Evaluating Project Results

Lecture 7

Content

1. The concept of R&D project quality
2. Project Quality Management
3. Sustainability Principles for Projects
4. Project Sustainability Models and Plans

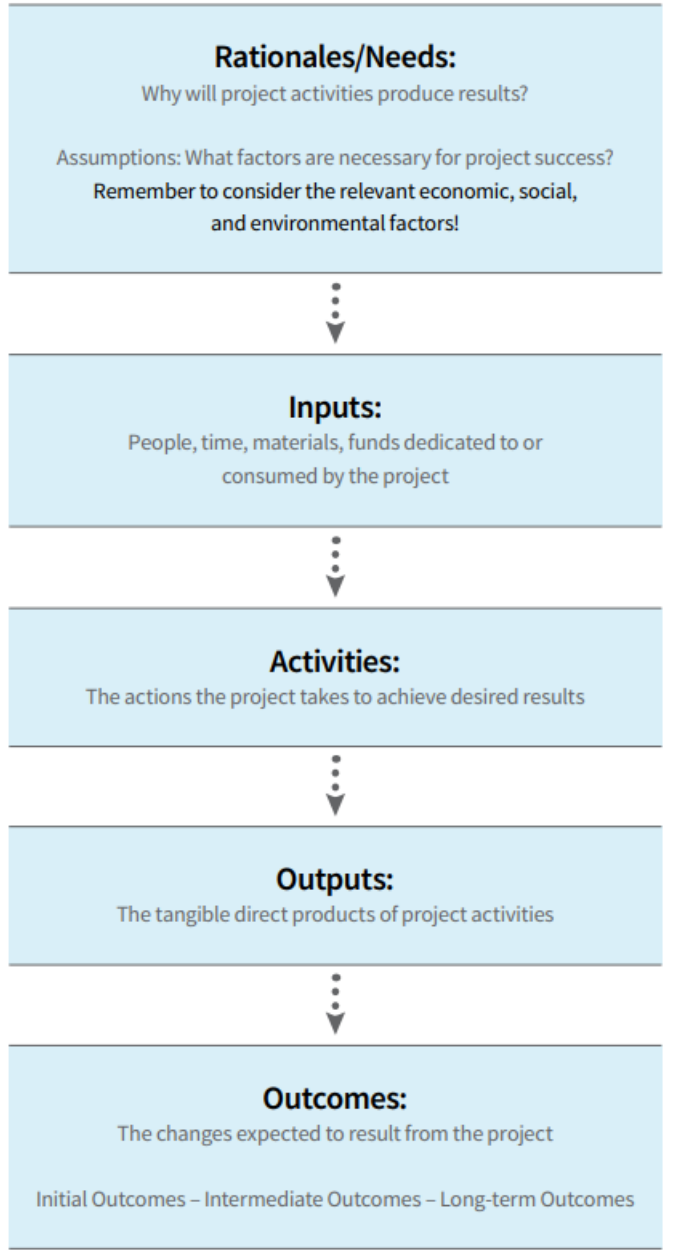
1. The concept of R&D project quality


Project
Planning
Quality
Management
Development
Analysis
Controlling
Plan
System
Resources
Team
Budget
Success

EVALUATING PROJECT IMPACT AND OUTCOMES

- **Inputs** include resources dedicated to or consumed by the program. Examples include: *money, students, time, volunteers, facilities, equipment and supplies*.
- **Outputs** are the direct product of program activities and are usually measured in terms of volume or work accomplished – for example, the *number of classes taught, counseling sessions conducted, materials distributed and participants served.*
- **Outcomes** are benefits or changes for individuals or populations during or after participating in program activities.

They are influenced by a program's outputs. Outcomes may relate to behavior, skills, knowledge, attitudes, values, condition, status, or other attributes. They are *what participants know, think or can do; or how they behave; or what their condition is, that is different following the program*



Main criteria of project quality

- The maximum satisfaction of stakeholders and other project output users
- The completion of all planned activities are properly implemented and finished
- The quality of products and process is achieved
- The project management system ensures the supportive environment to reach the adequate quality of project output.

