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Process Flowcharts for Better Business Performance

Let a Plant Wellness Way EAM System-of-Reliability End Your Business Risks Forever

Abstract

Process Flowcharts for Better Business Performance and Procedures. You will find example process diagram layouts with the most effective flowchart templates to use, what to include in them so that the flow chart drives business results and personal performance (and you will be surprised at how easy they are to create). With the right layout and the inclusion of ACE 3T (Target-Tolerance-Test) quality assurance standards your process flowcharts and procedures will drive business and workplace performance. First it is necessary to layout your flowcharts so it is totally clear what must happen in a process or procedure, who is responsible to make it happen, and how their performance will be measured.

Keywords: process flow chart template, process flow diagram, business process modelling

In many ISO 9001 quality systems one often finds that no one in management or the shopfloor read their business process descriptions, job procedures, or work instructions. When that happens, we introduce them to a simple solution: we turn their unread documents into easy-to-follow flowcharts.

Do not write what you can show people. They will not understand what you describe, and you surely will bore them with too much monotonous, dull text. For example, instead of me describing how to create fantastic process flow charts, just look at the three accompanying example flow diagrams to see their content and get the gist of the technique. Look at the flow diagram layouts and you will 'get it' in about 30 seconds. Had I written and described what you needed to do, you would never 'get it' at all—no matter how often you reread the work instruction.

How to Get the Performance You Want

It is vital that you tell users of process, procedure and work instruction flow chart what the acceptable job performance is by putting one, and up to four, measurable performance indicators in every step.

To totally control the process or procedure outcomes add an Accuracy Controlled Enterprise (ACE) Target, Tolerance and Proof Test (3T) for each measure. For example, in the Level 2 Project Engineering Process flow diagram performance measures for **EQUIPMENT DESIGN AND REVIEW** you can totally lock-down the performance you want by setting specific ACE 3T quality assurance parameters. Table 1 shows potential examples of ACE 3T standards.

Original Performance Indicator	**ACE 3T Performance Quality Indicator**		
	Target	**Tolerance**	**Test**
(Provide a) Workshop Plan Hours Forecast	Workshop Plan Hours Forecast within ± 2% accuracy	Workshop Plan Hours Forecast hours within ± 5% accuracy	Work Breakdown Structure detailed in 2% job steps. Each job task defined to the half hour.
(Provide) Assembly Procedures with > 90% Detailed	Fully detailed, ACE 3T no-chance-of-error Assembly Procedures	Assembly Procedures with > 90% Detailed	Proportion of task steps with 3T quality assurance parameters

Table 1 Setting ACE 3T Work Quality Standards

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LEVEL 1 CORPORATE PROCESS

Performance Measures	BUSINESS DEVELOPMENT	SEEK TO UNDERSTAND CLIENT	SUBMIT A PROPOSAL	CLIENT REVIEW	PROJECT OFFICE	PROJECT EXECUTION	PROJECT ENGINEERING	CLIENT ACCEPTANCE	PROJECT REVIEW	CLIENT SERVICE CONTRACT
	Cost to Win the Client	*Identify Client Drivers and ROI*			*Submit Deposit Invoice < 3 days after Project Start*	*Provide Critical Path Tracking*				
	Revenue Outside the Funnel	*Have a Pre-call Plan*		*Sales > 90% of Gross Profit*	*Predicted Project Profit Report*	*Submit Project S-Curve with Weekly Report*		*Project Sign-off by Client*	*Actual Profit > 90% of Predicted Profit*	
	Revenue in the Funnel	*Have a Next Step Plan*	*Meet Sales Revenue Targets*	*50% Win / Loss Ratio*	*Project Brief < 3 days; Project Plan < 10 days*	*Submit Weekly Report prior Weekly Meeting*		*Formal Client Feedback at Project Completion*	*Review Report within a Month of Final Invoice*	*Service Contract with > 20% of Clients*
	Seek opportunities from diverse Clients that use our core business	Gain a thorough appreciation of the Client and what work they want done	Develop a proposal to meet the Client requirements	Go through in detail with the Client what will be provided by our company	Plan how to design, procure and install the Client project for maximum profit	Do the project on-time, on-profit, OHS and environmental incident-free,	See Equipment Design, Supply, Manufacture and Installation Process See Control Engineering and Software Process	Formal Client acceptance of project deliverables	Investigate project performance for its commercial and implementation lessons	Gain a service contract from the Client
Owner	***MARKETING MANAGER***	***MARKETING MANAGER***	***SALES MANAGER***	***GENERAL MANAGER***	***GENERAL MANAGER***	***PROJECT MANAGER***		***PROJECT MANAGER***	***PROJECT MANAGER***	***SALES MANAGER***
Procedure / Forms / Work Instructions	**1** Identify prospective Clients **2** Determine how can we help them?	**1** Determine Client ROI using Project Financials form FRM-001 **2** Is it company core business? **3** What commercial risk if we do the Client project? Use Project Risk Assessment form FRM-002	**1** Understand Client: • Concept • Budget • Tender requirement **2** Does it meet our company requirements and terms? **3** Have we got the resources? **4** Can we meet the schedule? **5** What can Project Office commit to?	**1** Review Contract **2** Negotiations with Client **3** Confirm prices **4** Accept order	**1** Develop and provide: • Project Plan • Budget • Resources loads **2** Determine impact on existing business, including finance **3** Reassess estimate and set project KPIs **4** Risk assessment: • Compliance • Commercial **5** Director review and approval	Project Manager organises: • Design • Procurement • Labour resources • Site access • Project management controls per work instruction WIN-001		By Project Office: **1** Is Client satisfied? **2** How could we have done better? **3** Conduct a Client feedback event with comments in Client Project Report FRM-003 **4** Confirm all payments due have been invoiced	**1** Profit **2** Rework **3** Zero safety and environmental incidents **4** What could have been done better? Use Lessons Learnt form FRM-004 **5** Learn from the Client **6** Improve our processes to prevent identified problems	Provide: • Process control • Breakdown cover • Warrantee cover

