

# PORTFOLIO MANAGEMENT

A STRATEGIC APPROACH



Edited by  
DR. GINGER LEVIN, PMP, PgMP  
JOHN WYZALEK, PfMP

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# PORTFOLIO MANAGEMENT

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To the eighteen experts who diligently shared their knowledge in the chapters they contributed to this book; to Rich O'Hanley and John Wyzalek, who approved my proposal for this book; to John Wyzalek, who in addition to writing a chapter in this book then supported me as a co-editor; and to my husband, Morris Levin, for his continued support and love.

Ginger Levin, Lighthouse Point, Florida





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## Preface

While portfolio management has been applied in the financial industry since the early 1950s, it is only within the past two to three decades that academic research, plus guidelines for practitioners, had been conducted and made available. Although some organizations used portfolio management techniques to select and prioritize programs and projects to pursue since the 1960s, these organizations rarely discussed its use recognizing it was a competitive advantage for them to do so. In the late 1970s and 1980s, software to assist in prioritizing programs and projects and to allocate resources became available, and there was increased interest in organizations to adopt the software and then recognition that tools alone were insufficient to manage a portfolio.

Portfolio management requires a culture change, with processes and procedures in place that are consistently followed at all levels to support organizational strategies and promote organizational success. It requires strategic goals to ensure the work being done, whether a program, project, or an operational activity, supports these goals; having an inventory of existing work in progress available to determine if it supports organizational strategy and should be continued; and business cases, which are prepared and approved for proposed work to undertake. Such a culture change takes time and dedication to implement, but increasingly, organizational leaders are doing so recognizing its necessity especially in terms of the complexity of work under way and the often lack of qualified and available resources to do this work effectively. It also requires some type of governance structure, such as a Portfolio Oversight Group or Review Board, to meet regularly and make decisions as to work to continue and work to pursue recognizing continual change affecting its overall vision and strategic goals.

While each organization has a portfolio, as it represents the overall organization's strategic intent, the extent of implementation of portfolio management varies significantly. In some organizations, portfolio management may lack visibility or may not exist in formal way, while in others portfolios exist at the highest level, in a department

or business unit, and in individual programs with detailed processes to govern how work will be selected and prioritized and how decisions are communicated to stakeholders at all levels.

Some organizations have a dedicated person at the highest level as the portfolio manager with a Portfolio Management Office. However, the portfolio manager faces far more difficult challenges than those of a program, project, or operations manager. These challenges are due to the increased number of stakeholders, the ability to communicate effectively with stakeholders at all levels, the need to make difficult decisions in order that the work being done is continually aligned with the strategic goals and objectives, and to manage risks as they occur and hopefully turn them into opportunities to be pursued and embraced. As well, he or she is responsible for preparing the processes to follow and the tools and techniques to use and ideally adopts an approach that is flexible and is not overly bureaucratic so it is useful to people at all levels and not viewed as extra meaningless work.

Recognizing the importance of selecting and pursuing programs, projects, and operational work that adds business value with benefits that are transitioned to end users and customers and can be sustained, in 2006 the Project Management Institute (PMI®) issued its first *Standard on Portfolio Management*. PMI issued a second edition in 2008, followed by a third edition in 2013. Also in 2014, PMI launched a Portfolio Management Professional (PfMP®) credential in which several of the authors who contributed chapters to this book participated, to recognize the advanced expertise of practitioners in the field. The United Kingdom also recognized the increased interest in portfolio management and established Management of Portfolios (MoP®) guidelines in 2010, with a guide for senior executives followed by one for practitioners in 2011. In January 2014, a joint venture was established, AXELOS, to handle a number of certifications for practitioners including one for the MoP®.

As portfolio management is beginning to be more formally recognized as a profession of choice, increasingly peer-reviewed journal articles and books have been and are being published, doctoral dissertations and theses have been and are written, and universities and training providers are offering courses in it. However, much remains to be learned and shared.

This book attempts to help fill this void. First, the chapters are written by thought leaders in academia and business from around the world. Several of the chapters are written by PfMPs, and the authors have varied experience working with different organizations across the globe in portfolio management. The people who contributed chapters for this book also represent each region of the world, the Americas, Europe, the Middle East, Africa, and Australia. The intent of the chapters is to provide different perspectives as to why portfolio management is essential to all organizations of various sizes and types.

Following the PMI standard, this book is organized according to its five domains: strategic alignment, governance, portfolio performance management, portfolio risk management, and portfolio communications management. The authors were invited

to select one of these five areas for their chapters, and the area of communications management received the greatest amount of interest recognizing the importance of communications for success in portfolio management. Each chapter, however, presents key insight as to why portfolio management is essential to organizational success with guidelines, examples, and models to consider along with a discussion and analysis of the relevant literature in the field. This approach can provide guidance whether one is a portfolio manager; a member of a portfolio governance group; a program, project or operations manager; or a team member, targeting a broad audience.

The book is organized so that it can be read in its entirety, or specific chapters of interest can be read separately and accompanying chapters at a later time. The majority of the chapters contain references for further reading on the specific topic. Overall, the book is a reference for the five portfolio management themes. It also serves then as a reference for individuals who desire to attain the PfMP® credential. Many chapters reference PMI standards, complement their concepts, and specifically expand on the concepts and issues that the standards only mention in passing or not at all.

It is our wish that this book enhances your own work in portfolio management at any level whether you are just beginning or are a seasoned professional as you work to achieve business value and excellence in your work in your organization. Although the book provides a variety of examples, guidelines, and techniques to consider, all portfolios are different and complex—there is no ‘one best size fits all’ approach in this profession. We hope this book assists you in managing the complexities and changes that affect your work and enhances your portfolio management practice. We also hope the research and experiences covered in these upcoming chapters guide you in your work in portfolio management.



## Editor Bios

**Dr. Ginger Levin** is a Senior Consultant and Educator in project management. Her specialty areas are portfolio management, program management, the Project Management Office, metrics, and maturity assessments. She is certified as a PMP, PgMP and as an *OPM3* Certified Professional. She was the second person in the world to receive the PgMP. As an *OPM3* Certified Professional, she has conducted many maturity assessments using the *OPM3* Product Suite tool.

In addition, Dr. Levin is an Adjunct Professor for the University of Wisconsin-Platteville where she teaches in its M.S. in Project Management Program, for SKEMA (formerly Esc Lille) University, France, and RMIT in Melbourne, Australia in their doctoral programs in project management.

