Tool &	Tools and Techniques										
Technique	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Active listening	Interpersonal and Team Skills	4.4 Manage Project Knowledge						10.2 Manage Communications			13.4 Monitor Stakeholder Engagement
Advertising	Ungrouped									12.2 Conduct Procurements	
Affinity diagrams	Data Representation Techniques		5.2 Collect Requirements			8.2 Manage Quality					
Agile release planning	Ungrouped			6.5 Develop Schedule							
Alternatives analysis	Data Analysis Techniques	4.5 Monitor and Control Project Work, 4.6 Perform Integrated Change Control	5.1 Plan Scope Management, 5.4 Create WBS	6.1 Plan Schedule Management, 6.4 Estimate Activity Durations	7.1 Plan Cost Management, 7.2 Estimate Costs	8.2 Manage Quality	9.2 Estimate Activity Resources, 9.6 Control Resources		11.5 Plan Risk Responses		13.4 Monitor Stakeholder Engagement
Analogous estimating	Ungrouped			6.4 Estimate Activity Durations	7.2 Estimate Costs		9.2 Estimate Activity Resources				
Assessment of other risk parameters	Data Analysis Techniques								11.3 Perform Qualitative Risk Analysis		
Assumption and constraint analysis	Data Analysis Techniques								11.2 Identify Risks		
Audits	Ungrouped					8.2 Manage Quality			11.7 Monitor Risks	12.3 Control Procurements	
Benchmarking	Data Gathering Techniques		5.2 Collect Requirements			8.1 Plan Quality Management					13.2 Plan Stakeholder Engagement
Bidder conferences	Ungrouped									12.2 Conduct Procurements	



	Tools and										
Tool & Technique	Techniques Groups	Integration	Scono	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
reciiiique	Groups	integration	Scope	Scriedule	Cost	Quanty	Resource	Communications	NISK	Procurement	Stakenolder
				6.4 Estimate			9.2 Estimate				
Bottom-up	Ungrouped			Activity Durations	7.2 Estimate Costs		Activity Resources				
estimating	Ungrouped	4.1 Develop		Durations	COSIS		Resources				
		Project									
		Charter, 4.2									
		Develop									
	Data Gathering	Project	5.2 Collect			8.1 Plan Quality			11.2 Identify		13.1 Identify
Brainstorming	Techniques	Management Plan	Requirements			Management			Risks		Stakeholders
Brainstorring	reciniques	Tiun	Requirements			8.2 Manage			Nisks		Stakenolaers
	Data					Quality, 8.3					
Cause-and-	Representation					Control					
effect diagrams	Techniques	4.6.0				Quality					
		4.6 Perform Integrated									
Change control		Change									
tools	Ungrouped	Control									
	Data Gathering					8.3 Control					
Check sheets	Techniques					Quality					
		4.2 Develop				8.2 Manage					
		Project				Quality, 8.3					
Checklists	Data Gathering Techniques	Management Plan				Control Quality			11.2 Identify Risks		
	recilliques	Pidii				Quality			NISKS		
Claims										12.3 Control	
administration	Ungrouped									Procurements	
							9.4 Develop				
Colocation	Ungrouped						Team				
								10.1 Plan			
								Communications			
Communication								Management, 10.2 Manage			
methods	Ungrouped							Communications			
-	<u> </u>										
								10.1 Plan			
Communication	Ungroused							Communications			
models	Ungrouped							Management			



Tool & Technique	Tools and Techniques Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Communication requirements analysis	Ungrouped							10.1 Plan Communications Management			
Communication styles assessment	Interpersonal and Team Skills							10.1 Plan Communications Management			
Communications technology	Ungrouped						9.4 Develop Team	10.1 Plan Communications Management, 10.2 Manage Communications			
Conflict management	Interpersonal and Team Skills	4.1 Develop Project Charter, 4.2 Develop Project Management Plan					9.4 Develop Team, 9.5 Manage Team	10.2 Manage Communications			13.3 Manage Stakeholder Engagement
Context diagram Contingent	Ungrouped		5.2 Collect Requirements								
response strategies	Ungrouped								11.5 Plan Risk Responses		
Control charts	Data Representation Techniques					8.3 Control Quality					
Cost aggregation	Ungrouped				7.3 Determine Budget						
Cost of quality	Data Analysis Techniques				7.2 Estimate Costs	8.1 Plan Quality Management					