Locker, K.; Gordon, J. Project Management and Project Network Techniques. Prentice Hall, 2005.

WHAT ARE QUALITY STANDARDS?

Principles of Quality Standards

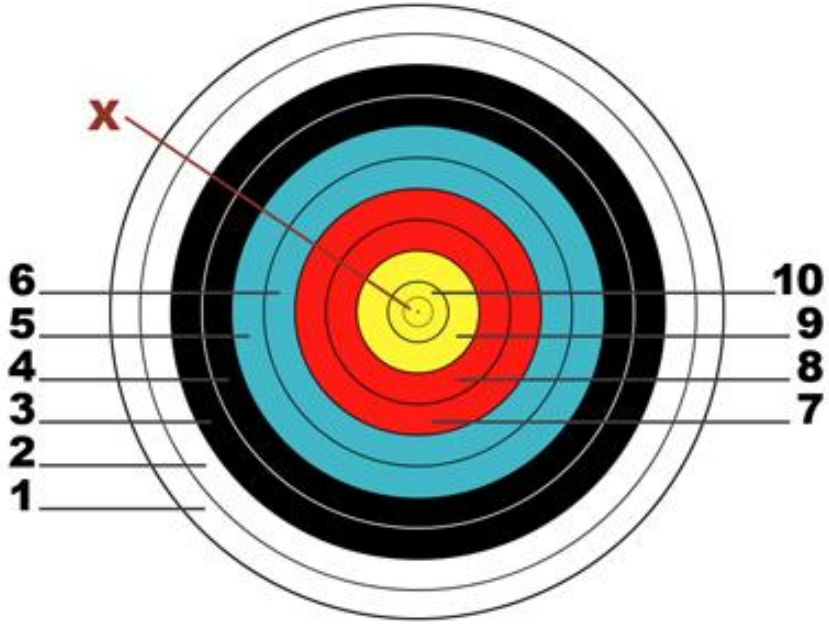
Organizations turn to standards for guidelines, definitions, and procedures that help them achieve objectives such as:

- Satisfying their customers' quality requirements
- Ensuring their products and services are safe
- Complying with regulations
- Meeting environmental objectives
- Protecting products against climatic or other adverse conditions
- Ensuring that internal processes are defined and controlled

Project Quality Plan

- Customers' Quality Expectations
- **Acceptance Criteria**
- **Quality Responsibilities**
- Applicable Standards
- **Quality Control** & Audit **Processes: Quality Tools**
- Change Management/Configuration Management

10 target points for standardization within R&D project management



1. Management limits.
2. Quality system, documentation, control feedback.
3. Contract review and control.
4. Purchases.
5. Process control.
6. Infrastructure and equipment maintenance, testing and checking.
7. Internal quality audit.
8. Preventing performance and corrections.
9. Training
10. Statistical checking and validation.

2. Project Quality Management

Project Quality Management Concepts

- ***Customer Satisfaction***

- ***Prevention Over Inspection***

- ***Continuous Improvement***

PROJECT QUALITY MANAGEMENT

8.1 Quality Planning

.1 Inputs
- .1 Enterprise environmental factors
- .2 Organizational process assets
- .3 Project scope statement
- .4 Project management plan

.2 Tools and Techniques
- .1 Cost -benefit analysis
- .2 Benchmarking
- .3 Design of experiments
- .4 Cost of quality (COQ)
- .5 Additional quality planning tools

.3 Outputs
- .1 Quality management plan
- .2 Quality metrics
- .3 Quality checklists
- .4 Process improvement plan
- .5 Quality baseline
- .6 Project management plan (updates)

PMBOK® Guide — Third Edition, p. 182

8.2 Perform Quality Assurance

.1 Inputs
- .1 Quality management plan
- .2 Quality metrics
- .3 Process improvement plan
- .4 Work performance information
- .5 Approved change requests
- .6 Quality control measurements
- .7 Implemented change requests
- .8 Implemented corrective actions
- .9 Implemented defect repair
- .10 Implemented preventive actions