In consulting, she has served as product or project manager in numerous efforts for Fortune 500 and public sector clients, including Genentech, Cargill, Abbott Vascular, UPS, Citibank, the Food and Drug Administration, General Electric, SAP, EADS, John Deere, Schreiber Foods, TRW, New York City Transit Authority, the U.S. Joint Forces Command, and the U.S. Department of Agriculture. Prior to her work in consulting, she held positions of increasing responsibility with the U.S. Government, including the Federal Aviation Administration, Office of Personnel Management, and the General Accounting Office.

Dr. Levin is the editor of *Program Management: A Life Cycle Approach* (2012), author of *Interpersonal Skills for Portfolio, Program, and Project Managers*, published in 2010. She is the co-author of *Program Management Complexity: A Competency Model* (2011), *Implementing Program Management: Forms and Templates Aligned with the Standard for Program Management* Second Edition (2008) and aligned with the Third Edition (2013), *Project Portfolio Management, Metrics for Project Management, Achieving Project Management Success with Virtual Teams, Advanced Project Management Office A Comprehensive Look at Function and Implementation, People Skills for Project Managers*,

*Essential People Skills for Project Manager*, *The Business Development Capability Maturity Model*, and the *PMP Challenge!* (now in its sixth edition) *PMP Practice Test and Study Guide* (now in its ninth edition), the *PgMP Study Guide* (now in its fourth edition), and the *PgMP Challenge!*. In 2014, she authored the *PfMP Practice Tests and Study Guide*.

Dr. Levin received her doctorate in Information Systems Technology and Public Administration from The George Washington University, and received the *Outstanding Dissertation Award* for her research on large organizations.

**John Wyzalek, PfMP** uses portfolio management in his position as Senior Acquisitions Editor at Taylor & Francis, where he acquires, edits, and markets lines of books on project, program, and portfolio management, as well as information technology and software engineering. His publication lines include books for professionals, textbooks, certification guides, and encyclopedias. He is also editor and Web master of the on-line magazine IT Performance Improvement. He published *Green Project Management*, which won the David I. Cleland Project Management Literature Award in 2011. Prior to Taylor & Francis, he was a book editor at Artech House and Computing McGraw-Hill. His career in publishing began as a reporter for the *Today Newspaper*, which serves communities in Northern New Jersey. Subsequently, he edited the magazines *Computer Products* and *Fiberoptic Product News*. He was also the editor of the journal *Information Systems Management* for Warren Gorham & Lamont and Taylor & Francis.

Mr. Wyzalek is currently pursuing a doctoral degree in project management at SKEMA University, Lille, France. He earned the PfMP certification from the Project Management Institute during pilot program for the certificate. He holds a Master of Computer Science Degree from the New Jersey Institute of Technology and a Bachelor of Arts Honors Degree from McGill University, where he studied German language and literature, as well as computer science.

Mr. Wyzalek resides in Weehawken, NJ, where manages his residence's condominium homeowners association and building. In his spare time he enjoys reading, running, and training with kettlebells. He has travelled frequently to Mexico, Colombia, and Quebec and speaks both French and Spanish.



## Contributor Bios

**Amaury Aubrée-Dauchez** is a global leader with a 21+ year proven career track record in delivering businesscentric solutions that achieve organization strategic needs. In 2014, he joined the UBS Group Strategy to augment and evolve its portfolio management framework. In 2010, he established a management consulting firm, Webbed Star, providing strategic advisory services to prestigious clients such as Nestlé for achieving excellence and adopting industry standards. From 1997–2010, he worked in a number of senior management roles at the United Nations, the North Atlantic Treaty Organization and the European Union. He holds multiple certifications in programme, portfolio and project management such as the PgMP, PMP, PRINCE2, PPSO and ASAP. In 2007, he was nominated for the best project manager by the Belgian Chapter of the Project Management Institute. From 1994 to 1997, he controlled a 400 million euros portfolio and managed the bank’s relationship with regulatory bodies. In addition to his role at Kookmin Bank, was Lecturer at the Luxembourg Institute for Training in Banking.

He has an M.Sc. from Lille University of Science and Technology (France) strengthened by advanced university studies in business administration from the European Bank Academy (Luxembourg) and attended La Sapienza University (Italy) as a recipient of an Erasmus scholarship.

**Jennifer Baker, PgMP, PMP, MBB, ITIL and PfMP** is a certified manager with more than 25 years of experience in delivering both complex technical infrastructure projects and strategic business development programs on time and within budget. Her experience includes many business sectors including finance, government, hospitality, education and energy. She is currently an Enterprise Project Portfolio Governance Manager at Duke Energy and an Adjunct Professor at Northeast University in the MSPM Program. She is also very active with several non-profit organizations including serving

on the Board of Directors for her local PMI chapter. She was both an Alpha and Beta Contributor for PMI's "Navigating Complexity" guide and was featured in a portfolio management article called "Going the Distance" in the *PM Network* magazine.

**Dr Lynda Bourne, FAIM, FACS, PMP** is a senior management consultant, professional speaker, trainer and an award winning project manager with 30+ years professional industry experience. She is the CEO and Managing Director of Stakeholder Management Pty Ltd and Director of Professional Services with Mosaic Project Services Pty Ltd focussing on the delivery of stakeholder management and other project and organisation related consultancy, mentoring, and training for clients worldwide.

She is a member of the International Faculty at EAN University, Columbia, teaching in the Masters of Project Management program. She is also a visiting International Professor in the Master's program "Innovation" (MSc) at the Faculty of Exact Sciences and Innovative Technologies, Sholokhov Moscow State University for the Humanities. The modules Lynda teaches are focused on stakeholder management, communication, and leadership in project management.

Dr Bourne is a Fellow of the Australian Institute of Management and a Fellow of the Australian Computer Society. She was awarded PMI Australia's 'Project Manager of the Year', and was included in PMI's inaugural list of '25 Influential Women in Project Management'.

