Index

Symbols

assessment measures, three types of 326 100% online course approach 450 assessment pedagogy 330 2027, the world in 22 assessment, performance 327 (TMO), technology management by objectives assessment practices, ultimate objective of 322 87 assessment principles 325 assessment protocols 328 A assessment, resources 333 ABC (Assessment of Basic Components) 328 assessment rubrics 323 activity, criticality 365 assessment strategies 333 ADCMS Project Risk Management Guidelines assessment structure 327 263 assessment, systematic process for conducting ADDIE (Analysis, Design, Development, Implementation, and Evaluation) 392, 306 assessment team, of the corporation 333 age distribution 24 assessment technology 328 agile methodologies 114 assessment, traditional 327 agile project management 303 assessment trio 328 agile project managers' leadership competen-ATLAS.ti v5.0 software. 137 cies 68 audience, and needs assessment 303 agile SDLC 125 audience assessment 296 American Association for Higher Education Australian-New Zealand Standards for Risk (AAHE) 330 Management 263 AMS (Asset Management System) 267 Automotive Electrical Body Module Case application service provider (ASP) 497 Study 467 Art of War (AW), The 1, 3, 4, 15 automotive industry 460 assessment, alternative 327 R assessment articulation 332 assessment audit 332 Balci's life cycle 129, 134 assessment, authentic 327 Balci's methodology 131 assessment, basics 323 Balci, v 131 assessment, conferences 334 Banco Central do Brasil 177 assessment cycle 324 behavioral school 62 assessment dimensions 329 best practices, evaluation of 375 assessment, direct 327 blended/hybrid approach 449 assessment impact 331 blogs 494

assessment matrix 326

Index

b Model 120, 134 competence, in IT projects 38 b-model SDLC 133 competence, progression of 40 Boehm, Barry 129 competence, types of 64 Boehm's spiral model 129, 134 competency school 64 BPR (Business Process Reengineering) 127 completion, stage of 367 component-based system 132 Brazil 406 Brazilian banking sector 176 concept mapping model 331 Brazilian Central Bank 177 concurrent engineering 463 broad objective 88 confirmation prototype (CP) 470 budget impact 286 contexts, commonalities across three 513 Burnout syndrome 408 contingency school 62 business case, a likely form of diffusion 149 control charts, two types of 235 business case (BC) 146 control system (CS) 268 CoPs (communities of practice) 408 business case, big picture of a 148 business case, developing a 144 corporate objective 88 business case, view of the future in a 147 cost considerations 219 Business Process Reengineering (BPR) 127 COTS solution, perceived disadvantages to business value, generating 169 209 business value generation mechanism 169 course management systems (CMS) 440, 508 CRAMM methodology 263 \mathbf{C} critical success factors (CSF) 4 Crosby's Four Absolutes of Quality 227 Calgary, Canada 37, 41 cross-industry standard process for data mining case study research strategy 175 (CRISP-DM) 513 cause-and-effect analysis 233 Crystal Family methodology 128 CCM (Cockpit Control Model), 271 CS (Control System) 268 CE (Collaboration Environment) 408 charismatic school 62 D chief technology officers 89 CMMS (Computerised Maintenance Managedata flow diagram (DFD) 124 ment Systems) 267 data mining 508 CMM, the capability maturity model for softdata mining, analysis phase 514 ware development 263 data mining, preparation phase 514 CMS (course management systems) 440 data mining projects, managing 513 Cockpit control model (CCM), 271 deficiency, repair the areas of 391 collaboration, across culture and time zones deployment, of PolyPhone 382 482 design of experiments (DOE) 232, 237 design verification (DV) 474 collaboration environment (CE) 408 commercial-off-the-shelf (COTS) 208 destructive team characters 77 Committee on Academic Policy and Procedure determinants, dynamic 361 determinants, static 361 (CAPP) 399 communication, within university of new protodevelopment, by scenario 27 development methodologies, are they really type 377 communities of practice (CoPs) 408 that useful 312 company size 25 development methodologies, expert identified competence categories 37 categories for evaluating 314 competence, define 386 development methodology selection process,

