

Productivity indicators help you measure how productive your factory is at the overall factory level, as well as in each production department, from the sample room to the finishing room.

Indicator	**On-time delivery rate (%)**
Definition	The proportion (percentage) of placed orders being delivered (shipped) to the buyer on time over a certain period of time.
Purpose	To understand how well you plan production, set an on-time delivery improvement target, and begin to identify ways to improve production planning and control.
Calculation	(# of orders shipped on time / total # of orders shipped) x 100%
Example	Over the last month, your factory shipped 4 orders. Out of the 4, only 2 were shipped on time. On-time delivery rate = (2 / 4) x 100 = 50%
Frequency	Calculate monthly for all orders.
Responsible	Merchandiser / Shipping clerk

Indicator	**Capacity utilization (%)**
Definition	How much of your capacity (what you could produce) was used after completing an order (what you did produce). It needs to be calculated for each order, after the order is completed. E.g.: If capacity is 20%, it means that you only produced 20% of the total quantity you could have produced in the same amount of time. So, efficiency is very low.
Purpose	To understand how efficiently the factory (production) runs, and whether it could become more efficient.
Calculation	(# Earned minutes / # Available minutes) x 100% Notes: Earned minutes = SMV x # pieces sewn Available minutes = (# of operators in the line(s) x # days it took to complete the order x # hours in a working day x 60)
Example	Example: Order #879 took 10 days (8 hours a day) to complete. Style SMV is 10 min, and 1000 pieces were sewn, by a line of 20 operators. Capacity utilization = (10x1000) / (20x10x8x60) = 10% *(this is very low!)*
Frequency	Calculate for each order, then calculate the average every month.
Responsible	Sewing room manager

Indicator	Order cycle time / lead time (Days)
Definition	The average amount of time in days that it takes you to process an order, from receiving the confirmed order to shipping the order.
Purpose	To understand how efficiently your factory operates, set a target for improvement, and begin to identify ways to process orders faster in the factory.
Calculation	Record the order cycle time (or lead time) for each order, then calculate the average. Note: You can also calculate your production cycle time to understand how long it takes to produce an order. Record the production cycle time for each order (from start of cutting to order shipping), then calculate the average.
Example	The last five orders completed over the last few months took 20 days, 40 days, 30 days, 35 days and 45 days from order confirmation to shipping. Your order cycle time is (20 + 40 + 30 + 35 + 45) / 5 = 34 days
Frequency	Calculate for each order, then calculate the average at the end of each year.
Responsible	Merchandiser / Production planning

Indicator	Order-to-ship ratio
Definition	The amount of pieces shipped compared to the amount of pieces ordered for a specific order. If the ratio is less than 1, it means less pieces were shipped than what was ordered. The ideal ratio is 1 (or higher if extra shipped is allowed).
Purpose	To understand how well your factory meets order quantities, and identify ways to consistently ship the ordered quantity by improving production planning and quality in the factory.
Calculation	Total quantity shipped (in pieces) / total quantity ordered (in pieces)
Example	For the last order, the order quantity was 3,000. Your factory shipped a total of 3,050 pieces. Order-to-ship ratio = 1.02
Frequency	Calculate for each order, then calculate a yearly average of all orders.
Responsible	Merchandiser

Indicator	Cut-to-ship ratio
Definition	The amount of pieces shipped compared to the amount of pieces cut for a specific order. If the ratio is less than 1, it means less pieces were shipped than what was cut. The ideal ratio is 1 or higher (if extra shipped is allowed).

Purpose	To understand how efficiently your factory processes orders and how many pieces are missing or kept as surplus, and identify ways to consistently cut the ordered quantity by improving production planning and quality in the factory.
Calculation	Total quantity shipped / total quantity cut Notes: Quantity cut should be expressed in # of garments, not in # of cut parts!
Example	For the last order, your factory cut a total of 2,500 pieces. But, only 2,200 were shipped (due to defects, extra cut and others). Cut-to-ship ratio = 2,200 / 2,500 = 0.88
Frequency	Calculate for each order, then calculate a yearly average of all orders.
Responsible	Merchandiser