Lynda is a recognised international author, seminar leader and speaker on the topic of stakeholder management and the *Stakeholder Circle* visualisation tool. Her book *Stakeholder Relationship Management: A Maturity Model for Organisational Implementation* (Gower, 2009, 2011) defines the SRMM® model for stakeholder relationship management maturity. She has presented at conferences and seminars in Europe, Russia, Asia, New Zealand, Australia, and the Middle East to audiences in the IT, construction, defence, and mining industries and has been the key speaker on stakeholder engagement practices at meetings, workshops, and conferences. She was editor of the book *Advising Upwards* (Gower, 2011) selecting a group of experts in their field to provide practical advice for those seeking to influence their senior stakeholder and help their managers help them. She presents workshops regularly in the Government sector on stakeholder engagement and project governance. She is currently working on a book: *Making Projects Work: Effective Stakeholder and Communication Management* for publication early 2015.

Lynda's career has combined practical project experience with business management roles and academic research to deliver successful projects that meet stakeholders' expectations. She has worked as a Senior Management Consultant with various organisations in Australia and South East Asia including senior roles with telecommunication companies. Other industry-related roles include strategic planning, account management within the IT industry, business process re-engineering (BPR) and business development in both private enterprise and Government bodies in Australasia and South East Asia.

**Dr. Wanda Curlee** has been married to her husband, Steve, for almost 34-year. She has three children and is proud that all three serve or will serve in the US Military. Her eldest, Paul, is a Captain in the Army, soon to transition to the civilian world. Sam, her second son, serves in the US Navy as a nuclear reactor officer on the USS R. Regan. Finally, her daughter, Tiffany, is in Army ROTC as a freshman at Virginia Tech. Dr. Curlee is a veteran of establishing and running virtual projects and program management offices, tackling complex, international programs and projects by bringing diverse parties together to attain shared goals. Wanda is a program management leader experienced in global markets, government projects and highly complex IT, information systems, and managed services projects. She is also an adjunct professor at several universities. Her present employment is with a Fortune 500 as an ePMO lead. She is active on several Project Management Institute's (PMI) committees and has spoken at several congresses. Most notably is she serves on the core team for the new Requirements Standard and she sat on the team that developed the latest PMI certification, Portfolio Management Certification (PfMP).

**Kari Dakakni** is an international risk management professional consultant and researcher in the field of project management with experience in different countries. She has experience in multiple roles as a risk engineer, account manager, business analyst, actuary, underwriter, and manager. She has conducted site assessments for the insurance industry to measure risk exposure in manufacturing plants in the food industry. She worked for consulting companies in Italy, where she also gained a strong IT background working at Ericsson and other telecommunications companies. She was involved with originating billing systems and data filtering activities.

Kari is an engineer by background with a foundation in the mechanical technology, robotics and biomedics. As an engineer and project manager, she was responsible for technological processes in the machine tool industry, foundry design, and software development. She started her career as assistantship assignment at the University of Rome "La Sapienza" after her degree in engineering, where she completed the study gaining the title of "*dottore in ingegneria*" from the same University. Then she moved into the coaching and training field to conduct courses in engineering design for consulting companies.

In her academic life, Kari received the nomination as Baccalaureate Board's Professor as an external membership professor at the Graduate Studies Committee directly from the Education and Skills Department for high school proficiency assessment test. She also gained other certifications included a master in robotics from Iowa State University. Kari was involved in research studies at ETH-Zürich and other consulting companies, where she worked in model developing about perception-cognition-action, skill-based behavior in risk management, and developing conceptual frameworks. She presents at conferences where the last one was at the Australian risk engineering society a research in fracking technology and manmade activities developing a risk management stream for the risk appraisal. She has interests in philosophy

and ethics in general and how to fit ethical values into modern organizational applicability. In addition, she is also interested in analyzing safety aspects of the food industry, their impacts on the population, and the mapping of disease development. Kari is certified engineer with the State Exam since 2006, from the National Alliance of Italian Engineers.

**Robert Joslin, PhDc, BSc (Durham), PgMP, PMP, CEng, MIEEE, MBCS**, is a project/program management consultant and academic researcher. He has considerable experience in designing, initiating and program management delivery of large scale business transformation, reengineering, infrastructure, strategy development initiatives including winning awards for ideas and product innovation. Previously, he has been a consultant in a wide range of industries including telecom, banking, insurance, manufacturing and direct marketing whilst working for McKinsey & Co, Logica and his own consulting company. Robert is currently studying for a PhD in 'Strategy, Programme & Project Management' at SKEMA Business School in France. During this time he has published book chapters, research papers and is in the process of authoring a book on portfolio, program and project success factors.

**Dr. Muhammad Ehsan Khan** is an entrepreneur and an internationally acknowledged professional on the subject of Governance and Management of Strategic Initiatives. An award-winning strategist with over a decade of leadership success, and a career that has driven multi-million dollar projects for various clients in Middle East and Pakistan, Ehsan is a founding member, and presently serves as a Partner/VP Operations and Service delivery, in a UAE based firm "Inseyab Consulting & Information Solutions LLC".

Ehsan is a PhD in Strategic, Programme and Project Management (Major de Promotion/Valedictorian) from SKEMA Business School, France, and a certified Program (PgMP) and Project Management Professional (PMP). Ehsan is a recipient of the PMI James R. Snyder Award for the year 2012 and was awarded the Young Researcher of the year award by IPMA in 2013. He is the author of first every book on the subject of Program Governance.

With a special inclination towards strategic planning and governance of projects and programs, Ehsan has provided management, consulting and mentoring services in the Middle East Region. He has been involved in establishment of PMOs, implementation of management/governance frameworks, and related practices and tools, in order to create an environment of project management excellence. He has also been managing medium-large scale ICT programs and projects for various customers, especially in the government sector.

**Dr. Catherine Killen** is the coordinator for innovation programs in the Faculty of Engineering and IT at the University of Technology, Sydney (UTS), Australia. Catherine conducts research on innovation processes with a focus on project portfolio management and has published more than 50 journal articles and conference papers

in the area. Her current research themes include the relationship between strategy and the project portfolio, organisational capabilities for survival in dynamic environments, and the management of project interdependencies within a project portfolio. Recent work includes 'best practice' survey-based research, qualitative analyses drawing upon strategic management theories, and industry-based and classroom-based 'experiments' where new methods are employed and evaluated.

Catherine maintains strong links with industry and convenes a project portfolio management special interest group with more than 80 industry-based members. She is regularly invited to speak about innovation and project portfolio management at conferences, seminars, and industry events. She also delivers corporate workshops on technology management tools and assists organisations in benchmarking and improving their innovation processes.

