****Overview****

When leading a CI effort, you’ll need to collect data both before and after you’ve made an improvement. This allows you to prove that the change was successful. Once you have both sets of data, you can calculate the improvement using the formula **Before - After = Improvement.**

****Hours Repurposed** (Annual Hours Required)**

*Use this metric when the process requires a lot of time.*

**Example: Automating reports**

One employee spends 30 hours each month developing data reports. To reduce the amount of time required, the employee automates part of this process using pivot tables and functions in Excel, cutting the time required to only 8 hours each month. This saved 264 hours annually:

|  |  |  |
| --- | --- | --- |
| **Before** | **After** | **Improvement** |
| 360 hours/year | 96 hours/year | 264 hours repurposed/year |
| 30 hrs/months × 12 months/yr | 8 hrs/months × 12 months/yr | 360 hrs/yr - 96 hrs/yr |

****Cost Saved** (Annual Current Cost)**

*Use this metric when an improvement saves money that’s currently being spent.*

**Example: Reducing mailing costs**

An agency found many citizens prefer receiving information via email, so they began sending emails instead of regular mail 70% of the time. This change cut the number of letters being sent from 45,600 per year to 13,700. For each letter that is sent, the agency pays $0.30. Because the agency is currently paying for these letters to be sent out, they reduced a current cost and saved $9,570 annually:

|  |  |  |
| --- | --- | --- |
| **Before** | **After** | **Improvement** |
| $13,680/year | $4,110/year | $9,570/year |
| 45,600 letters/year × $0.30/letter | 13,700 letters/year × $0.30/letter | $13,680/year - $4,110/year |

****Cost Avoided** (Annual Ongoing Future Cost)**

*Use this metric when an improvement prevents money from being spent in the future.*

**Example: Switching to a new software application**

A software company is requiring all customers to transition to a subscription model with an annual cost of $400 per user. If an agency with 232 users of this software does nothing, it will face a new annual cost of $92,800. The agency switches to a cheaper option that only costs $100 per user per year to avoid this cost. Although they didn’t save money, they avoided an additional cost of $69,600 per year:

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| --- | --- | --- |
| **Before** | **After** | **Improvement** |
| $92,800/year | $23,200/year | $69,600/year |
| $400/user × 232 users/yr | $100/user × 232 users/yr | $92,800/year - $23,200/year |

****Average lead time reduced** (Average process lead time)**

*Use this metric when the process involves a lot of waiting or delays.*

**Example: Awarding licenses faster**

Before the process was improved, it took 65 days on average for a citizen to receive a license they applied for. It now only takes 26 days on average to receive the license, which is a 39 day reduction in lead time:

|  |  |  |
| --- | --- | --- |
| **Before** | **After** | **Improvement** |
| 65 days/license | 26 days/license | 39 days/license |
| Collected during project | Collected during project | 65 days/certificate - 26 days/license |

****Stakeholder Satisfaction** (Percent of satisfied stakeholders)**

*This metric can be used any time you want to quantify an improvement in stakeholder satisfaction.*

**Example: Reducing employee frustration**

Before an IT resource request process was improved, managers and IT employees expressed intense frustration with the process. Only 11% of these employees said they were somewhat satisfied with the process and 0% said they were very satisfied. After improvements were made and these same employees were surveyed a second time, 56% reported being somewhat satisfied with the process and 17% reported being very satisfied.

|  |  |  |
| --- | --- | --- |
| **Before** | **After** | **Improvement** |
| 11% of employees satisfied | 73% of employees satisfied | 62% more employees satisfied |
| 11% somewhat + 0% very satisfied | 56% somewhat + 17% very satisfied | 73% satisfied - 11% satisfied |

****Process Steps Reduced** (Number of steps in process)**

*Use this metric when a project is simplifying a process, resulting in eliminated steps.*

**Example: Eliminating signoffs**

An agency discovers that multiple signoffs are no longer required by law and decides that 3 of these signoffs are unnecessary. It removes these steps from the process immediately, dropping the number of process steps from 19 to 16. Using historical data, this agency finds that the process occurs 148 times per year and that the average process lead time has dropped from 26 days to 11 days.

|  |  |  |
| --- | --- | --- |
| **Before** | **After** | **Improvement** |
| 19 process steps | 16 process steps | 3 process steps |
| Collected during project | Collected during project | 19 steps – 16 steps |