

# **Lean Six Sigma Green Belt**

## **Case Study**

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## Define Phase

### Problem Statement

The employee onboarding process currently takes an average of **28 days**, which is longer than the target of **20 days**. The process is not consistent. Some employees finish onboarding in less than **15 days**, while others take more than **40 days**. Because of this, new employees become productive later than expected, and both new hires and hiring managers feel frustrated. The onboarding experience is also different across departments. Early data shows that **IT setup delays** and **missing or incomplete paperwork** are the main reasons for the long onboarding time.

### SIPOC

| Suppliers                   | Inputs                       | Process                                  | Outputs                 | Customers      |
|-----------------------------|------------------------------|------------------------------------------|-------------------------|----------------|
| <b>Hiring Manager</b>       | Accepted job offer           | 1. Start onboarding process              | Employee ready to work  | New Employee   |
| <b>Human Resources (HR)</b> | Employee information & forms | 2. Collect and complete paperwork        | Completed documents     | Hiring Manager |
| <b>IT Department</b>        | Laptop and system access     | 3. Set up equipment and system access    | Working laptop & access | HR             |
| <b>Compliance / Payroll</b> | Payroll and compliance data  | 4. Complete payroll and compliance setup | Payroll ready           | IT             |
| <b>Training</b>             | Orientation                  | 5. Conduct                               | Orientation             | Compliance /   |

| Suppliers             | Inputs             | Process                     | Outputs                | Customers    |
|-----------------------|--------------------|-----------------------------|------------------------|--------------|
| <b>Hiring Manager</b> | Accepted job offer | 1. Start onboarding process | Employee ready to work | New Employee |
| <b>Team</b>           | materials          | orientation and training    | completed              | Payroll      |

## SWOT Analysis

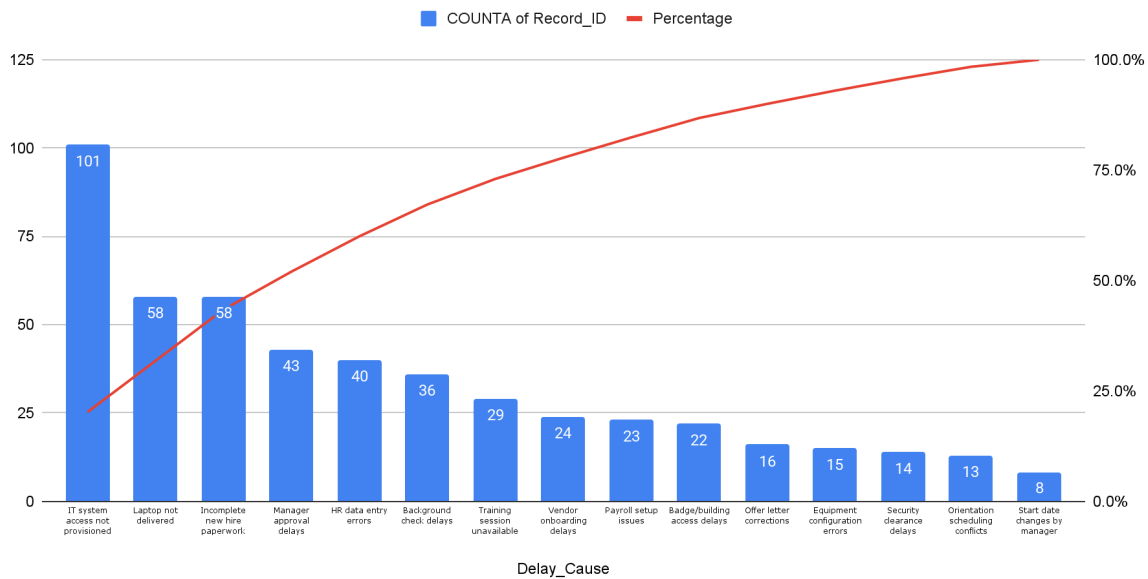
|                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Some employees finish onboarding in less than 15 days</li> <li>• The process is already defined from job acceptance to being ready to work</li> <li>• Leadership supports improving the onboarding process</li> </ul> | <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Reducing IT setup delays (42 cases) can shorten cycle time</li> <li>• Fixing missing or incomplete paperwork (30 cases) can reduce rework</li> <li>• Standardizing the process can reduce variation between departments</li> </ul> |
| <p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• The average onboarding time is 28 days, above the 20-day target</li> <li>• Onboarding time varies widely from 15 to over 40 days</li> <li>• IT setup delays occur most often (42 cases)</li> </ul>                   | <p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• High hiring volume (about 25 new employees per month) can increase delays</li> <li>• Shared HR and IT resources can slow onboarding</li> <li>• Long onboarding times can lower productivity and employee satisfaction</li> </ul>         |