As the coordinator for innovation programs, Catherine develops and teaches courses and programs on technological innovation to undergraduate and postgraduate engineering students. She also supervises research students ranging from doctoral candidates to undergraduate student completing final year projects.

Catherine has a Bachelor of Science in Mechanical Engineering from the University of Virginia (USA) with high distinction, a Master of Engineering Management from the University of Technology, Sydney (awarded the MEM prize), and a PhD from the Macquarie Graduate School of Management (MGSM) in Sydney, Australia.

The five most recent journal publications are:

1. Killen, C. P. (2013), "Evaluation of project interdependency visualizations through decision scenario experimentation", *International Journal of Project Management*, Volume 31, Issue 6, pp 804–816.
2. Killen, C. P., & Hunt, R. A. (2013), "Robust project portfolio management: Capability evolution and maturity", *International Journal of Managing Projects in Business*, Volume 6, Issue 1, pp 121–151.
3. du Plessis, M., & Killen, C. P. (2013). "Valuing water industry R&D: A framework for valuing water research and development investments in financial and non-financial terms". *Water* 2013 (September), 63–67.
4. Killen, C. P., Jugdev, K., Drouin, N., & Petit, Y. (2012), "Advancing project and portfolio management research: Applying strategic management theories", *International Journal of Project Management*, Volume 30, Issue 5, pp 525–538.
5. Killen, C. P., & Kjaer, C. (2012), Understanding project interdependencies: The role of visual representation, culture and process, *International Journal of Project Management*, Volume 30, Issue 5, pp 554–566.

**Professor Laurence Lecoeuvre** was formerly an International Director within the industrial sector and automotive industry (1984–2001). She integrated SKEMA's Business School in 2001. After few years as the Business Programs Director, she is today Director of Project Management Department, Member of the Board of Directors, Associate Dean in charge of the coordination of the doctoral programmes of the Group. She leads the PhD and the DBA in Programme & Project Management.

Laurence is mainly teaching research methodology to MBA and PhD/DBA students; especially qualitative research and data interpretation, and system modelling; she also teaches project management fundamentals, project marketing and management of stakeholders in the masters' programmes. Laurence is also involved in Executive Education.

Her PhD (2005), at Ecole Centrale Paris, focused on the links between project marketing and project management, in the sector of Business to Business; she continues to develop her research on the topic of project marketing; but also on governance. She received the "Habilitation to Direct Research" (HDR) award in 2009 at Lille University.

She publishes in international journals, publishes books and chapters with renowned colleagues in the area of project management, in particular on the topics of project marketing, sustainable project performance, and project governance. Her recent publications are in the *International Journal of Project Management* and *Global Business Perspectives*. In 2014 she was a presenter at the 13th International Marketing Trends Conference and has also presented at the European Academy of Management Conference.

**Professor Carl Marnewick's** academic career started in 2007, when he joined the University of Johannesburg. He traded his professional career as a senior Information Technology (IT) project manager for that of an academic career. The career change provided him the opportunity to emerge himself in the question why IT/IS-related projects are not always successful and do not provide the intended benefits that were originally anticipated. This is currently a problem internationally as valuable resources are wasted on projects and programmes that do not add value to the strategic objectives of the organisation. It is an international problem where there is a gap between theory and practice, and he is in an ideal position to address this problem.

The focus of his research is the overarching topic and special interest of the strategic alignment of projects to the vision of the organisations. This alignment is from the initiation of a project to the realisation of benefits. He developed a framework (Vision-to-Project i.e. V2P) that ensures that projects within an organisation are linked to the vision. Within this framework, a natural outflow of research is the realisation of benefits to the organisation through the implementation of IT/IS systems. Benefits realisation is part of a complex system, and his research to date has identified the following impediments in the realisation of benefits: (i) IT project success rates as well as IT project management maturity levels did not improve over the last decade, and these results are in line with similar international research; (ii) IT project managers are not necessarily following best practices and industry standards; (iii) Governance and auditing structures are not in place, and (iv) IT project managers' training and required skills are not aligned. If these four aspects are addressed through research and practice, then benefits realisation can occur.

His research has given him national and international presence. He is a regular reviewer for national and international journals. He is actively involved in the



development of new international project management standards ISO21500 and ISO21502 (portfolio management). Project Management SA awarded him the Excellence in Research Award as recognition for his active contribution to the local and global body of knowledge by conducting and publishing scientific research in portfolio, programme, and project management.

**David Maynard, BSEE, MBA, PMP** is a native New Yorker who after graduation from engineering school from the State University of New York, traveled to Houston, Texas to work for NASA at the Johnson Spacecraft Center at a very exciting time. The Apollo program was wrapping up with the Apollo-Soyuz Test Project under way and the Space Shuttle design, which had started long before but still had a long way to go before it was mature.

Starting as an engineering aide, he gained responsibilities and widely participated in the Shuttle avionics architecture design and in the “glass cockpit” development. Working closely with crew members and scientists, full-sized Shuttle simulators were used as an engineering tool helping design and implement and evaluate extremely complex test cases and designs of the Shuttle.

Incrementally David’s level of responsibility increased, and he became a Senior Engineer, Project Engineer, a Project Manager, Program Manager, and Section Chief. David oversaw many varied crew-training and Shuttle-related engineering challenges at the Johnson Space Center in Houston and elsewhere.

After the Challenger disaster, David’s life-time focus shifted from solving technical problems to diagnosing troubled projects and assisting in their turn-around. David’s MBA thesis was “The Accuracy of Stochastic Methods of Risk Assessment.”

Leaving NASA, David was asked to become the General Manager of Systems Management Inc. (SMI) in Orlando, Florida whose mission was to turnaround troubled projects, programs or operations. At SMI projects with values up to \$46 million USD were acquired and turned around. Customers included the U.S. Navy, U.S. Coast Guard, Alaska Airlines, and many other major corporations. After seven years, Mr. Maynard left SMI for another attempt at retirement.

David now teaches project management and risk management related topics at Indiana University and Purdue University and is the manager of PMI’s Risk Community of Practice, which currently has over 23,000 members.

His interests remain in examining the accuracy of estimating risks.

**Werner G. Meyer, PhD**, has been a consultant in the field of project management for 19 years. He led software development projects for a number of years before getting involved in mining, construction, and engineering projects. His speciality areas are portfolio management, project management, project offices, and methodology development. He is certified as a PMP®, an OPM3® consultant and is a Certified Cost Professional (CCP™).