model for the 317

development models 305	emotional (EQ) competencies 64
development, of PolyPhone 381	emotional intelligence school 63
diffusion 141	emotional leadership competencies (EQ) 65
diffusion, economic attributes 143	employee concerns, anticipating and mitigating
diffusion, justified beliefs in 141	202
diffusion of innovations (DOI) theory	employee, preparation, participation and perfor-
137, 138, 157	mance 201
diffusion of innovations (DOI) theory, in a	employees, engaging 81
context 154	end-user persepctive 105
diffusion theory 105	end users, and project development 106
digital libraries 508	enterprise information Systems 261
discounted cash flows 137	enterprise resource planning (ERP)
distributed engagement approach 449	1, 263, 267
distributed learning, models of 448	enterprise resource planning management
DOE (Design of Experiments) 237	(ERPM) 1
dynamic determinants 361	enterprise resource planning systems (ERP)
dynamic determinants, of forecast accuracy	304, 397
363	e-procurement system, initial reactions from the
dynamic systems development method 314	internal stakeholders 96
ay a says a says of	e-procurement system, proposal to set up 96
E	E-PRO project experience 102
andorship styles 50	E-PRO system 96
eadership styles 59	ERP applications 261
EAM (Enterprise Asset Management) 267	ERP domain, mapping Sun-Tzu terminology to
early stage, for new services 375	the 4
Earned Duration Method (EDM) 359	ERP (Enterprise Resource Planning) 263
earned schedule (ES) 360	ERP life-cycle management (ELCM) 267
earned schedule method (ESM) 359, 365	ERP project management five factors of initial
earned schedule project tracking, in software	estimations Ffamework 13
368	ESM (Earned Schedule Method) 359, 365
Earned Value Management (EVM) 358, 359	ETH community 380
earth, Sun Tzu's five factors 9	ETH World 374
EDM (Earned Duration Method) 359	ETH World, results of technology exploration
Edsel phenomenon 303	at 379
Edsels 302	ETH Zurich 374
educational multimedia, challenges and oppor-	Europe, strong 23
tunities 411	evaluation phase 373
educational multimedia content 406	Event\Entity Relationship diagram (ER) 124
educational technology, teacher training in 410	EVM (Earned Value Management) 359
EEIH, how to implement the	Ex-Ante Economic Inefficiency
project prioritization based on 183	Hypothesis (EEIH) 172
e-learning tools 439	eXtensible Markup Language (XML) 409, 411
electrical electronics systems engineering (EESE) 467	Extreme Programming (XP) 125, 129
ElectroCo 97	F
emerging technologies, pedagogical applica-	1
tions of 450	faculty and learners, supporting 451 faculty styles, adoption, and support 451

failure, and success of IT projects 296	Н
failure mode and effect analysis (FMEA) 232, 237	hardware analysis 432
failure modes 283	heaven, Sun-Tzu's five factors 8
Fairley's seven-step PRM processes 263	Helpdesk systems 454
final evaluation, of prototype 378	higher education, data mining 510
firm-level value creation 171	higher education institutions 419
firm-level value creation model 169	higher education IT project managers 508
firm model 171	highly accelerated life testing (HALT) 473 house of quality 230
five factors of initial estimation 1	Hoykom projects 192
FMEA (failure mode and effect analysis) 237	hybrid role 46
FMS (facility management system) 267 focus groups 303	HyperText Markup Language (HTML) 411
Fonterra 138	T
Ford 461	I
Ford Product Development System (FPDS)	ICT based service innovation 189
process 470	ideation workshops 376
forecast accuracy, determinants of 361	implementation methodology 263
formative assessment 322	incremental model 119 industry sectors 25
Fountain model 121, 133, 134 FoxMeyer 138	information and communication technologies
frequently asked questions (FAQ) 454	(ICT), in education 382
full project life-cycle, need to adopt a 265	information and communication technology
functional managers and project managers, dif-	(ICT) infrastructure 373
ferences between 67	information technology (IT) projects, high fail-
G	ure rate of 310
d	information technology (IT) projects, persistent
Gallup organization 81	problems of 261 initiatives, framing through models and tools
Gap analysis 444	448
general assessment 434 General Motors 461	innovation, classical diffusion attributes of the
general, Sun-Tzu's five factors 11	142
Gilbert, Thomas 385	innovation, justified perceived attributes of the
GIS (Geographical Information System) 267	142
global communication, what makes it work	Institute for the Future (IFTF) 455
485	institutional assessment 442 institution conceptual model, assess the 386
global economy 24	instructional design model 392
globalization, and project teams 480	integrated classic structure 189, 197
global product development, challenges in 465 global product development, definition and	integrated project management system (IP-
management perspectives 464	RMS) 272
global product development (GPD) 460, 462	integrated project-risk management (IPRM)
Global TMO 87	model 261, 267
GPD (global product development) 460	integrated project-risk management system
growth theory 86	(IPRMS) 274
	intellectual (IQ) competencies 64