## Measurement Phase

### Pareto - Employee\_Onboarding\_Delay\_Records\_500

| <i>Delay_Cause</i>               | COUNTA of<br>Record_ID | Percentage |
|----------------------------------|------------------------|------------|
| IT system access not provisioned | 101                    | 20.2%      |
| Laptop not delivered             | 58                     | 31.8%      |
| Incomplete new hire paperwork    | 58                     | 43.4%      |
| Manager approval delays          | 43                     | 52.0%      |
| HR data entry errors             | 40                     | 60.0%      |
| Background check delays          | 36                     | 67.2%      |
| Training session unavailable     | 29                     | 73.0%      |
| Vendor onboarding delays         | 24                     | 77.8%      |
| Payroll setup issues             | 23                     | 82.4%      |
| Badge/building access delays     | 22                     | 86.8%      |
| Offer letter corrections         | 16                     | 90.0%      |
| Equipment configuration errors   | 15                     | 93.0%      |
| Security clearance delays        | 14                     | 95.8%      |
| Orientation scheduling conflicts | 13                     | 98.4%      |
| Start date changes by manager    | 8                      | 100.0%     |
| <b>Grand Total</b>               | <b>500</b>             |            |

COUNTA of Record\_ID



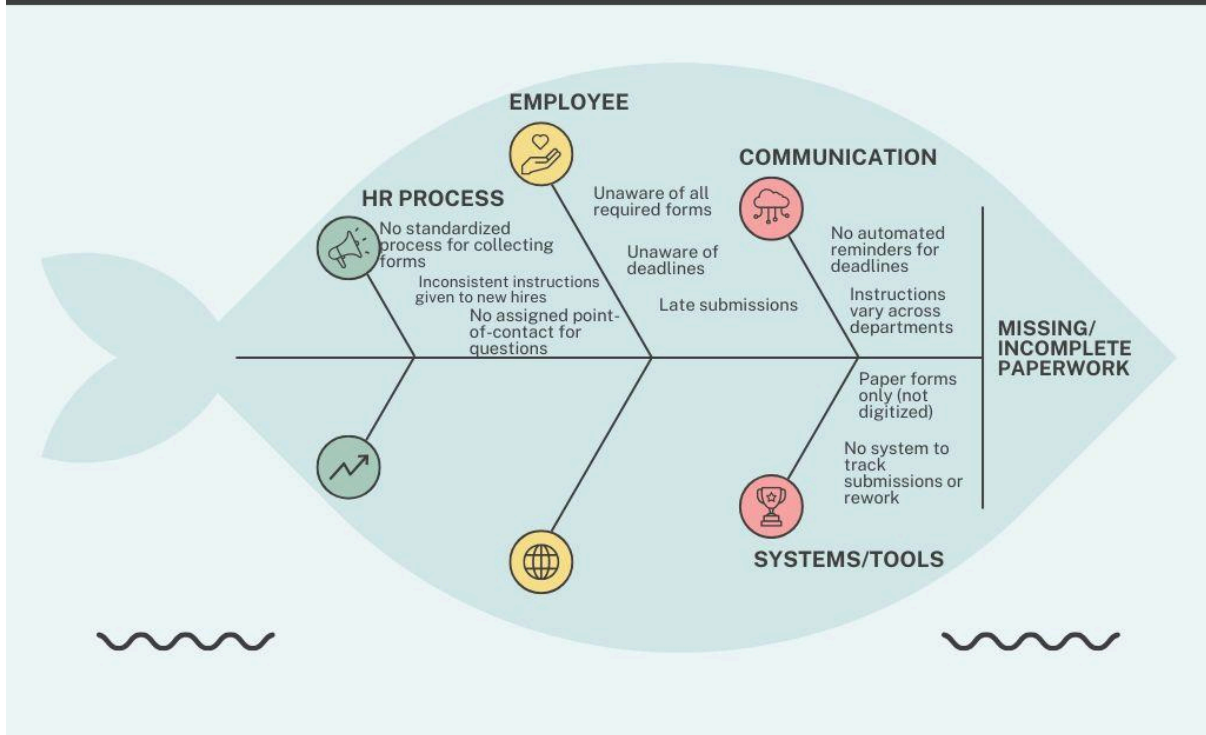
## Analyze Phase

### 5 Why's

1. Why is onboarding delayed? → Paperwork incomplete.
2. Why is the paperwork missing or incomplete?? → Employees didn't submit all forms.
3. Why didn't employees submit all forms?→ Not informed whom to contact or deadline.
4. Why were employees unaware? → HR uses manual tracking, no reminders.
5. Why were there no reminders or clear instructions? → No digitized system or process owner.