Werner has developed and presented a number of project management courses ranging from the fundamentals of project management, earned value management, program and portfolio management, cost engineering, Monte Carlo simulations, and project office establishment.

In consulting, he is the founder and managing director of ProjectLink Consulting, a South Africa-based company, but he has consulted and trained in the Middle East, Australia, and Russia. One of his focus areas is the development of scalable project, program, and portfolio management methodologies. He created the CENTRIX methodology, which is a generic and iterative project management methodology.

He received his PhD from SKEMA Business School in France, with his dissertation on the effect of optimism bias on decision makers who are faced with failing projects. His current research is on the use of computer simulations to investigate the behaviour of decision makers.

**Dr. Subbu Murthy** is CEO of UGovernIT, the only product in the market that provides an analytics-based IT management solution on a common integrated technology platform that works in customer data centers or in the cloud as a SaaS solution. UGovernIT provides service management, project management, resource management, IT analytics, and dashboards that provide a 360-degree view of budgets, IT spend, resources, services delivered, projects implemented, and value created. Using configurable workflows, intelligent agents, analytics and dashboards, UGovernIT is a complete solution to run the business of IT driving efficiency and fostering innovation.

Dr. Murthy has C-Level expertise in creating and marketing software products. He developed the global delivery models for IT services in 1985, SaaS based ERP, and CRM systems for claims processing in 2003, web-based B2B outsourcing portal, and the first SaaS fuzzy logic system in 2006.

He developed an On-Demand CIO retainer model to help SMBs obtain IT strategy expertise at a fraction of the cost of hiring a full-time CIO. He serves as the CIO at the Braille Institute driving technology initiatives to ensure that the high-tech/high-touch strategy reaches the visually-impaired community.

Previously he was CIO at QTC Management, Inc. QTC is the government outsourced occupational health, injury evaluations, and disability examinations in the country. The web foot print also helped QTC move from a \$30M to \$100M in revenues.

Prior to that he was a senior partner at Relsys, which was acquired by Oracle. He developed the SQA framework for the medical device and drug industry. He helped launch this business line with leading medical device makers such as Alcon, Allergan, Baxter, Boston Scientific, and J & J. He designed the EasyTrak product line, which provided effective tracking of user complaints.

Subbu earned his Bachelors degree in Electronics and his Masters in Computer Science from the University of Southern California. He earned his Doctorate in Information Systems from Claremont Graduate University, where he pioneered the use of metrics and analytics in managing information technology. His interests



include value-based technology, IT investments, and pragmatic outsourcing which embrace quality principles drawn from his expertise in FDA GMP practices, CCE (Malcolm Baldrige criteria for excellence), ISO-9001, CMM and Six Sigma. Subbu is considered an expert in Indian Classical Music, and enjoys solving Sudoku puzzles, playing bridge, and keeping up with his twin son and daughter.

**David Tennant** draws on more than 25 years experience as a successful engineer, manager, and executive. He has led numerous successful organizational change initiatives and also offers expertise in project management consulting and training, business re-engineering, rescue of troubled projects, and company turnarounds.

Mr. Tennant has directed over \$3.5-billion in projects and resources and served as the COO of a publicly held company. He holds a BS in Mechanical Engineering from Florida Atlantic University, a MS in Technology and Science Policy from Georgia Tech, and an Executive MBA from Kennesaw State University. Additionally, he is a registered Professional Engineer (PE) and a certified Project Management Professional (PMP).

His firm, Windward Consulting Group, received the “Project of the Year” award (2011) for the development of a \$200-million project from the Project Management Institute, Atlanta Chapter.

David is currently the Chairman of the Board of Directors of Cobb EMC, a \$1-billion corporation and also serves as 2014 Chairman Emeritus for the Atlanta chapter of the Project Management Institute.

He has had engagements in Finland, Germany, New Zealand, the Caribbean basin, Canada, Czech Republic, and the United Arab Emirates.

David is the President and founder of Windward Consulting Group, located in the metro Atlanta area, which has been in business for 12 years. He has authored over 30 papers and presentations on technical and managerial topics.

**Rodney Turner** is a Professor of Project Management at Kingston Business School and at SKEMA Business School, in Lille, France, where he is Scientific Director for the PhD in Project and Programme Management at. He is an Adjunct Professor at the University of Technology Sydney.

Rodney was educated at Auckland University where he did a Bachelor of Engineering and Oxford University where he received an MSc in Industrial Mathematics and a DPhil in Engineering Science.

Rodney was introduced to project management working for ICI as a mechanical engineer and project manager in the petrochemical industry. He then worked for Coopers and Lybrand as a management consultant, working in shipbuilding, manufacturing, telecommunications, computing, finance, government, and other areas. He was then director of Project Management at Henley Management College and Professor of Project Management at Erasmus University Rotterdam before joining the Lille School of Management (now SKEMA Business School) in 2004.

Rodney is the author or editor of 16 books, including *The Handbook of Project-based Management*, the best selling book published by McGraw-Hill, and the *Gower Handbook of Project Management*. He is editor of *The International Journal of Project Management*. His research areas cover project management in small to medium-enterprises, the management of complex projects, the governance of project management, including ethics and trust, project leadership and human resource management in the project-oriented firms.

Rodney is Vice President, Honorary Fellow and former chairman of the UK's Association for Project Management, and also an Honorary Fellow and former President and Chairman of the International Project Management Association. In 2004 he received a life-time research achievement award from the Project Management Institute, and in 2012 from the International Project Management Association. From 1997 to 2005, he returned to the oil, gas and petrochemical industry as Operations Director of the Benelux Region of the European Construction Institute. He is a member of the Institute of Directors and a Fellow of the Institution of Mechanical Engineers.

**Manuel Vara** is Project Portfolio Manager at Nartex Software with over 15 years of professional IT and management experience.

He holds a Bachelor of Business Administration from Universidad Autonoma de Madrid, a Master in Financial and Management Control at School of Industrial Organization (Madrid), and a Stanford Certified Project Manager (SCPM) and Project Management Professional (PMP) certifications.

His expertise is managing strategic initiatives and technology programs and projects. Currently, he collaborates with *Proiectus* a Spanish project management magazine.

