Quality Management - Part 1

Intro

A Harvard Business Study found that the 3% of graduates from their MBA who had their goals written down, ended up earning **ten times** as much as the other 97% put together, just ten years after graduation.

- 84% had no specific goals at all
- 13% had goals but they were not committed to paper
- 3% had clear, written goals and plans to accomplish them

Intro

Uh.....sure.....I guess...... but what do those Harvard MBAs know about Quality Management anyway?

I don't know, I forgot to write it down



Quality Control in Cetec ERP allows you to quantify and track your internal processes.

The features we cover today will give you the ability to see the gaps and opportunities on your shop floor **based on the details written down**.



Traveler Inspection Stages

Logging Inspections

NCRs

CARs

Process Documents

Traveler Inspection Stages

Each work order contains a 'Labor Plan'. Labor plans allow you to map out the production path of your parts.

For the 'Inspection' step of your labor plan, consider using the 'Sign Req'd' feature.

Revision 2, Part BOM1000

TO PART RECORD WORK INST LABOR PLAN INSPECTION INST. EDIT REVISION BOM IMPORT BOM EXPORT BOM RELATED PARTS REVS LINKED WORK REPORT WORK INST. HISTORY Back To Revisions



Revision 2, Part BOM1000

TO PART RECORD WORK INST LABOR PLAN INSPECTION INST. EDIT REVISION BOM IMPORT BOM EXPORT BOM RELATED PARTS REVS LINKED WORK REPORT WORK INST. HISTORY

abor mu	ultiplier set to	51		1					1	1	Use Fancy Work	
Order	Location	Group	Operations	Time Est	Setup	Recurring	Labor Rate	Labor Est	Overhead Rate	Overhead Est	Total	Remove
1	Location E		2/	2h 0s	1h 0s	1h 0s	\$10.00	\$20.00	\$5.00	\$10.00	\$30.00	Remove
2	Inspection		1 *	1m 0s	0s	1m 0s	\$10.00	\$0.17	\$5.00	\$0.08	\$0.25	Remove
	Operation: 1	Generic 1 Min Operation	Seconds Per:	60	Times:	1	Total Seconds: 60	Setup (i)	No 🗸		Set Drop?	move T
	#	Instructions										
	1	Follow the inspe	ection guidelines and	d log an inspectic	n						Pick Req'd □ Sign Req'd ✔ Drop? □	
	(new)										Pick Req'd Sign Req'd Update	

WORKORDER OVERVIEW	Build Process 3. Pick Parts/Mat												
COMPLETE/RECEIVE HISTORY PICK PARTS DEKIT PARTS MAINT/ETC + SERIALS INSPECTIONS		Build Order For BOM1000 (Rev 2) CUSTOMER: INTERNAL ACCOUNT (1) QTY: 1 SHIP DATE: 2021-10-13											
OUTSOURCE PO DOCUMENTS	WORK	INSTRUCTIONS	ORDER INFO	PARTS	SCHEDULE	COMMENTS (1)	HISTORY						
	Labor Time						11						
	Start Work	V 0 5 10 15 20	Time Logged: 25 30 35 40 No Open Work	45 50 55	60 65 70 7	Est Needed: 121.3 5 80 85 90 95	Min 100 105 110 11	5 120					
	Order Wo.	Location E Location I			Dentist								
		Location E Location E	· · ·	Move	Partial								
	Work Lo	ocation Group (See All)	Next Up: Inspection		Requirement?	Set	Required Work	Instructions! ()					



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Traveler Inspection Stages - **Production Status**

How do I alert my inspector that the job is locked?

Production Status!

Pre-Release:	Tannor	Pogors	
rie-nelease:	ranner	Rugers	•

	Build Process 3 3. Pick Parts/Mat									
COMPLETE/RECEIVE HISTORY PICK PARTS DEKIT PARTS MAINT/ETC + SERIALS INSPECTIONS			CL	Bu JSTOMER: INTERI	ild Order Fo)-13	
OUTSOURCE PO DOCUMENTS	WORK	INSTRUC	TIONS	ORDER INFO	PARTS	SCHEDU	LE CO	MMENTS (2)	HISTORY	
	Order Info									
	-	Customer	1 - Internal	Account		Prcpart	BOM1000		Ship Date	2021-10-13
	Par	rent Assembly	None							
		Description								
	Ord			ocation E by tanner aspection by tanner						
		Prcpart	BOM1000			Revision	2		First Article?	No
		t Date	2021-10-13	(Schedule)		Ship Date	2021-10-13		Due Date	2021-10-13
						Qty To Ship	0		Qty Shipped	0
					Pro	oduction Line	None		Inspections	0 (add quick pass)
	Proc	duction Status	(Set)			On Target	Yes (Set)		Status	New (0)
		Supervisor				Tags	(Set)			