Indicator	**Pieces per employee**
Definition	The amount of accepted pieces that each employee contributed to producing over a certain period of time. The higher, the more productive your employees are.
Purpose	To understand how productive your employees are, set a personal productivity target, identify ways to increase productivity in your factory, then track improvements by comparing with previous results.
Calculation	(Total # of pieces produced / total # employees in the factory) Note: Total # of employees includes ALL employees in the factory, including managers, administration, etc. – not only workers.
Example	Over the last month, your factory produced and shipped a total of 34,000 garment pieces. There was an average of 327 employees in the factory. Pieces per employee = 34,000 / 327 = 104 pieces per employee
Frequency	Calculate monthly.
Responsible	Production manager

Indicator	**Average sample turnaround time (Hours)**
Definition	The average number of hours that it takes for you to produce a new sample (for a new style). It can also be calculated in hours.
Purpose	To understand how efficient your sampling and pattern-making operations are, and begin to identify how you could improve efficiency.
Calculation	Simply record the number of hours it takes to make each new sample (for a new style), then calculate the average at the end of each month.

Example	The last five samples completed over the last few months took 48 hours, 46 hours, 44 hours, 38 hours and 32 hours. The average sample turnaround time for the past month is (48 + 46 + 44 + 38 + 32) / 5 = 41.6 hours
Frequency	Calculate monthly.
Responsible	Sample room manager / Master sample maker

Indicator	**Sample hit rate (%)**
Definition	The proportion of samples that you get right the first time (that are accepted by the buyer the first time) over a period of time – not including style changes by buyers.
Purpose	To understand the quality of your counter samples and pattern-making processes, and begin to identify how you could improve quality. The closer to 100% the better.
Calculation	(# samples right the first time / total # samples made) x 100%
Example	Over the past month, your factory made 5 new samples. Out of these 5 samples, 4 were accepted (approved) by the buyer the first time they were sent to them. Sample hit rate = (4/5) x 100 = 80%
Frequency	Calculate monthly.
Responsible	Sample room manager / Master sample maker

Indicator	**Space utilization (%)**
Definition	The proportion of space (floor + shelf surface) that is occupied by materials and other items (carts, machines, etc.) in your storerooms.
Purpose	To understand how efficiently space is used in your storerooms, and identify how you could improve storage efficiency while ensuring employees' safety. Both very low and very high space utilization is inefficient. It should not go above 85%.
Calculation	(# surface occupied in *sqm* / total surface of the stores in *sqm*) x 100% Surface occupied = floor surface + shelf surface occupied by materials or others Total surface = floor surface + shelf surface available in the stores Shelf surface: e.g. a 3sqm shelf with 4 levels counts for 12sqm!
Example	Your stores are 40 metres in length and 20 metres in width. Inside, there are in total 16 shelves of 4 levels. Each shelf is 2 meters wide and 4 meters long. Only 12 shelves are currently being used. • Surface occupied = (40 x 20) + (2x4x4x12) = 800 + 384 = 1,184 sqm. • Total surface = (40 x 20) + (2x4x4x16) = 800 + 512 = 1,312 sqm. • Space utilization = 556 / 620 = 90% *(this is too high!)*
Frequency	Calculate every 6 months, or once a year.
Responsible	Storeroom manager

Indicator	Average material retrieval time (Mins)
Definition	The average time (in minutes) that it takes for a storeroom worker to find, retrieve and prepare materials from the stores for issuing.
Purpose	To understand how well-organized and orderly your stores are (or how good your storage system is), and begin to identify how you could further improve organization and make storeroom operations faster and more efficient.
Calculation	Time how long it takes for a worker to locate, retrieve and prepare all items for a specific requisition. Record this for each requisition (trims and fabric separately) and calculate the average weekly, then monthly.
Example	A storeroom clerk records how much time it takes for workers to locate and prepare fabric for each requisition every day. Last week, there were 10 requisitions. They took 10min, 20 min, 16 min, 22min, 18min, 12min, 24 min, 22min, 14min, 18min. Average retrieval time for last week = (10 + 20 + 16 + 22 + 18 + 12 + 24 + 22 + 14 + 18) / 10 = 17.6min
Frequency	Calculate monthly.
Responsible	Storeroom manager