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LEVEL 2 PROJECT ENGINEERING PROCESS

PROJECT KICK-OFF	AUDIT ESTIMATED BUDGETS	DEVELOP COMPREHENSIVE PROJECT PLAN	IMPLEMENTATION REVIEW	PROJECT OFFICE	EQUIPMENT DESIGN AND REVIEW	MANUFACTURE AND ASSEMBLY	INSTALLATION	COMMISSION	BUSINESS ADMINISTRATION
Full Commitment of Marketing, Projects and Workshop	*Project can be Done Within ±5% of Budget*	*Work Breakdown Structure in 50 x 2% Steps*	*Project Commitment Report*	*Design Rework > 95%* *Commit when Capability and Cost > 90% Sure*	*Workshop Plan Hours Forecast* *Assembly Procedures with > 90% Detailed*	*Rework < 5%*	*Installation Hours within 5% of Budget* *Installation Procedures with > 95% Detailed*	*Compliance to Commissioning Plan > 95%*	*Client Invoiced < 24 hours after milestones*
Fully understand the complexity and constraints of the project	Review the Proposal Estimate based on project detailed understanding	Provide a highly detailed project completion plan	Consider project within existing business commitments and constraints	Plan, design procure and install the Client project for maximum profit	Provide project and equipment drawings; Review design compliance	Provide materials, labour and work area to make equipment	Formal Client acceptance of project deliverables	Run-up equipment and prove project scope is completely satisfied	Complete Business and Project close-out requirements

Materials Arrive to Schedule

Compliance with Procurement Policy

PROJECT SOURCING AND PROCUREMENT

See Control Engineering and Software Process	Find, cost and purchase project items

PROJECT MANAGER	*PROJECT MANAGER*	*PROJECT MANAGER*	*PROJECT MANAGER*	*GENERAL MANAGER*	*PROJECT MANAGER*	*WORKSHOP MANAGER*	*PROJECT MANAGER*	*PROJECT MANAGER*	*PROJECT MANAGER*
1 Understand: • Scope • Cost • Resources • Discover implications and requirements **2** Financial controls **3** Invoice Deposit	**1** Check: • Engineering Design • Drafting • Materials • Supply / Manufacture • Control / Software **2** Identify project risks using Project Completion Risk form FRM-005	**1** Engineering Design: • Mechanical • Electrical • Software **2** Workshop Production Plan • Labour • Procurement **3** Have we got the resources? **4** Cash Flow forecast **5** Critical Path	**1** Review project plan details **2** Commit resources	**1** Concept review **2** Specification Review **3** Select specifications and standards **4** Drafting resource load **5** Engineering Design Review	**Drawing:** • Set format 3D / 2D / Sketch **Procurement:** • Determine and order long-lead items • Set sufficient number of competitive quotations for 3rd Party Equipment • Identify Supply risks and address	Workshop Plan: • Agreed with Project Manager • Signed-off by all parties	**1** Develop and work to an Installation Plan **2** Develop Installation Procedures / documents for complex work **3** Assess and control OHSE risks	**1** Develop and work to a Commissioning Plan **2** Assess and control OHSE risks **3** Record commissioning results **4** Handover User documents	**1** Business administration: • Invoice all moneys owed to us • Follow-up Debtors • Pay Creditors • Identify warrantee risks and address

LEVEL 2 CONTROL ENGINEERING AND SOFTWARE PROCESS

	Weekly Report with S-curve				
	Work Plan by Coder Agreed			*Commissioning Completed to Schedule*	*Client Handover and Training Plan Fully Developed*
Client Fully Approves of FDS	*Critical Path Identified*	*FAT Right First-Time > 98% of Plan*	*No Unexpected Product Losses to Client*	*All Commissioning Problems Resolved*	*Client Handover Completed to Schedule*
PROJECT CONTROL ENGINEERING REVIEW	**SOFTWARE CODING**	**FACTORY ACCEPTANCE TEST (FAT)**	**SITE ACCEPTANCE TEST (SAT)**	**COMMISSIONING PLAN**	**CLIENT TRAINING AND SUPPORT**
Gain a thorough appreciation of the Control work is to be done in project	Write control system code to achieve FDS	Perform FAT until successfully completed	Perform SAT until successfully completed	Run-up equipment and prove project scope is completely satisfied	Provide agreed training and support
PROJECT ENGINEER	***SOFTWARE PROGRAMMER***	***PROJECT ENGINEER***	***PROJECT ENGINEER***	***PROJECT MANAGER***	***SERVICE MANAGER***
1 Understand: • Scope • Cost • Resources • Discover implications and requirements **2** Review URS **3** Compile FDS 4 Management of Change	**1** Extent of coding: • PLC • SCADA • MES **2** Select coding standards to use	**1** Compile documentation	**1** Identify potential risks on Control Engineering Risks FRM-006	**1** Develop and work to a Commissioning Plan **2** Assess and control OHSE risks **3** Record commissioning results **4** Handover User documents	**1** Develop training plan **2** Allocate support resources

Target is the perfect outcome. Tolerance is the worst outcome acceptable. Test is how you check what is actually happening.

Use the flowchart to communicate to the reader the procedural task quality and the details needed at each step, including what forms to complete and what work instructions to follow when necessary.

The very best to you,

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