### Fishbone

# “ONBOARDING DELAY – MISSING/INCOMPLETE PAPERWORK” FISHBONE DIAGRAM



## Improve Phase

### 1. PEOPLE (Manpower)

| Root Cause                                                                                    | Detailed Solution                                                                                                      | Lean Tool / Concept           |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>No Accountability:</b> Teams blame each other for delays; nobody manages the full process. | <b>Case Owners:</b> Assign one HR person to manage the new hire process from offer acceptance to Day 1.                | Resource Alignment            |
| <b>Manager Bottlenecks:</b> Managers take 3-5 days to approve dates or costs.                 | <b>24-Hour Rule:</b> If not approved in 24 hours, the system auto-escalates to the Director and orders standard items. | SLA (Service Level Agreement) |

|                                                                           |                                                                                                                    |               |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Skill Gaps:</b> Hiring managers do not know which software to request. | <b>Software Bundles:</b> Managers select a job role (e.g., "Sales"), and the system auto-selects the correct apps. | Standard Work |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------|

## 2. PROCESS (Methods)

| Root Cause                                                                                 | Detailed Solution                                                                                                    | Lean Tool / Concept |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Serial Processing:</b> IT waits until all paperwork is 100% finished (Day 10) to start. | <b>Parallel Processing:</b> Notify IT immediately when the Offer Letter is signed (Day 1) to prepare hardware early. | Parallel Processing |
| <b>Manual Handoffs:</b> HR manually sends PDF tickets to IT via email.                     | <b>Automated Trigger:</b> Connect the HR and IT systems so data flows automatically without emails.                  | Automation          |
| <b>Orientation Conflicts:</b> Rigid schedules (Mondays only) cause one-week delays.        | <b>On-Demand Orientation:</b> Switch to a video module that new hires can watch on any day.                          | Just-In-Time (JIT)  |

## 3. MATERIAL (Inputs)

| Root Cause                                                                            | Detailed Solution                                                                                            | Lean Tool / Concept           |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>Defective Input:</b> New hires submit forms with missing data (SSNs or addresses). | <b>Smart Forms:</b> Use a web portal with mandatory fields. Users cannot click "Submit" until data is valid. | Poka-Yoke (Error Proofing)    |
| <b>Inventory Stockouts:</b> Laptops are ordered one by one (7-day wait time).         | <b>Safety Stock:</b> Keep 5 pre-configured laptops in stock. Restock automatically when one is taken.        | Kanban / Inventory Management |

|                                                                                     |                                                                                             |            |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------|
| <b>Offer Letter Errors:</b><br>Manual typing creates mistakes in salaries or dates. | <b>Mail Merge:</b> Auto-generate letters directly from the database to avoid typing errors. | Automation |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------|

## 4. MACHINE (Technology)

| Root Cause                                                                          | Detailed Solution                                                                                              | Lean Tool / Concept |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Manual Provisioning:</b> IT creates accounts (Email, Slack, Salesforce) by hand. | <b>Role-Based Access:</b> Use scripts to auto-create accounts based on the "Job Code" from HR.                 | Automation          |
| <b>Disconnected Security:</b><br>The badge system is not connected to HR.           | <b>Daily Batch Report:</b> The HR system emails a daily list of new hires to Security for pre-printing badges. | System Integration  |

## Proposed Improvements

- Create a standard onboarding checklist for all departments.
- Trigger IT setup requests immediately after offer acceptance.
- Use online paperwork submission with completeness checks.
- Send clear welcome communication with contacts and timelines.
- Assign an onboarding process owner.

## System Improvements

- Central onboarding tracking system.
- Automated IT request trigger.
- Online document submission and validation.
- Automated reminders and alerts.
- Onboarding performance dashboard.