Order Production Status	
Notes	
HELP!!! I WANT TO BE LIKE THOSE HARVARD MBAs!!!!!	
Status	On Target?
Needs Inspection	Update Close Quick Close
Send Email Alert To Users 🗹	Also Email All Users With Role
None	PartRequestAdmin
justin	PQuote Approval
Chris Stearns	Process Owner
David Atkins	Production
Elizabeth Bernhardt	Production Only
Ethan Wiggins	Purchasing
Jordan Jolly	QA Admin
Logan McJunkins	QA Inspector
Mike Congdon	Quality Engineer
Sales Person	Report - Bin Inventory

Traveler Inspection Stages - Instructions!

Add work instructions to your inspection stages similar to your other routing steps in the Labor Plan.

Pro Tip: Reference a document by hyperlinking it in your Labor Plan!



Traveler Inspection Stages - Document Attachment!

You can attach a standard inspection layout to the order, and globalize it. Globalizing a single document will share it with all other orders for access.

You can attach a specific document to the part / revision, and that will display on the order as well.

WORKORDER OVERVIEW COMPLETE/RECEIVE HISTORY	GENERATED / RELATED DOCUM	ENTS								
PICK PARTS DEKIT PARTS MAINT/ETC + SERIALS INSPECTIONS OUTSOURCE PO				Drop File	s Here Browse	Add Link				
DOCUMENTS	ORDLINE 1035.1-1 Filter by Name								1	
	Name	Tags	Alive	Revision	Uploader	Created On	Move		ilobal	
	Global Inspection Requirements .pdf	2021	Yes	1	Tanner Rogers	2021-10-12 10:16:43 PM	(Target)	✓ Move	Localize	×





Whew! Ok, one step closer to those Harvard MBAs.

Let's log inspections on the job now.

Logging Inspections

Logging inspections occurs *on* the work order. It's one of the side-nav options, so you don't have to stray from your normal production process.

Pre-Release: Tanner Rogers







Workorder (Build): 1035.1 Line: 1

Information: Inspection Added

х

Displaying 1 - 1 of 1 WORKORDER +/- Columns OVERVIEW Work Qty Qty Qty Inspection Date Inspector COMPLETE/RECEIVE Date Pass NCR Inspector Assembler Comments Location Inspected Accepted Rejected Code Type Text HISTORY PICK PARTS Would consider No issues DEKIT PARTS trimming up the View 2021-Create Inspection 0 Final 1011 here. Passes jeff delete 1 1 1 tanner 10-12 / Edit corners a bit NCR MAINT/ETC + all tests. better. SERIALS INSPECTIONS Displaying 1 - 1 of 1 +/- Columns **OUTSOURCE PO** DOCUMENTS

Ok....so....what happens (hypothetically of course) if an inspection fails?

Asking for a friend....



WORKORDER OVERVIEW COMPLETE/RECEIVE	QC - Work Order Inspection Work Order: 1035.1-1	Change me to set all failur	re codes 🗸		
HISTORY					
PICK PARTS	Set Failure Details				
DEKIT PARTS MAINT/ETC + SERIALS	Failure	Component #	Component Prcpart	Serial	Reference Designator
INSPECTIONS DUTSOURCE PO DOCUMENTS	1 Change me to set all failure codes			٩	

NORKORDER DVERVIEW COMPLETE/RECEIVE	QC - Work Order Inspection Work Order: 1035.1-1	Change me to set all failu	re codes 🗸		
HISTORY HISTORY PICK PARTS DEKIT PARTS MAINT/ETC + SERIALS NSPECTIONS DUTSOURCE PO DOCUMENTS	Set Failure Details Failure 1 F26 - Poor Solder ~ Update	Component #	Component Prcpart RAW3 Q	Serial 92384723	Reference Designator A-11