.2 Tools and Techniques
- .1 Quality planning tools and techniques
- .2 Quality audits
- .3 Process analysis
- .4 Quality control tools and techniques

.3 Outputs
- .1 Requested changes
- .2 Recommended corrective actions
- .3 Organizational process assets (updates)
- .4 Project management plan (updates)

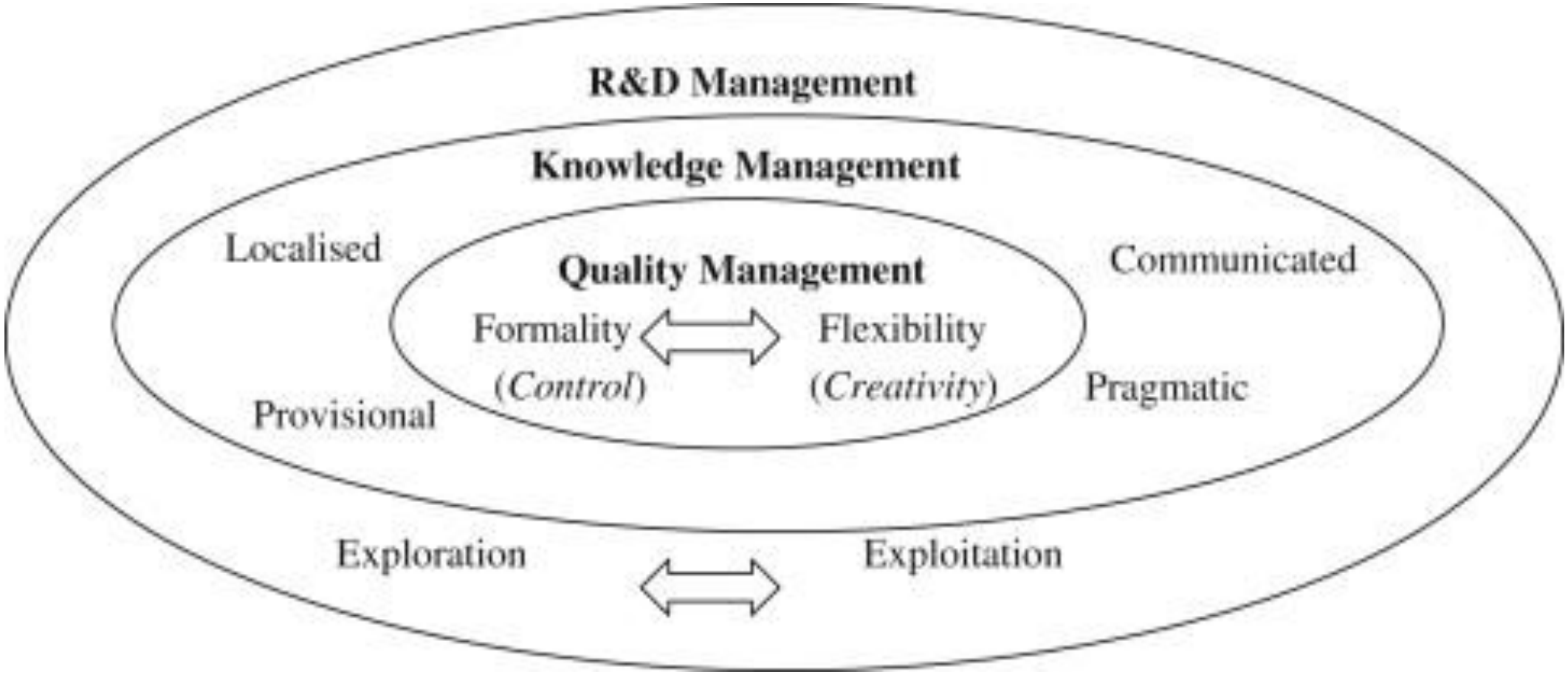
8.3 Perform Quality Control

.1 Inputs
- .1 Quality management plan
- .2 Quality metrics
- .3 Quality checklists
- .4 Organizational process assets
- .5 Work performance information
- .6 Approved change requests
- .7 Deliverables