**J. LeRoy Ward**, President of Ward Associates, is a seasoned global executive with 38+ years of progressive experience in project, program, and portfolio management in all S&P industry sectors and the U.S. Federal Government. Formerly, Mr. Ward was Executive Vice President at ESI International responsible for global product strategy and consulting in the areas of project, program, and portfolio management, business analysis, contract management and leadership/business skills. He has broad and deep international business experience, including negotiating licensing partnerships in North America, Europe, Asia and Australia.

He has authored a number of publications and articles including *Project Management Dictionary* (3rd ed); with Ginger Levin, *PMP® Exam Practice Test and Study Guide*, *PMP® Exam Challenge*, *PgMP® Exam Practice Test and Study Guide*, *PgMP® Exam Challenge*, and, *Program Management Complexity, A Competency Model*; and, with Carl Pritchard, a collection of audio CDs entitled *Conversations on Passing the PMP® Exam* (4th ed), which has helped more than 20,000 professionals earn the credential. He also authors his popular blog [WardWired.com](http://WardWired.com).

His articles have appeared in *Chief Learning Officer*, *PMNetwork* and *Project Manager Today*, and he is frequently quoted in key industry print and online publications. He is

a dynamic and popular speaker on a wide range of topics in the project management arena. For his extraordinary contributions to the project management profession Mr. Ward was named the distinguished Winner of the Project Management Institute's (PMI) 2013 Eric Jenett Project Management Excellence Award, one of PMI's highest accolades.

Mr. Ward was a member of the adjunct faculties of The George Washington University and the American University presenting courses in remote sensing and information systems. He holds a BS and MS in geography/cartography from Southern Connecticut State University and an MSTM in Information Systems from the American University. He is also a graduate of the Federal Executive Institute, the U.S. Government's premiere executive leadership program.

He is certified by PMI as a PMP (No. 431), a PgMP (one of the first to earn it) and a PfMP (again, one of the first to earn it); and is certified by the Scrum Alliance as a CSM (Certified Scrum Master). Mr. Ward is also a licensed New York City taxicab driver (Taxi & Limousine Commission Hack License No. 5433772) that he earned just for the fun of it.

Ward Associates offers specialty advisory services in project, program and portfolio management practice and process. Mr. Ward can be reached at [jleroyward@gmail.com](mailto:jleroyward@gmail.com).



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A great team!



# ORGANIZATIONAL AGILITY THROUGH PROJECT PORTFOLIO MANAGEMENT

CATHERINE P. KILLEN, PHD

## Abstract

In dynamic environments, organizational agility is essential for survival; organizations must be able to adapt to change in order to succeed. In project-based organizations, a dynamic project portfolio management (PPM) capability can enhance organizational agility. PPM is an important organizational capability that enables organizations to manage and balance the portfolio holistically, to align projects with strategy, and to ensure adequate resourcing for projects in order to maximize the benefits from project investments. A dynamic PPM capability enables organizations to be agile and flexible by facilitating adjustments to the project portfolio and reallocating resources in response to the changes in the environment. In order for the PPM capability to remain relevant, it must evolve to reflect changes in the environment. Examples of aspects of PPM that enhance organizational agility are outlined in this paper to provide guidance for practitioners.

## Introduction

During the past two decades, PPM has become established as a discipline, and organizations have been increasingly turning to PPM to help them manage their portfolios of projects and improve their competitive position (Wideman, 2004; Levine, 2005; Kester, Griffin, Hutlink & Lauche, 2011). Primary goals for the adoption of PPM are to effectively implement the organizational strategy through the portfolio of projects and to enhance the long-term value of the portfolio as a whole. As part of these aims, PPM assists with the management of resources across the portfolio to avoid a 'resource crunch' where the organization attempts too many projects (Cooper & Edgett, 2003). PPM methods also provide the holistic oversight required to ensure that there is balance in the portfolio. The use of formal and mature PPM approaches have been linked with higher success levels in research studies (Cooper, Edgett & Kleinschmidt, 2001; Killen, Hunt, & Kleinschmidt, 2008) prompting organizations to focus on the establishment and development of PPM.

Until recently, PPM has been presented as a series of processes and procedures that organizations tailor to suit their environment. The common refrain has been that, once tailored appropriately, the PPM process will assist an organization to achieve a competitive advantage by implementing strategy, balancing the portfolio, maximizing the value, and ensuring resource adequacy for projects. However recent research highlights many other aspects of PPM that paint a picture of increased complexity and dynamism and offers insight into additional ways that PPM can create value for an organization (Killen & Hunt 2010; Petit, 2012). PPM is now seen as more than a process—PPM is an organizational capability that also includes the organizational structure, the people, and the culture. These elements must work together for effective PPM, and top management support is an important factor in PPM capability success. Recent studies also indicate that PPM has an important role to play in helping organizations achieve advantages in dynamic environments, and the PPM capability itself needs to evolve and adjust to enhance organizational agility and contribute to sustainable competitive advantage (Killen & Hunt, 2010).

This paper first introduces PPM concepts and outlines typical processes before discussing the additional challenges for PPM in dynamic environments. To guide practitioners, several examples are presented to illustrate aspects of PPM that enhance organizational agility in dynamic environments.

### PPM Concepts

As many organizations shift to ‘management by projects’, projects are often the main vehicle for delivering organizational strategy. Definitions of PPM have been evolving as the discipline has become established. A widely accepted and often referred to definition of PPM developed by Cooper et al. (2001, p. 3) is that “Portfolio management . . . is a dynamic decision process wherein the list of . . . projects is constantly revised. In this process, new projects are evaluated, selected, and prioritized. Existing projects may be accelerated, killed, or deprioritized and resources are allocated and reallocated”. McDonough and Spital (2003 p. 40) point out that PPM is more than project portfolio selection as it also involves the “day to day management of the portfolio including the policies, practices, procedures, tools and actions that managers take to manage resources, make allocation decisions and ensure that the portfolio is balanced in such a way to ensure successful portfolio-wide new product performance”. Levine (2005 p. 22) offers a broad definition of PPM: “Project portfolio management is the management of the project portfolio so as to maximize the contribution of projects to the overall welfare and success of the enterprise”. Recent research highlights the fact that an organization’s capability to manage the project portfolio encompasses much more than the processes and methods identified for PPM; it also requires the people and a culture that supports information transparency and portfolio level perspectives, and it requires organizational structures that provide appropriate levels of visibility and responsibility to support the PPM capability (Killen & Hunt, 2010).