	Tools and										
Tool &	Techniques										
Technique	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
		4.5 Monitor									
		and Control									
		Project Work, 4.6									
		Perform									
		Integrated				8.1 Plan					
Cost-benefit	Data Analysis	Change				Quality	9.6 Control		11.5 Plan Risk		
analysis	Techniques	Control				Management	Resources		Responses		
				6.5 Develop							
				Schedule, 6.6							
Critical path				Control							
method	Ungrouped			Schedule							
											13.3 Manage
								10.1 Plan			Stakeholder
								Communications			Engagement,
								Management,			13.4 Monitor
Cultural	Interpersonal							10.2 Manage			Stakeholder
awareness	and Team Skills							Communications			Engagement
	Interpersonal						9.5 Manage				
Decision making	and Team Skills						Team				
									11.4 Perform		
Decision tree	Data Analysis								Quantitative		
analysis	Techniques								Risk Analysis		
			5.4 Create	6.3 Sequence							
Decomposition	Ungrouped		WBS	Activities							
Donondonou											
Dependency determination				6.3 Sequence							
and integration	Ungrouped			Activities							
2.13	B. 00-P00										
5	l					8.2 Manage					
Design for X	Ungrouped	4.7 Close				Quality					
Document	Data Analysis	4.7 Close Project or	5.2 Collect			8.2 Manage			11.2 Identify		13.1 Identify
analysis	Techniques	Phase	Requirements			Quality			Risks		Stakeholders
undiyələ	recilliques	1 11036	Requirements	L		Quanty	L		INIONO		StakeHoldel3



710	Tools and										
Tool & Technique	Techniques Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
			33343	55115111115		- Lumby					
Earned value	Data Analysis	4.5 Monitor and Control		6.6 Control	7.4 Control					12.3 Control	
analysis	Techniques	Project Work		Schedule	Costs					Procurements	
•	·						0.5.4				
Emotional intelligence	Interpersonal and Team Skills						9.5 Manage Team				
intelligence	and reality skins	4.1 Develop					ream				
		Project									
		Charter, 4.2									
		Develop									
		Project Management									
		Plan, 4.3									
		Direct and									
		Manage							11.1 Plan Risk		
		Project							Management		
		Work, 4.4							, 11.2 Identify		
		Manage							Risks, 11.3		
		Project							Perform		
		Knowledge, 4.5 Monitor							Qualitative Risk Analysis,		
		and Control							11.4 Perform		
		Project		6.1 Plan					Quantitative		13.1 Identify
		Work, 4.6	5.1 Plan Scope	Schedule	7.1 Plan Cost				Risk Analysis,	12.1 Plan	Stakeholders,
		Perform	Management,	Management,	Management,		9.1 Plan		11.5 Plan Risk	Procurement	13.2 Plan
		Integrated	5.2 Collect	6.2 Define	7.2 Estimate		Resource	10.1 Plan	Responses,	Management,	Stakeholder
		Change	Requirements,	Activities, 6.4	Costs, 7.3		Management,	Communications	11.6	12.2 Conduct	Engagement,
		Control, 4.7	5.3 Define	Estimate	Determine	8.1 Plan	9.2 Estimate	Management,	Implement	Procurements,	13.3 Manage
Formation description	Hanna and	Close Project	Scope, 5.4	Activity	Budget, 7.4	Quality	Activity	10.3 Monitor	Risk	12.3 Control	Stakeholder
Expert judgment	Ungrouped	or Phase 4.1 Develop	Create WBS	Durations	Control Costs	Management	Resources	Communications	Responses 11.2 Identify	Procurements	Engagement
		Project							Risks, 11.3		
		Charter, 4.2							Perform		
		Develop							Qualitative		
		Project							Risk Analysis,		
		Management							11.4 Perform		
		Plan, 4.4	5.2 Collect						Quantitative		
	l	Manage	Requirements,						Risk Analysis,		
Fasilitatia.	Interpersonal	Project	5.3 Define						11.5 Plan Risk		
Facilitation	and Team Skills	Knowledge	Scope						Responses		