 \mathbf{L} interactive digital television (iDTV) 407 International Competence Baseline 3 (ICB 3) LASER (Legacy Applications System Replace-17 ment) project 398 International Competence Baseline (ICB) 20 LASER project 398, 404 International Project Management Association launch readiness (LR) 470 (IPMA) 20 laws of military organization and discipline 12 International Project Management Association's LCMS (Learning Content Management Sys-(IPMA) 60 tems) 408 investment decision process, and value percepleadership competences, of successful project tion 173 managers in different types of projects IPRM-7, architecture of 269 IPRM, and project health 272 leadership, defined 59 IPRM, and project outcome 272 Leadership Development Questionnaire (LDQ) IPRM, building of 269 IPRM, context 272 leadership literature 60 IPRM, future outlook 279 leadership research, in project management 59 IPRM, guiding mechanism 272 leadership roles, additional 79 IPRM, how it is different 278 leadership, theories in the 20th century 61 IPRM, implementation guide 272 leadership theory, schools of 59 IPRM model 264 leadership, various definitions of 76 IPRMS (Integrated Project-Risk Management leader, the importance of 78 System) 274 leader, to address negative and positive 78 iron triangle 191 Lean Product Development Framework, proissues, concerns, problems and threats (ICPT) posed 468 learners', changing expectations 440 Issues-Concerns-Problems-Threats (ICPT) 269 learner styles, adoption, and support 452 iterative cycles of assessment 296 learning content management systems (LCMS) IT project failure 93, 294 IT project management, evolution of 263 learning/course management systems (L/CMS) IT project managers 37 IT projects, success or failure of 174 learning management system (LMS) 386, 408 IT projects, why do they fail 277 Linux/Apache/MySQL/PHP (LAMP) 497 LMS (learning management system) 386, 408 J Local TMO 87 Johns Hopkins University 494 junior technical role 42 M management, definition of 59 K management information system (MIS) 87 Kansas State University 397 management methodologies 495 Kipling, Rudyard 324 management of change (MoC) 407 knowledge management (KM) 408 management system (MS) 268, 271 knowledge, skills and/or abilities (KSAs) 427 managerial (MQ) competencies 64 Knowledge Works Foundations (KWF) 455 manager's oversight (MO) 268, 271 KSAs (knowledge, skills and/or abilities) 427 Mathematical Markup Language (MathML)

meetings, and deadlines 425	PeopleSoft Campus Solutions™ 398
methodologies, overview of 311	Peopleware analysis 426
methodology, right culture for the right 315	perceived value 176
methodology selecting, which factors matter	performance assessment, of a multinational
313	corporation 321
methodology selection factors, models of 316	performance assessment, of an individual em-
methodology, three requirements for a 313	ployee 321
military domain (MD) 1	performance monitoring 211
mining usage, in the course management sys-	personal digital assistants (PDAs) 407
tems context 512	personality, project type and project success,
mining usage, in the digital library context 511	relationship between 64
mining usage, in the online museum context	PG (Project Governance) 268
512	phase level, investigations at the 268
mission and vision, analysis of 426	Planned Value Method (PVM) 359
MoC (Management of Change) 407	Plato 142
model of human competence 385	PMLC (project management life cycle) 247
MO (Manager's Oversight) 268	PolyPhone 380
Monte Carlo simulation 365	portfolio assessment approaches 331
Moodle 513	position 25
MS (Management System) 268	positive team environment, effects of 82
Mutual Adaptation 189	positive team member roles 77
mutual adaptation, of service innovations 197	post-mortem review 305
N	potential value 185
TV	PPO (Project Performance Outcome) 268
National Coordination for the Improvement of	practices suitability and effectiveness (PSE)
Graduate Professionals (CAPES) 407	267, 268, 269, 277
National Science Digital Library (NSDL), 510	previously perceived potential value 181
NCAT's Supplemental Model 449	primary trait analysis (PTA) 329
needs assessment 205, 296	PRINCE 2 Project 263
Norwegian Government 192	PRM (project risk management) 263 procurement manager, supplier's appeal to the
0	97
	product development, lean thinking in 466
OEMs, benchmarking of other 469	product development processes, evolution of
online museums 508	462
open content publishing 508	product development process, optimization of
open knowledge framework 455	473
open source development projects 508	professional development, provide instruction
open source projects, background 509	391
Oracle Student System (OSS) 398	program risk consequences, three types 286
organizational change projects 66	progression of the research, three distinct levels
original equipment manufacturers (OEMs) 460	268
outsourced software development projects 40	project duration 26
P	project governance (PG) 268, 271
	project health indicators (PHI) 268, 272
packaged-based IS projects 132	project, introduction of the 76
Pareto analysis 233	