## Control Phase

**Control Plan** -  Copy of Control-Plan-Template.xlsx

| Six Sigma Control Plan                                                                                                                                            |              |                        |     |      | Process: Employee Onboarding (Offer Acceptance → Employee Ready to Work) |                              |               |                                      |           |                            |              |                 |                                              |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------|-----|------|--------------------------------------------------------------------------|------------------------------|---------------|--------------------------------------|-----------|----------------------------|--------------|-----------------|----------------------------------------------|--|
| <div>Champion: HR Director<br/>Phone: 111-2222<br/>Black Belt: Project Lead (Green Belt Team)</div> <div>Origination Date: 01-Feb-26<br/>Revision Date: TBD</div> |              |                        |     |      |                                                                          |                              |               |                                      |           |                            |              |                 |                                              |  |
| X's                                                                                                                                                               | Process Step | Target                 | LSL | USL  | Cpk (Date)                                                               | Control Method               | Type          | Action Required                      | Frequency | Responsible Person         | Start Date   | Gage R&R (Date) | Reaction Plan                                |  |
| IT system access provisioning                                                                                                                                     | 1            | ≤ 2 days               | 0   | 5    | 0.53<br>Mar 10, 2026                                                     | Automated IT request trigger | Mistake Proof | Monitor tickets, escalate if >3 days | Daily     | IT Team (PH)               | 2/15/26      | 3/1/26          | Escalate to IT Manager, trigger manual setup |  |
| Laptop delivery                                                                                                                                                   | 2            | ≤ 5 days               | 0   | 7    | 0.67<br>Mar 11, 2026                                                     | Central tracking system      | Audit         | Track delivery status                | Weekly    | IT Logistics / Procurement | 2/16/26      | 3/2/26          | Escalate vendor, issue temporary laptop      |  |
| Paperwork submission (DOLE, SSS, PhilHealth, etc.)                                                                                                                | 1            | 100% complete by Day 5 | 90% | 100% | 0.67<br>Mar 12, 2026                                                     | Online submission portal     | Mistake Proof | Send automated reminders             | Daily     | HR Compliance Officer      | 2/15/26      | 3/1/26          | Contact employee directly, escalate          |  |
| Manager approvals                                                                                                                                                 | 3            | ≤ 3 days               | 0   | 5    | 0.83<br>Mar 13, 2026                                                     | Dashboard alerts             | Audit         | Review pending approvals             | Weekly    | Hiring Manager             | 2/17/26      | 3/3/26          | Escalate to department head                  |  |
| Orientation scheduling                                                                                                                                            | 4            | ≤ 10 days              | 7   | 15   | 0.67<br>Mar 14, 2026                                                     | Central calendar system      | Audit         | Track orientation slots              | Weekly    | Training Team              | 2/18/26      | 3/4/2026        | Add extra sessions, notify HR                |  |
| Y's                                                                                                                                                               | Process Step | Target                 | LSL | USL  | Cpk (Date)                                                               | Control Method               | Type          | Action Required                      | Frequency | Responsible Person         | Start Date   | Gage R&R (Date) | Reaction Plan                                |  |
| Onboarding cycle time                                                                                                                                             | 1            | ≤ 20 days              | 15  | 25   | 0.67<br>Mar 15, 2026                                                     | X-bar & R chart              | Control Chart | Input data into dashboard            | Weekly    | HR Green Belt              | Feb 15, 2026 | Mar 5, 2026     | Launch corrective project if >25 days        |  |
| Paperwork completeness                                                                                                                                            | 1            | 100%                   | 95% | 100% | 0.67<br>Mar 16, 2026                                                     | Automated validation         | Mistake Proof | Review exceptions                    | Daily     | HR Compliance Officer      | Feb 15, 2026 | Mar 5, 2026     | Contact employee, escalate                   |  |
| IT setup completion                                                                                                                                               | 2            | 100% by Day 7          | 90% | 100% | 0.83<br>Mar 17, 2026                                                     | Dashboard monitoring         | Audit         | Review IT tickets                    | Weekly    | IT Manager                 | Feb 20, 2026 | Mar 6, 2026     | Escalate to CIO if backlog persists          |  |
| Employee satisfaction (survey)                                                                                                                                    | 2            | ≥ 85%                  | 75% | 95%  | 0.87<br>Mar 20, 2026                                                     | Quarterly survey             | Audit         | Review feedback                      | Quarterly | HR                         | Feb 20, 2026 | Mar 7, 2026     | Q2 2026 Initiate improvement project if <75% |  |