	Tools and										
Tool & Technique	Techniques Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
	3.33,		333			- Lamoy					
	Communication							10.2 Manage			13.4 Monitor Stakeholder
Feedback	Skills							Communications			Engagement
					7.3 Determine						
Financing	Ungrouped				Budget						
						8.1 Plan					
	Data					Quality Management,					
	Representation					8.2 Manage					
Flowcharts	Techniques					Quality					
		4.1 Develop Project									
		Charter, 4.2									
		Develop									
	Data Gathering	Project Management	5.2 Collect								
Focus groups	Techniques	Plan	Requirements								
Funding limit					7.3 Determine						
reconciliation	Ungrouped				Budget						
											12.2 Managa
											13.3 Manage Stakeholder
Ground rules	Ungrouped										Engagement
	Data						9.1 Plan				
Hierarchical	Representation						Resource				
charts	Techniques					0.2.14	Management				
	Data					8.2 Manage Quality, 8.3					
	Representation					Control					
Histograms Historical	Techniques				7.3	Quality					
information					Determine						
review	Ungrouped				Budget						
Individual and team							9.4 Develop				
assessments	Ungrouped						Team				



Tool & Technique	Tools and Techniques Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Influence diagrams	Data Analysis Techniques								11.4 Perform Quantitative Risk Analysis		
Influencing	Interpersonal and Team Skills						9.4 Develop Team, 9.5 Manage Team, 9.6 Control Resources		11.6 Implement Risk Responses		
Information management	Ungrouped	4.4 Manage Project Knowledge							27,7		
Inspections	Ungrouped		5.5 Validate Scope			8.3 Control Quality				12.3 Control Procurements	13.3 Manage Stakeholder Engagement
Interviews	Data Gathering Techniques	4.1 Develop Project Charter, 4.2 Develop Project Management Plan	5.2 Collect Requirements			8.1 Plan Quality Management			11.2 Identify Risks, 11.3 Perform Qualitative Risk Analysis, 11.4 Perform Quantitative Risk Analysis, 11.5 Plan Risk Responses		
Iteration burnout chart	Data Analysis Techniques			6.6 Control Schedule							
Knowledge management	Ungrouped	4.4 Manage Project Knowledge									
Leadership	Interpersonal and Team Skills	4.4 Manage Project Knowledge					9.5 Manage Team				13.4 Monitor Stakeholder Engagement



Tool &	Tools and Techniques										
Technique	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Leads and lags	Ungrouped			6.3 Sequence Activities, 6.5 Develop Schedule, 6.6 Control Schedule							
Logical data model	Data Representation Techniques					8.1 Plan Quality Management					
Make-or-buy analysis	Data Analysis Techniques									12.1 Plan Procurement Management	
Market research	Data Gathering Techniques									12.1 Plan Procurement Management	
Matrix charts	Data Representation Techniques					8.1 Plan Quality Management, 8.2 Manage Quality					
Matrix-based charts	Data Representation Techniques						9.1 Plan Resource Management				
Meeting management	Interpersonal and Team Skills	4.1 Develop Project Charter, 4.2 Develop Project Management Plan						10.2 Manage Communications			



Tool &	Tools and Techniques										
Technique	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Meetings	Ungrouped	4.1 Develop Project Charter, 4.2 Develop Project Management Plan, 4.3 Direct and Manage Project Work, 4.5 Monitor and Control Project Work, 4.6 Perform Integrated Change Control, 4.7 Close Project or Phase	5.1 Plan Scope Management	6.1 Plan Schedule Management, 6.2 Define Activities, 6.4 Estimate Activity Durations	7.1 Plan Cost Management	8.1 Plan Quality Management, 8.3 Control Quality	9.1 Plan Resource Management, 9.2 Estimate Activity Resources, 9.4 Develop Team	10.1 Plan Communications Management, 10.2 Manage Communications, 10.3 Monitor Communications	11.1 Plan Risk Management , 11.2 Identify Risks, 11.3 Perform Qualitative Risk Analysis, 11.6 Implement Risk Responses	12.1 Plan Procurement Management	13.1 Identify Stakeholders, 13.2 Plan Stakeholder Engagement, 13.3 Manage Stakeholder Engagement, 13.4 Monitor Stakeholder Engagement
Mind mapping	Data Representation Techniques		5.2 Collect Requirements	24,444	a.ragee.r	8.1 Plan Quality Management					13.2 Plan Stakeholder Engagement
Motivation	Interpersonal and Team Skills						9.4 Develop Team				
Multicriteria decision making analysis	Decision- Making Techniques	4.6 Perform Integrated Change Control	5.2 Collect Requirements, 5.3 Define Scope			8.1 Plan Quality Management, 8.2 Manage Quality	9.3 Acquire Resources		11.5 Plan Risk Responses		13.4 Monitor Stakeholder Engagement
Negotiation	Interpersonal and Team Skills						9.3 Acquire Resources, 9.4 Develop Team, 9.6 Control Resources			12.2 Conduct Procurements	13.3 Manage Stakeholder Engagement