Although PPM is tailored for each organization, there are many common elements and approaches to PPM. In its most simple form, PPM facilitates decisions across the entire portfolio of projects by (1) collecting information from all projects (existing and proposed projects), (2) collating and organizing the information, (3) presenting information to a carefully selected decision-making team for portfolio-level reviews, and (4) providing a structure for communicating and implementing decisions. These four steps are explained with extensions for dynamic environments in the section labeled *Outline of a Dynamic PPM Approach*.

Figure 1.1 illustrates a range of common methods and tools for organizing and presenting portfolio data for decision meetings. Portfolio mapping is a common method to provide a central view of all projects in the portfolio. Portfolio maps plot projects on two axes and can be used to assist with the selection of a balanced portfolio of projects. Commonly used portfolio maps balance aspects such as risk versus return and can also display other information through the size, color, patterns, or notes associated with the symbol for each project. Scoring models use weightings and ratings to compare projects based on multiple criteria. Many software applications for PPM offer ‘dash-board’ displays that show the status of projects on dials and graphs; stoplight reporting uses the red and amber colors to highlight trouble areas and green to show the ‘all clear’. Pie charts are often used to communicate the balance in the portfolio; for example by displaying the breakdown of funding across types of projects in a portfolio. All of these methods and others must be customized for each environment to best support decision making.

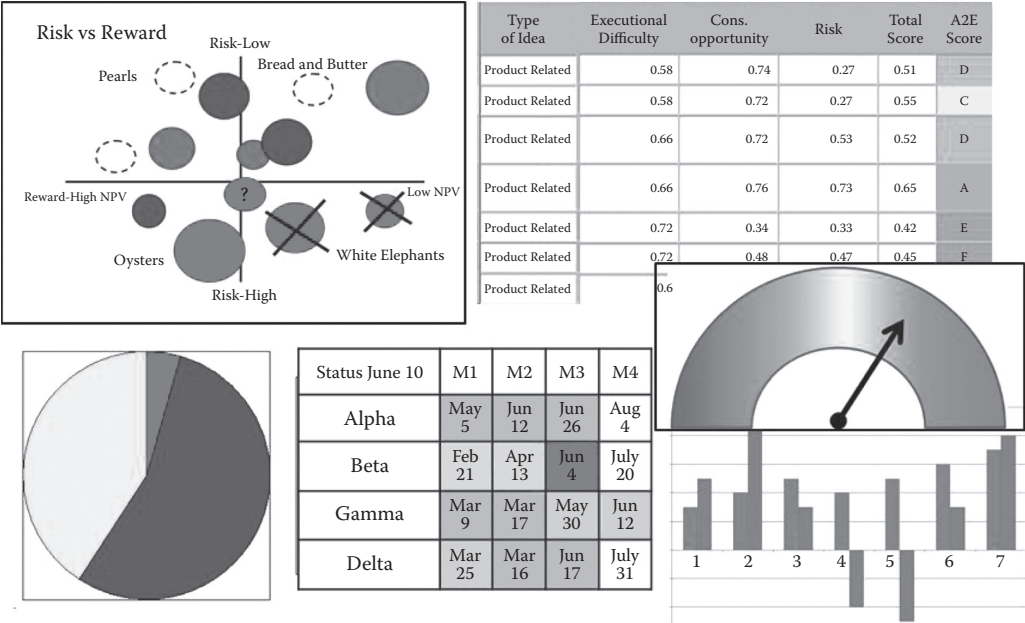
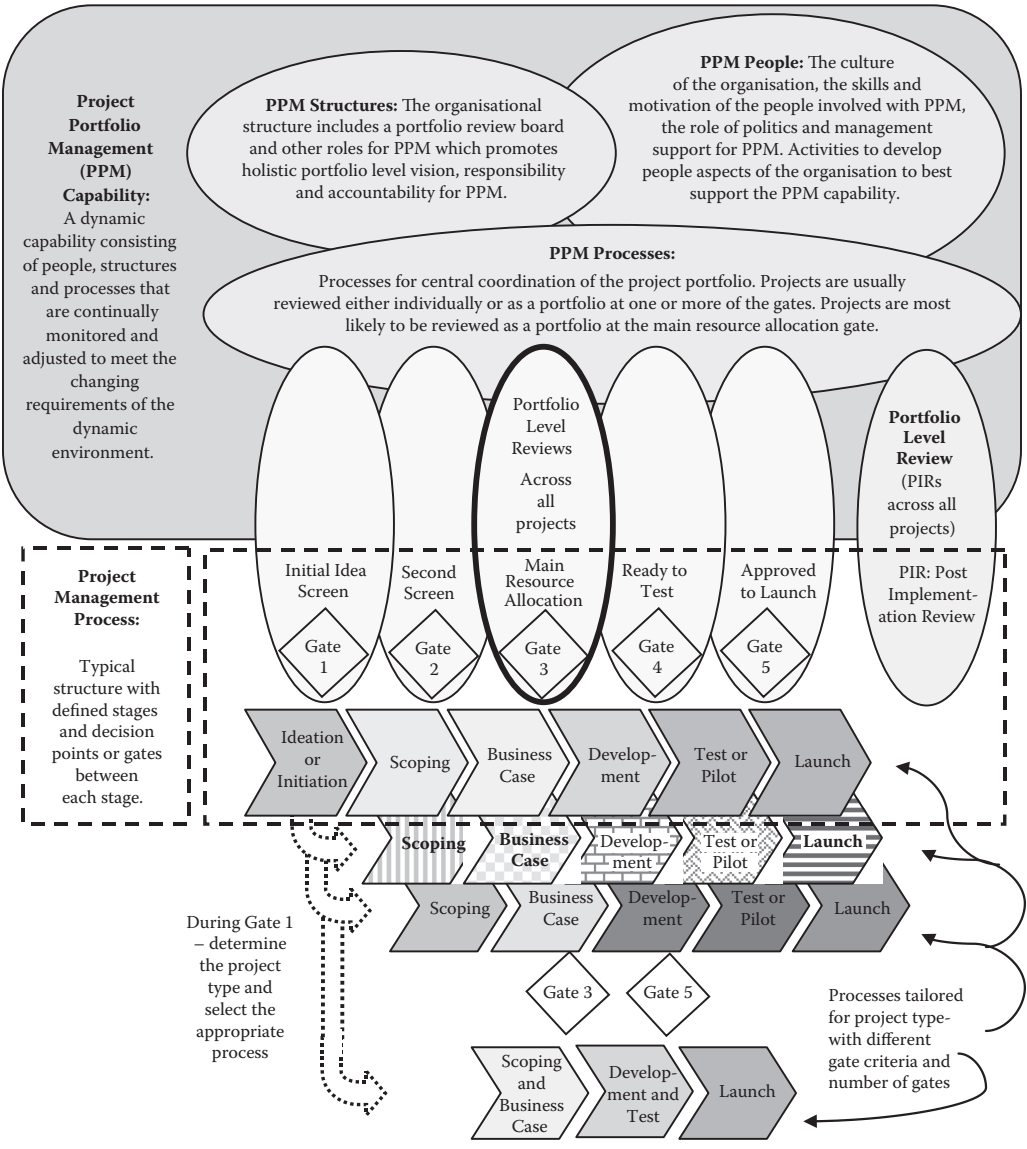


Figure 1.1 Typical methods for organizing and presenting PPM data.