Indicator	Fabric utilization (%)
Definition	The proportion of total spread fabric that is actually used for garments. It is calculated for each cut (for each marker). The higher the most efficient.
Purpose	To understand how efficient your marker planning and cutting operations are, how much fabric gets wasted, and to begin to identify how to improve marker efficiency and reduce fabric waste.
Calculation	(Marker area used for garments in *sqm* / total fabric area in *sqm*) x 100% Marker area used for garments = Fabric (in sqm) actually used for garments Total fabric area = The total amount of fabric spread on the cutting table for a cut = Fabric length (mts) x Fabric width (mts)
Example	For the last order, for Marker 1, the total fabric spread was 4 metres in length and 1.5 metres in width = so 6 sqm. The marker area used for garments was 5 sqm. Fabric utilization = (5/6) x 100 = 83% Over the last month, the factory used 5 markers. Fabric utilization was 83%, 81%, 87%, 75%, 77%. Average fabric utilization is (83 + 81 + 87 + 75 + 77) / 5 = 80.6%
Frequency	Calculate for each marker, then do a monthly average of all markers.
Responsible	Cutting room manager / Senior marker maker

Indicator	Marker utilization (%)
Definition	The proportion of the marker area that is actually used for garments. It is calculated for each cut (for each marker). The higher the utilization, the most efficient.
Purpose	To understand how efficient your marker planning and cutting operations are, how much fabric gets wasted, and to begin to identify how to improve marker efficiency and reduce fabric waste.
Calculation	(Marker area used for garments in *sqm* / total marker area in *sqm*) x 100% Notes: Marker area used for garments = Fabric (in sqm) actually used for garments Total marker area = Marker length (mts) x Marker width (mts)
Example	For the last order, for Marker 1, the total marker area was 3.5 metres in length and 1.2 metres in width = so 4.2 sqm. The marker area used for garments was 4 sqm. Marker utilization = (4/4.2) x 100 = 95% Over the last month, the factory used 5 markers. Marker utilization was 95%, 91%, 87%, 75% and 77%. Average fabric utilization is (95 + 91 + 87 + 75 + 77) / 5 = 85%
Frequency	Calculate for each marker, then calculate the monthly average for all markers.
Responsible	Cutting room manager / Senior marker maker

Indicator	Re-cuts (%)
Definition	The proportion of fabric used for re-cuts for each order (the amount of fabric used for re-cuts compared to the total amount of fabric used for the order).
Purpose	To understand how much of the fabric was used for re-cuts, to better assess quality and begin to identify how to improve quality in the cutting room.
Calculation	(# meters of fabric used for re-cuts / total # meters of fabric used for this order including re-cuts) x 100% This should also be calculated separately for re-cuts due to cutting defects and re-cuts due to other defects.
Example	For the last order, 50 meters of fabric were used. For re-cuts, the cutting room had to use another 8 metres. So, in total, 58 metres were used. • Re-cuts = 8 / 58 = 14% Out of the extra 8 metres, 2 metres were used for re-cuts due to cutting defects, and 6 metres for re-cuts due to other defects. • Re-cuts (cutting defects) = 2 / 58 = 3.45% • Re-cuts (other defects) = 6 / 58 = 10.35%
Frequency	Calculate for each cut order, then do a monthly average of all cut orders.
Responsible	Cutting room manager / Quality inspector

Indicator	Target achievement (%)
Definition	The percentage of the daily production target that was achieved (that was actually sewn in terms of good production). It can be calculated separately for each line, or for all lines together. The closer to 100%, the better.
Purpose	To understand how efficiently each sewing line operates, how realistic production targets are, and begin to identify how to improve efficiency in the sewing room.
Calculation	(# pieces produced today / daily production target) x 100% Notes: The daily target should be based on the SMV, and line efficiency discounted. Target = (working hours x 60 / SMV) x line efficiency %
Example	Today, for line 3, the daily target was set at 300 pieces. In total, 280 pieces were completed and accepted (quality was good enough). The target achievement for this line is (280/300) x 100 = 93% Today, the daily target for the sewing room was 300 for Line 1, 250 for Line 2, and 400 for Line 3. Line 1 produced 280 pieces, Line 2 made 220 pieces, and Line 3 made 350 pieces. The target achievement for the sewing room is (280 + 220 + 350 / 300 + 250 + 400) x 100 = (850 / 950) x 100 = 89%
Frequency	Calculate daily (for each line or all lines), then calculate a monthly average.
Responsible	Sewing room manager, Line supervisors