Tool &	Tools and Techniques										
Technique	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Networking	Interpersonal and Team Skills	4.4 Manage Project Knowledge						10.2 Manage Communications			13.4 Monitor Stakeholder Engagement
Nominal group	Interpersonal and Team Skills		5.2 Collect Requirements								
Observation/ conversation	Interpersonal and Team Skills		5.2 Collect Requirements				9.1 Plan	10.3 Monitor Communications			13.3 Manage Stakeholder Engagement
Organization theory	Ungrouped						Resource Management				
Parametric estimating	Ungrouped			6.4 Estimate Activity Durations	7.2 Estimate Costs		9.2 Estimate Activity Resources				
Performance reviews	Data Analysis Techniques			6.6 Control Schedule		8.3 Control Quality	9.6 Control Resources			12.3 Control Procurements	
Political awareness	Interpersonal and Team Skills	4.4 Manage Project Knowledge						10.1 Plan Communications Management, 10.2 Manage Communications			13.3 Manage Stakeholder Engagement, 13.4 Monitor Stakeholder Engagement
Pre-assignment	Ungrouped						9.3 Acquire Resources				
Precedence diagramming method	Ungrouped			6.3 Sequence Activities							
Presentations	Communication Skills							10.2 Manage Communications			13.4 Monitor Stakeholder Engagement



Tool &	Tools and Techniques										
Technique	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Probability and impact matrix	Data Representation Techniques								11.3 Perform Qualitative Risk Analysis		
Problem solving	Ungrouped					8.2 Manage Quality	9.6 Control Resources				
Process analysis	Data Analysis Techniques					8.2 Manage Quality					
Product analysis	Ungrouped		5.3 Define Scope								
Project management information system	Ungrouped	4.3 Direct and Manage Project Work		6.3 Sequence Activities, 6.5 Develop Schedule, 6.6 Control Schedule	7.2 Estimate Costs, 7.4 Control Costs		9.2 Estimate Activity Resources, 9.5 Manage Team, 9.6 Control Resources	10.2 Manage Communications, 10.3 Monitor Communications	11.6 Implement Risk Responses		
Project reporting	Ungrouped	,				8.2 Manage Quality			·		
Prompt lists	Ungrouped								11.2 Identify Risks		
Proposal evaluation	Data Analysis Techniques									12.2 Conduct Procurements	
Prototypes	Ungrouped		5.2 Collect Requirements								
Quality improvement methods	Ungrouped					8.2 Manage Quality					
Questionnaires and surveys	Data Gathering Techniques		5.2 Collect Requirements								13.1 Identify Stakeholders
Recognition and rewards	Ungrouped						9.4 Develop Team				
Regression analysis	Data Analysis Techniques	4.7 Close Project or Phase									



	Tools and										
Tool & Technique	Techniques Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
- Commque	G. G	eg.u.ion	СССРС	Concount		Quanty	1100001100				Councilionae
D									11.4 Perform		
Representation of uncertainty	Ungrouped								Quantitative Risk Analysis		
	ong. capaa										
					7.2 Estimate						
					Costs, 7.3				11.6		
				6.4 Estimate	Determine				Implement		
Danamia analisaia	Data Analysis			Activity	Budget, 7.4 Control Costs				Risk		
Reserve analysis	Techniques			Durations 6.5 Develop	Control Costs				Responses		
				Schedule, 6.6							
Resource				Control							
optimization	Ungrouped			Schedule							
									11.3 Perform		
Risk									Qualitative		
categorization	Ungrouped								Risk Analysis		
									11.3 Perform		
Risk data quality	Data Analysis								Qualitative		
assessment	Techniques								Risk Analysis		
Risk probability									11.3 Perform		
and impact	Data Analysis								Qualitative		
assessment	Techniques								Risk Analysis		
Rolling wave				6.2 Define							
planning	Ungrouped			Activities							
											13.2 Plan
											Stakeholder
						8.2 Manage					Engagement,
Root cause	Data Analysis	4.5 Monitor and Control				Quality, 8.3 Control			11.2 Identify		13.4 Monitor Stakeholder
analysis	Techniques	Project Work				Quality			Risks		Engagement
,	1					8.2 Manage					5 5 5 5 5
	Data					Quality, 8.3					
Scatter diagrams	Representation Techniques					Control Quality					
ocatter diagrams	recimiques			1		Quality		1			