Workorder (Build): 1035.1 Line: 1

Displaying 1 - 2 of 2 +/- Columns WORKORDER **OVERVIEW** Work Qty Qty Qty Inspection Date Inspector COMPLETE/RECEIVE Date Pass Inspector Assembler Comments NCR Inspected Rejected Location Accepted Code Type Text HISTORY PICK PARTS Would consider DEKIT PARTS trimming up the View 2021-No issues here. Create jeff Inspection 1 1 0 Final 1011 delete 1 tanner 10-12 Passes all tests. NCR MAINT/ETC + / Edit corners a bit better. SERIALS INSPECTIONS View 2021well.....that's Create Inspection 1 0 1 Final 1 1011 jeff delete tanner OUTSOURCE PO / Edit 10-12 no good NCR DOCUMENTS

63

Displaying 1 - 2 of 2 +/- Columns

Information: Inspection Added

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Where does it all go?

Does it just "poof" into nothing? What does it all mean? ****Queue The Twilight Zone Theme Song****



Logging Inspections - Reporting!

CETEC	ERP							SALES	PARTS	PURCHAS	ING WAREH	OUSE ACCOUN		JCTION ADMIN	۹	
ORDERS V	QUALITY V	PART	• KITAUDI	T VIGI	MT V TOOLS	SCHEDUL	ING V									
	INSPECT	FION RE	PORT													
Mark	INSPECT	TION DE	TAILS													
Work	INSPECT	TION FAI	LURES			nc. 1										
	NCR															
WORKORDER CAR Displaying 1 - 2 of 2 +/- Columns																
OVERVIEW	QUALITY	ALERT	S					No. of the second s				-				
COMPLETE/RE		1	Location		Qty Inspected	Qty Accepted	Qty Rejected	Inspection Type	Pass	Date Code	Inspector	Inspector Text	Assembler	Comments	NCR	
HISTORY																
PICK PARTS		10												Would consider		
MAINT/ETC +		View / Edit	Inspection	2021- 10-12	1	1	0	Final	1	1011	tanner	No issues here. Passes all tests.	jeff	trimming up the corners a bit	Create NCR	delete
SERIALS														better.		
INSPECTIONS		View		2021-								wellthat's			Create	
OUTSOURCE P	0	/ Edit	Inspection	10-12	1	0	1	Final	1	1011	tanner	no good	jeff		NCR	delete
DOCUMENTS																

Inspection Details

Date	2021-09-13 - 2021-10-13	Customer	Search customers Q	Inspection Type	Choose 🗸
Pass	None	✓ Prcpart		First Articles?	All
Work Order		Production Line	All 🗸	Work Location	All
Warehouse Location	All	~		Submit	

Displaying 1 - 4 of 4 +/- Columns

Qty Inspected	Qty Passed	Qty Failed	Pass Percent	РРМ
6	4	2	66.6667	33333.3330

Displaying 1 - 4 of 4 +/- Columns

Displaying 1 - 4 of 4 Export +/- Columns

	Work Order	Work Location	Date	Qty Inspected	Qty Accepted	Qty Rejected	Inspection Type	Pass	NCR	
View / Edit	17.1 Line: 1	Doc Control	2021-09-29	2	2	0	In Process	1	Create NCR	delete
View / Edit	17.1 Line: 2	Doc Control	2021-09-29	2	1	1	In Process	1	NCR 2	delete
View / Edit	1035.1 Line: 1	Inspection	2021-10-12	1	1	0	Final	1	Create NCR	delete
View / Edit	1035.1 Line: 1	Inspection	2021-10-12	1	0	1	Final	1	Create NCR	delete

Inspection Failures



Displaying 1 - 2 of 2 +/- Columns

Displaying 1 - 2 of 2 Export +/- Columns

Work Order	TLA	Date	Failure Code	Failure Desc	Comp Part	Ref Designator	Inspection Type	NCR
17.1 Line: 2	BOM1001	2021-09-29	F00	FINAL INSP	RAW1		In Process	2
1035.1 Line: 1	BOM1000	2021-10-12	F26	Poor Solder	RAW3	A-11	Final	N/A

Logging Inspections

Now do we get an MBA?

No.....but you do get an NCR!

.....ok.....that was a bad segue....



Create NCR from your inspection failures.

This allows you to link Work Orders directly to NCRs.