project level, investigations at the 268 project life cycle 272	quality control component, four key considerations in structuring the 231
project life cycle point-of-view 358	quality, definitions of 225
project management 20, 21, 27, 218	quality function deployment (QFD) 230
project management, and Wiki 500	quality management 224
Project Management Body of Knowledge (PM-	quality management, new directions in 238
BOK) 358	quality management, non-quantitative tools
project management, defined 21	237
project management failures, reasons for 243	quality management system (QMS) 237
project management, future of 18	quality management tools 224
Project Management Institute (PMI) 70	quality, nine different dimensions of 225
project management life cycle (PMLC) 247	quality, planning and organizing for 229
project management literature, leadership in the 60	quality planning process, elements of the 229 quality, what is 217
project management (PM) 271	R
project management, quality and 219	K
project management related leadership, contemporary research in 64	rapid application development (RAD) 126 rapid application development (RAD) model
project management, with quality assurance	126
216	rapid prototyping models of development 106
project manager, leadership qualities for a 75	rational unified process (RUP) 125
project manager's role 43, 75	realized value 176
project monitoring and control, with mining	really simple syndication (RSS) 407
visualization 515	regional communities 23
project performance 272	relay race methodology (RRM)
project performance outcome (PPO) 268, 271	115, 123, 133, 134
project phase 37	reliability requirements 207
project quality management 220	request for proposal (RFP) 146
project risk management (PRM) 263	requests for information (RFI) 146
projects, engineering and construction 66	research and practice, implications for 196
projects, information technology and telecom- munication 66	researcher's knowledge-set (RKS) 265, 268
	research level, investigations at 268
projects, types of 26 proposals evaluation phase 376	research propositions 97
prototype stage, for new services 377	return on investment (ROI) 268
prototype stage, of PolyPhone 381	reusable learning objects (RLOs) 435
prototyping 122	revised potential value 181
PSE (practices suitability and effectiveness)	risk, concepts and applications of 263
267, 268	risk identification 285
PTA (Primary Trait Analysis) 329	risk management applications 263
PVM (Planned Value Method) 359	risk management (RM) 271
1 v W (1 laimed value Method) 337	risk ranking 285, 286
Q	risk reduction plan 285, 288 risk tracking 288
QFD (Quality Function Deployment) 230	RKS (researcher's knowledge-set) 265, 268
quality, and project management 219	RLOs (reusable learning objects) 435
quality assurance (QA) 217, 220	ROI (return on investment) 268

RRM (relay race methodology) 123	SQA process, and role of SQA teams 246
RSS (really simple syndication) 407	SQA process, explored 247
rubric, defined 323	SQA (software quality assurance) 243
RUP (rational unified process) 125	SSADM (structured systems analysis and design method) 124
S	SSS (scrutinize, synthesize and summarize)
Sakai Project 513	329
schedule, adherence 367	stage gate product development process 462
schedule impact 287	stakeholder assessment framework 94
scope, defined 190	stakeholder audiences, maintaining engagement
serum 126	with 296
SCRUM 314, 306	stakeholder, (dis)engagement 305
SCRUM methodology, three phases of 312	stakeholder matrix, as a foundation for devel-
scrutinize, synthesize and summarize (SSS)	oping an evaluation plan 301
329	stakeholder matrix, collecting feedback 301
SDLC (software development lifecycle) 114,	stakeholder matrix, develop a 300
243, 247	stakeholder matrix, sorting for 300
second-generation knowledge management	stakeholders, getting to know your 299
movement 410	state value stream map, analysis of current 469
self and peer assessment resource kit (SPARK)	static determinants 361
448	static determinants, of forecast accuracy 362
senior project manager (PM) 4	statistical process control (SPC) 232
service development, of new services 379	status of practice, strategies for ascertaining
service development, of PolyPhone 381	445
service innovation 190	strategy, ERPM 4
service innovation processes, management of	strength, weakness, opportunity, threat, and
the 190	trend (SWOTT) 444
service operation, of new services 379	structured content model 331
SIP technology 380	structured systems analysis and design method
sociotechnical systems 105	(SSADM) 115, 124, 134
soft competencies 40	student practice, considering 448
soft system methodology (SSM) 132	style school 62
software analysis 433	summative assessment 322
software and hardware development 377	Sun-Tzu 1, 3
software development lifecycle (SDLC) 243	Sun-Tzu and ERPM, rationale for equating 4
software quality assurance (SQA) 242, 243,	Sun-Tzu's Five Factors 2, 4
244	Sun-Tzu's Five Factors of Initial Estimation 6
Software/System Development Life Cycle	suppliers, benchmarking of 468
(SDLC) model 306	suppliers' doubts and suspicions 96
SPC, seven tools of 232	SWOTT analysis 444
SPC (statistical process control) 232	SWOTT (strength, weakness, opportunity,
spiral methodologies 114	threat, and trend) 444
spiral SDLC 129	system acquisition 208
SQA, implications for practice 256	system compatibility 206
SQA, implications for research 257	system deployment 210
SQA lifecycle phases 248	system development, employee acceptance of 204