Indicator	Work-in-progress (WIP)
Definition	The amount of pieces that have not been completed yet, and are being sewn or waiting in between two work stations. It is calculated separately for each line, or for all lines together. Very low and very high WIP are both signs that lines are not well balanced.
Purpose	To understand how efficiently your sewing lines operate and how well the lines have been balanced, and begin to identify how to better balance sewing lines and improve their efficiency.
Calculation	Total # of pieces fed to the line – Total # of pieces sewn by the line Notes: Total # of pieces fed or sewn refers to the total # of pieces fed or sewn for one specific order, in one specific line.
Example	Today, 300 pieces (in bundles) were fed to Line 3. A total of 285 pieces were sewn. The WIP level for Line 3 is 300 - 285 = 15. Today, a total of 850 pieces were fed to the lines. A total of 694 pieces were sewn. The WIP level for the sewing room is 850 – 694 = 156.
Frequency	Calculate daily (for each line or all lines), then calculate a monthly average.
Responsible	Sewing room manager & line supervisors

Indicator	Defect per hundred units - DHU (%)
Definition	The amount of defects found in average per 100 inspected pieces or garments. The lower the DHU, the higher the quality in your factory. It can be calculated separately for each line, or for all lines together.
Purpose	To understand quality in your sewing room, set a quality improvement target, and begin to identify ways to reduce defects and improve sewing quality.
Calculation	(total # defects found / total # of pieces or garments inspected) x 100% Notes: • It is better to calculate this separately for in-line and end-line inspections. • If only the end-line calculation is taken but in-line inspection is also recorded, add defects found in in-line and end-line, however, do not add up garments inspected at in-line (only take the end-line count).
Example	Today, during the end-line inspection for Line 3, the QC inspector inspected a total of 500 garments. She found 45 defects. DHU = (45/500) x 100 = 9% Across all lines, a total of 1,500 garments were inspected at end-line inspection. A total of 160 defects were found. DHU = (160/1,500) x 100 = 11%
Frequency	Calculate daily (for each line or all lines), then calculate a monthly average.
Responsible	Sewing room manager / Line supervisor / Quality checker

Indicator	Shipment audit passing rate (%)
Definition	The proportion (percentage) of shipment audits (or buyers' audit) that your factory passed on the first trial (the first time the audit was conducted).
Purpose	To understand the quality of your production operations, set a quality improvement target, and begin to identify ways to improve garment quality in the factory.
Calculation	(# of shipment audit passed the xth time / total # of shipment audits) x 100% Note: # of shipment audits passed = # of shipment audits passed on the first trial (the first time the audit is conducted) Similarly, the factory must also calculate the shipment audits passed 2nd time and so on ….
Example	Over the last month, buyers conducted a total of 4 shipment audits in your factory. Out of 4 audits, 3 audits were passed during the first audit. Shipment audit passing rate = (3/4) x 100 = 75%
Frequency	Calculate monthly.
Responsible	Finishing room manager / Shipping clerk

Measurement reporting form

The template below can be used to assist you in measuring, recording and reporting indicators in your factory. To learn more, consult the “Measuring productivity” module.

Measurement reporting form – with example

Prepared by: HR manager	**Approved by:** Factory manager
Date: 15 March 2020	**Date:** 20 March 2020
Indicator: Turnover rate	**Reporting frequency:** Monthly
Current: 27% **Date:** 31 March 2020	**Target:** 17% **By:** 31 August 2020

Reporting date	Results	Improvement?	Target achieved?	Reasons
30 April 2020	25%	Yes	No	High absenteeism (local new year)
31 May 2020	21%	Yes	No	Unplanned overtime & night work
30 June 2020	20%	Yes	No	High absenteeism (sickness)
31 July 2020	21%	Yes	No	High absenteeism (harvest season)
31 August 2020	16%	Yes	Yes	Better planning and low re-work

Measurement reporting form – blank

Prepared by:	**Approved by:**
Date:	**Date:**
Indicator:	**Reporting frequency:**
Current: **Date:**	**Target:** **By:**

Reporting date	Results	Improvement?	Target achieved?	Reasons

FIT Indicators guide

The Factory Improvement Toolset (FIT) is an innovative self-facilitated, activity-based programme designed by the International Labour Organization (ILO) to create more decent and sustainable employment. FIT supports manufacturers in global supply chains to improve productivity, competitiveness and working conditions by upgrading production systems and factory practices.

FIT is being piloted in Asia under the regional Decent Work in the Garment Sector Supply Chains in Asia project funded by the Government of Sweden.

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