NCRs

Workorder (Build): 1035.1 Line: 1

(i) Information: Inspection Added

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WORKORDER	Displaying 1 - 2 of 2 +/- Columns														
OVERVIEW COMPLETE/RECEIVE HISTORY PICK PARTS DEKIT PARTS MAINT/ETC + SERIALS		Work Location	Date	Qty Inspected	Qty Accepted	Qty Rejected	Inspection Type	Pass	Date Code	Inspector	Inspector Text	Assembler	Comments	NCR	
	View / Edit	Inspection	2021- 10-12	1	1	0	Final	1	1011	tanner	No issues here. Passes all tests.	jeff	Would consider trimming up the corners a bit better.	Create NCR	delete
INSPECTIONS OUTSOURCE PO DOCUMENTS	View / Edit	Inspection	2021- 10-12	1	0	1	Final	1	1011	tanner	wellthat's no good	jeff		Create NCR	delete
			Displaying 1 - 2 of 2 +/- Columns												
VIEW NCR DOCUMENTS (0) NOTES (0) HISTORY

Back To All For Customer Internal Account (# 1) Production (Internal) ~ NCR Type Title **Edit Types** PRT1 (Component) × Order/Line 1035.1 Line: 1 Prcpart (Qty: 1 Assigned To tanner Edit Assignments Initiated By tanner On 2021-10-12 Critical? None × Source Inspection 4 Work Location **Edit Work Locations** PO Vendor 連 連 三 三 三 📾 🧼 🗐 三 P H1 H2 H3 H4 H5 H6 🚜 🗋 🦺 $\blacksquare B I \underline{\cup} + X_2 X^2 \overline{A} \overline{A} \equiv \blacksquare$ Qty Inspected: 1 Qty Failed:1 Rejected Because of Poor Solder: 1 Source Desc

Creation: Tanner Rogers 🛛 🔻

NCRs - Workflow Tools

NCRs contain a workflow tool to route the NCR to different stages of NCR processing: Review, MRB, Management Escalation, etc.

VIEW NCR DOCUMENTS (0) NOTES (0) HISTORY



VIEW NCR DOCUMENTS (0) NOTES (0) HISTORY

Back To All		REVIEW Assigned to Mike Congdon for < 1 minute
For Customer Internal Account	: (# 1)	Move To
NCR Type	Production (Internal)	Mike Congdon Back To Creation
	Edit Types	Mike Congdon
Order/Line	1035.1 Line: 1	Tanner Rogers Send To MRB
		Mike Congdon • (Reassign, Keep Review)
Assigned To	mike Edit Assignments	Assignment Comments (if changing)
Source	Inspection 4	
Vendor		CC List Set CCs
	B I U S X2 X3 A4 Image: Im	Priority 3 V Set (1 is High)
Source Desc		Edit Workflow Assignment Options
		Close Workflow

Review: Mike Congdon 🛛 🔻

VIEW NCR DOCUMENTS (0) NOTES (0) HISTORY

ack To All		MRB Assigned to Tanner Rogers for < 1 minut	е
For Customer Internal Account	(# 1)	Move To	
NCR Type	Production (Internal)	Tanner Rogers	✓ Back To Review
		Tanner Rogers	 Send To Escalation
Order/Line	1035.1 Line: 1	Tanner Rogers	← Go To Management
		Tanner Rogers	✓ Close
Assigned To	tanner Edit Assignments	Tanner Rogers 🗸	(Reassign, Keep MRB)
Source	Inspection 4	Assignment Comments (if changing)	
Vendor		CC List	
	B I U S X ₂ X ² A A ⋮ ∷ I U S S X ₂ X ² A A ⋮ ∷ I S S S S S S S S S S S S S S S S S S	Priority	Set CCs
Source Desc	Rejected Because of Poor Solder: 1		3 v Set (1 is High)
		Edit Workflow Assignment Options	