While PPM capabilities often have common elements, they must be developed over time and adjusted to the environment. There is an order of implementation to many aspects of a PPM capability (Eisenhardt & Martin, 2000; Cooper, et al., 2001). For example, establishing a foundational capability such as a gated project management process is an antecedent to the development of an effective PPM capability, and data gathering capabilities must be developed before the capability to evaluate and adjust the portfolio mix can be established (Martinsuo & Lehtonen, 2007).

As shown in Figure 1.2, PPM capabilities generally include a gated project management process integrated with a portfolio-level review process at one or more of the gates or decision points. In addition the figure also reflects the fact that many



**Figure 1.2** Three dimensions of PPM integrated with tailored gated project management processes.

organizations develop more than one version of a project management process to cater to different project types. The main differences between versions of the gated project management processes are in the number of stages and gates and in the types of criteria used to evaluate projects at the gates. The three main dimensions of a PPM capability are also illustrated: ‘process’ dimensions, ‘structure’ dimensions, and ‘people and culture’ dimensions.

Figure 1.2 also depicts the post implementation review (PIR) as part of the process. The PIR is an important stage of the process because the feedback enables the review, evaluation, and improvement of the project management and PPM processes. However, research indicates that this is a weak area in many organizations; it is common for managers to recognize the importance of PIRs, but many find it difficult to allocate resources or gain support for such tasks.

Recent research shows how PPM capabilities can improve organizational flexibility and performance by providing a holistic and responsive decision-making environment in dynamic environments. The role of the project portfolio manager is becoming formalized as organizations aim to gain the best results from PPM (Jonas, 2010). In addition to the challenge of multi-project management, organizations must address the challenges of an increasingly competitive, globalized, and deregulated environment characterized by shortening life cycles and dynamic markets. Organizational agility, the ability to adapt and respond to change, is essential in such dynamic environments (Killen & Hunt, 2010).

The focus on ‘organizational agility’ in this paper should not be confused with agile project management approaches. Agile project management approaches offer an incremental and responsive approach to the management of projects and are becoming adopted in an increasing range of environments; however such approaches are not the topic of this paper. This paper focuses on organizational agility from a strategic portfolio perspective. From this perspective, PPM can provide organizational agility by allowing an organization to identify changes in the environment and to evaluate, analyze, and adjust the portfolio to respond to changes in the environment. In order to observe changes in the environment, PPM requires a ‘sensing’ capability that involves scanning the environment and re-visiting assumptions regularly (Teece, 2007). The PPM capability is responsible for configuring the organization’s efforts by building and allocating resources. A PPM capability that is able to do this in a timely fashion to respond to the environment provides organizational advantages in dynamic environments: it is a dynamic capability.

### **Dynamic Capabilities and Competitive Advantage through PPM**

Dynamic capabilities are a special type of capability that enables an organization to respond to changes in the environment. Frameworks to identify and understand dynamic capabilities have emerged from research on strategy and competitive advantage. One of the goals of strategy research is to determine why some organizations are

more successful than others and to understand the mechanisms that help some organizations achieve a competitive advantage. PPM has been identified as one of these mechanisms (Killen, et al., 2007; Killen & Hunt, 2010). Competitive advantage is the ability of an organization to create more value than its rivals, and therefore, achieve superior return on investment (Barney & Hesterly, 2012). One of the streams of strategy research is the resource-based view; the resource-based view proposes that the differences in the levels and types of resources between competing organizations can be used to explain differences in organizational success rates. An extension or offshoot of the resource-based view is the identification of a special class of organizational capabilities that enable organizations to effectively respond to changes in the dynamic environments in which they compete (Teece, Pisano & Shuen, 1997). “Dynamic capabilities’ do this by providing a capacity for ‘an organization to purposefully create, extend, or modify its resource base’” (Helfat, et al., 2007 p. 4).

An organization’s PPM capability is one of the internal organizational capabilities or resources that an organization uses to gain competitive advantage. In a dynamic environment, a PPM capability that acts as a dynamic capability can enable an organization to be agile and respond to change in the environment. Although dynamic capabilities are a type of resource-based capability, they do not have the ability to create value independently. Dynamic capacities add value by working with the existing resource-base (Eisenhardt & Martin, 2000) and therefore can be considered ‘enabling resources’ (Smith, Vasudevan & Tanniru, 1996). It is also important that supporting capabilities are established before a dynamic capability can be effective (Eisenhardt & Martin, 2000). Therefore, a dynamic capability such as PPM must be accompanied by underlying resources and capabilities such as the project management capability in order to provide long-term competitive advantage in dynamic environments. Dynamic capabilities play an important role in allocating resources, as well as in identifying the desired development and direction of resources and capabilities in line with strategy (Wang & Ahmed, 2007). As a dynamic capability, PPM can improve an organization’s “ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece, et al., 1997, p. 516) and through these mechanisms improve the competitive advantage in dynamic environments.

### *PPM in Dynamic Environments*

Learning and change are an important part of PPM’s ability to provide advantages in dynamic environments. Figure 1.3 illustrates the effect of learning and change on the PPM capability in order that it evolves to meet the requirements of a dynamic environment. With learning and change, PPM can be a dynamic capability and enhance competitive advantage. Organizational learning is embedded in PPM capabilities through mechanisms for tacit and explicit learning. For example, tacit learning—the type of learning that is difficult to document or codify and is best transferred through experience or observation—is achieved through the interaction of experienced managers in