Tool & Technique	Tools and Techniques Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
Schedule compression	Ungrouped	g.uuon	COOPE	6.5 Develop Schedule, 6.6 Control Schedule		Quanty					
Schedule network analysis	Ungrouped			6.5 Develop Schedule							
Sensitivity analysis	Data Analysis Techniques								11.4 Perform Quantitative Risk Analysis		
Simulation	Data Analysis Techniques			6.5 Develop Schedule					11.4 Perform Quantitative Risk Analysis		
Source selection analysis	Ungrouped									12.1 Plan Procurement Management	
Stakeholder analysis	Data Analysis Techniques								11.1 Plan Risk Management		13.1 Identify Stakeholders, 13.4 Monitor Stakeholder Engagement
Stakeholder engagement assessment matrix	Data Representation Techniques							10.1 Plan Communications Management, 10.3 Monitor Communications			13.2 Plan Stakeholder Engagement, 13.4 Monitor Stakeholder Engagement
Stakeholder mapping /representation	Data Representation Techniques										13.1 Identify Stakeholders
Statistical sampling	Data Gathering Techniques					8.3 Control Quality					
Strategies for opportunities	Ungrouped								11.5 Plan Risk Responses		



	Tools and										
Tool &	Techniques	lata anatia a	C	Cabadada	Cont	O. alita	D	Camananiantiana	Diel.	Dun avvenue and	Chalcab aldon
Technique Strategies for	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
overall project									11.5 Plan Risk		
risk	Ungrouped								Responses		
Strategies for threats	Harana d								11.5 Plan Risk		
threats	Ungrouped								Responses		
SWOT analysis	Data Analysis Techniques								11.2 Identify Risks		13.2 Plan Stakeholder Engagement
Team building	Interpersonal and Team Skills						9.4 Develop Team				
Technical	and realit skins						reum				
performance analysis	Data Analysis Techniques								11.7 Monitor Risks		
Testing/ product evaluations	Ungrouped					8.3 Control Quality					
Tests and	Oligioupeu					8.1 Plan					
inspection						Quality					
planning	Ungrouped					Management					
Text-oriented	Data						9.1 Plan				
formats	Representation Techniques						Resource Management				
The red, bold	reciniques						Wanagement				
font is the											
process where											
the tool or											
technique is											
described.											
Three-point				6.4 Estimate Activity	7.2 Estimate						
estimating	Ungrouped			Durations	Costs						
To-complete performance index	d				7.4 Control Costs						
inuex	Ungrouped				CUSIS						
							9.4 Develop				
Training	Ungrouped						Team				



	Tools and										
Tool &	Techniques										
Technique	Groups	Integration	Scope	Schedule	Cost	Quality	Resource	Communications	Risk	Procurement	Stakeholder
		4.5 Monitor									
		and Control									
		Project									
		Work, 4.7									
	Data Analysis	Close Project	5.6 Control	6.6 Control	7.4 Control		9.6 Control			12.3 Control	
Trend analysis	Techniques	or Phase	Scope	Schedule	Costs		Resources			Procurements	
		4.5 Monitor									
		and Control									
		Project									
		Work, 4.7									
Variance	Data Analysis	Close Project	5.6 Control	6.6 Control	7.4 Control						
analysis	Techniques	or Phase	Scope	Schedule	Costs						
							9.3 Acquire				
							Resources,				
Virtual teams	Lingraumad						9.4 Develop Team				
virtual teams	Ungrouped	4.5 Monitor					ream				
		and Control									
		Project									
		Work, 4.6									
		Perform	5.2 Collect								
	Decision-	Integrated	Requirements,	6.4 Estimate							13.4 Monitor
	Making	Change	5.5 Validate	Activity	7.2 Estimate						Stakeholder
Voting	Techniques	Control	Scope	Durations	Costs						Engagement
<u> </u>	'		i i	6.5 Develop							
				Schedule, 6.6							
What-if-scenario	Data Analysis			Control							
analysis	Techniques			Schedule							