MRB: Tanner Rogers 🛛 🔻

Disposition	Rework ~	Add or Edit Disposition Options						
	■ B I U S X ₂ X ² A A Ξ Ξ Ξ Ξ	🗐 🗃 🗃 🚳 🎲 🔲 🕿 Р H1 H2 H3 H4 H5 H6 🚜 🗅	Contraction					
	Rework the unit to fix the Solder.							
Review Comments								
Review Comments								
			Closeout					
Customer Authorize	Yes: O No: •	Customer Auth. Ref.						
Cost Impact	\$0.00	Cost Recovered	\$0.00					
Reinspected		Reinspection Report Num.						
 hemopeeteu								
CAR	(Specify CAR ID or Title)	Corrective Action 🗸	Add/Edit CAR Types					
Resolution	In Process - CAR opened 🗸	Add/Edit Resolutions						
Accepted By	Tanner							
	Set NCR To 'Closed' Once Resolution Provided							
			Qty Inspected: 1 Qty Failed:1					
		Rejected Because of Poor Solder: 1 Delete	NCR Zip PDF Printable Update					

CARs

CARs are the natural next step from your NCRs. CARs allow you to build upon the reason the NCR was created.

It's an outline for you to **write down** what went wrong and how to properly solve the issue moving forward.

CAR 3



CAR 3



CARs - 8 Disciplines (there's 9 of them)

DO. Plan

D1. Form a team

D2. Define the problem or potential problem

D3. Implement temporary action

D4. Define and verify root cause

D5. Select and verify the corrective or preventive action

D6. Implement the corrective or preventive action

D7. Prevent the recurrence of the problem or the occurrence of the potential problem

D8. Provide feedback to the team

NCR & CAR Reporting

Similar to your inspection reporting, navigate to the NCR and CAR reports to view/filter your NCRs and CARs by date range, type, reason, part numbers, etc.

CETEC ERP





NCRs

NCR #		Prcpart	۹	NCR Type	Production (Internal)			
Active	Open 🗸	Title		Customer	٩			
Resolution	All 🗸	Stage	All Review Creation	Assigned To	Tanner Rogers 🗸			
Entered On Date	2021-08-01 - 2021-12-31	Entered By	All	Work Location	All			
Location	All 🗸	Source	Inspection ~	Critical Only?				
Due Date	(from) - (to)	Vendor		Bonus Date				
	Less Options Submit Create							
Add/Edit NCR Types, NCR Dispositio	ons, Edit Assignments, and NCR	Resolutions.						

CARs

CAR #			Title			Open/Closed	Open 🗸
CAR Type	Corrective Action	~	CAR Source	NCR	~	Resolution	Resolved as: Completed - Ch 🗸
Assigned To	Ethan Wiggins	~	Entered On	2021-08-01 - 2021-12-3	1	Due Date	(from) - (to)
Add/Edit CAR Types, CAR Actions, C	AR Sources, CAR Root C	ause Types, and	CAR Resolutions.			Submit	Create

Displaying 1 - 2 of 2 Export +/- Columns

CAR	Open?	CAR Type	CAR Source	State	Assigned To	Resolution
2	Open	Preventative Action	N/A	Creation	Logan McJunkins	N/A
1	Open	Corrective Action	NCR	Creation	Logan McJunkins	Completed - Change Implemented

Displaying 1 - 2 of 2 Export +/- Columns

Audit Candy

Inspection Stages on Labor Plan

Inspection Failure and Details Report

Creating NCRs from Inspections

Creating CARs from NCRs

- 8 Disciplines

Process Documents

Process Documents is a flex use tool for miscellaneous internal processes or methods of operation.

Admin>Docs>Process





Processes

Create Process Named:	Machine Calibration Method	Create	Help Me: Processes & Document Control
Name	Search		
			Displaying 1 - 1 of 1 +/- Columns
Process			
Import Docs			

Process Machine Calibration Method

DOCUMENTS (1)	Edit Process Title:									
DELETE	Machine Calibration Method		Submit							
	Drop Files Here Browse Add Link									
	PROCESS MACHINE CAL	BRATI	ON METHOD							
	Name		Tags	Alive	Revision	Uploader	Created On	Move	Global	
	Machine Calibration Method.pdf		2021, Process	Yes	1	Tanner Rogers	2021-10-13 12:16:08 PM		Globalize	×

Add Note:		
This Process is related to our machine/tool manager	nent. Review the process in one year.	0
Note Type:		
Reminder	Edit Note Types	
Sticky:		
□ Note Date: 2021-10-13 00:17:50		
Reminder Date: 2022-10-13 00:17:45		
Reminder Title:		
Calibration Process Review Note: This will email an invitation (.ics) to tanner@cetecerp Cc Cancel Reminder OK Cancel	p.com which can be imported into your calendar.	