.2 Tools and Techniques
- .1 Cause and effect diagram
- .2 Control charts
- .3 Flowcharting
- .4 Histogram
- .5 Pareto chart
- .6 Run chart
- .7 Scatter diagram
- .8 Statistical sampling
- .9 Inspection
- .10 Defect repair review

.3 Outputs
- .1 Quality control measurements
- .2 Validated defect repair
- .3 Quality baseline (updates)
- .4 Recommended corrective actions
- .5 Recommended preventive actions
- .6 Requested changes
- .7 Recommended defect repair
- .8 Organization process assets (updates)
- .9 Validated deliverables
- .10 Project management plan (updates)

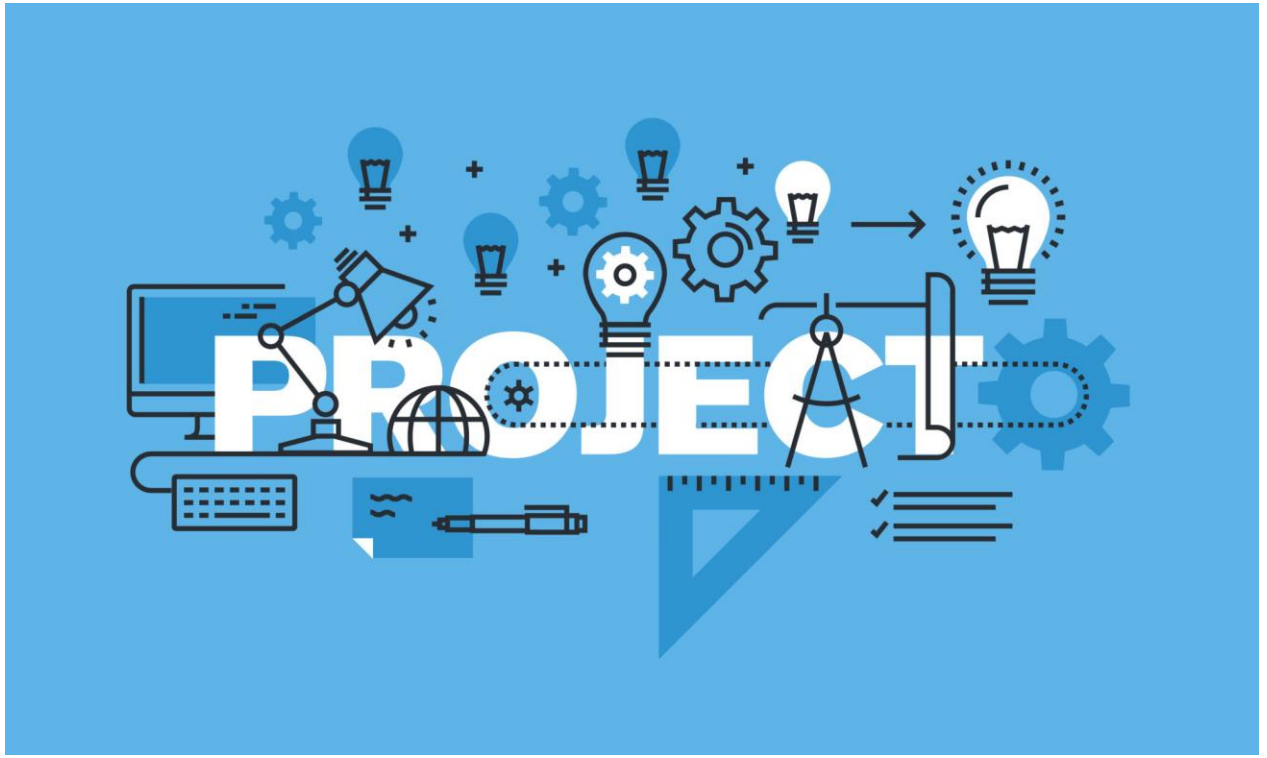
R&D Project Quality Management



10 ways to maintain consistent project quality

1. Define quality
2. Commit to quality
3. Stick to project requirements
4. Manage quality
5. Perform quality assurance
6. Control the quality
7. Focus on requirements
8. Follow project processes
9. Document lessons learned
10. Take time for a through project de-brief