system development life cycle (SDLC) 114,	threshold competencies 46
115, 205, 247	TIDIA 414
system tests 209	TMO, advantages of various 90
T	TMO, steps in setting up 89
1	topological network structure 365
Tao 7	total cost of ownership (TCO) 137, 143, 146
TAP (Transformative Assessment Process)	total quality management (TQM)
framework 442	197, 217, 224, 227
task analysis 206	TQM 189
task force, becomes a major player in the project 400	TQM (Total Quality Management) 197, 217, 227
task force, origins of the 399	tradeoff studies 208
team approach perspective 332	traditional methodologies 114
team building 424	traditional project management 189
team, creation of 76	traditional team 484
team, negative leadership/membership on the	traditional teaming vs. virtual teaming 484
77	trait school 61
team, positive leadership/membership on the	transactional leadership 63
77	transatlantic market 23
technical impact 287	transformational leadership 63
technical risk management 285	transformation step, of new services 379
technical risk management (TRM) 283	Transformative Assessment Process (TAP)
technical team members 37	framework 442
technological determinism 105	TRM process 283 T value generation 169
technology-adoption cycle 440	1 value generation 109
technology commitments, institutional changes to 440	U
technology exploration 373, 374, 380	UAT (user acceptance testing) 304
technology integration, as novel 394	UNICAMP, Brazil 406
technology management, by objectives 86	Union of Japanese Scientists and Engineers
technology management by objectives, defini-	(JUSE) 229
tion and concept 87	usability testing 304
technology management by objectives, TMO	user acceptance testing (UAT) 304
87	user centered design (UCD) 109
technology management by objectives (TMO)	user evaluation, of new services 378
88	user integration 375
technology management by objectives (TMO),	user interface 377
five objectives of 88	user training 210
technology management by objectives (TMO), three base types 88	V
technology monitoring phase 376	value approach, diffusion and economic at-
technology planning 419	tributes 144
technology planning project, framework for	value perception, investment decision process
419	and 173
technology tools, lack of integrated 440	value stream mapping (VSM) 469
The Risk Management Guide 263	variable control charts, basic types of 235

Index

variables affecting learning 385
VIP (very influential person) 300
virtual team, development of a 486
virtual teaming 483
virtual teaming, benefits and drawbacks of 483
virtual teaming, tools available for 491
virtual teams 480, 485
visionary school 62
V-Model 120, 133, 134
voice over IP service 373
Voice over IP (VoIP) 380

\mathbf{W}

Washington State University's Critical Thinking Project 329 waste, examples of in product development 466 waterfall model 115, 312 waterfall model, six iterative steps of 312 waterfall SDLC 133 Web enhanced course approach 449 Web usage, mining research 510 Wiki, adoption 502 Wiki, and communications 500 Wiki, and stemming knowledge loss 501 Wiki, brainstorming and raw collaboration 502 Wiki, considerations for implementing a 497 Wiki, content and access 497 Wiki, document creation and management 500 Wiki, feature usage 504 Wiki, history of our 499 Wiki, in action 499 Wiki, monitoring progress and status 502 Wiki, outcomes and observations 502 Wiki products 497 Wikis 494 Wikis, and changes in work habits 503 Wikis are not . . . 504 Wikis, benefits 505 Wiki, structure 499 Wiki, used to facilitate project management 494 Wiki, What can it do for you 497 Wiki, what is a 495 work experience 24

Wiki, advantages 496