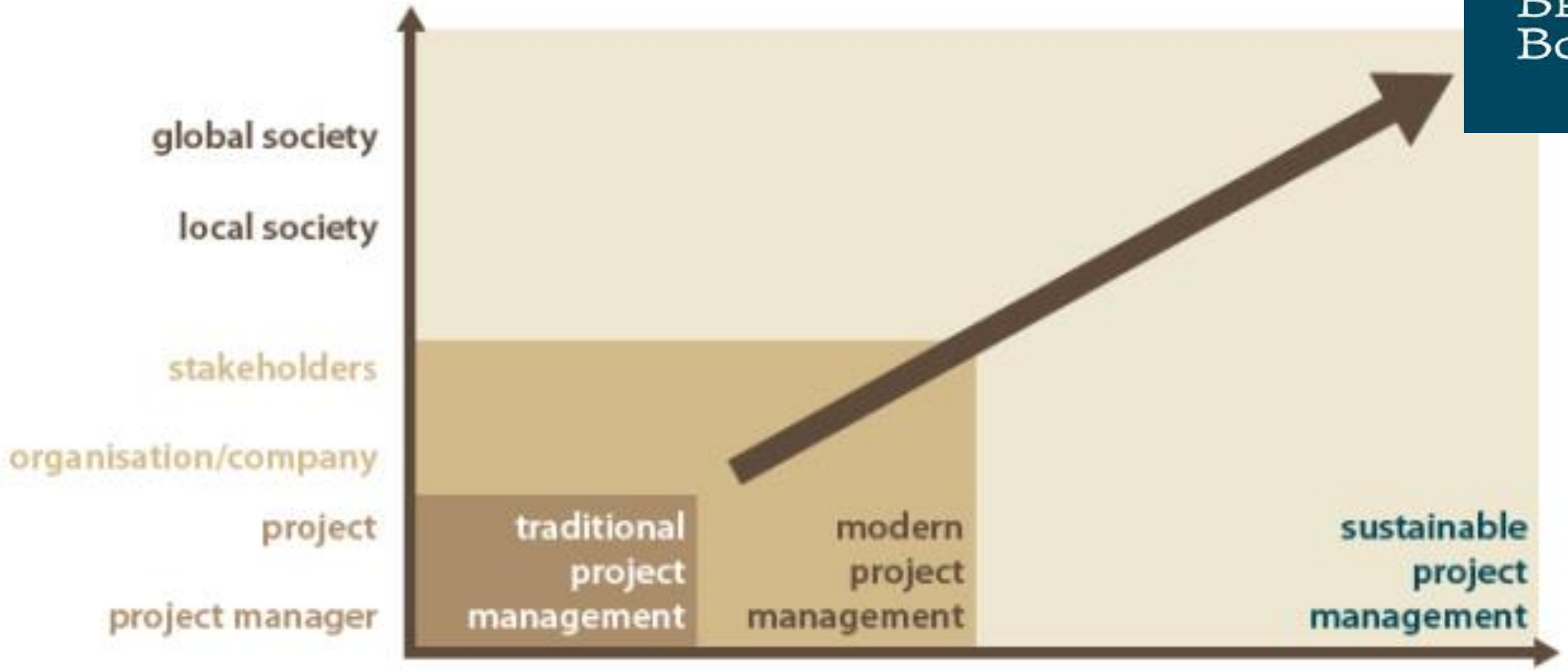
3. Sustainable development and projects



The contrast between the concepts of sustainable development and projects

Sustainable Development	Project Management
Long-term/ short-term oriented	Short-term oriented
Considers the interest of this generation and future generations	In the interest of sponsor/stakeholders
Life-cycle oriented	Deliverable/results oriented
People, planet, profit	Scope, time, budget
Increasing complexity	Reduced complexity

Source: Silvius & van der Brink (2012)

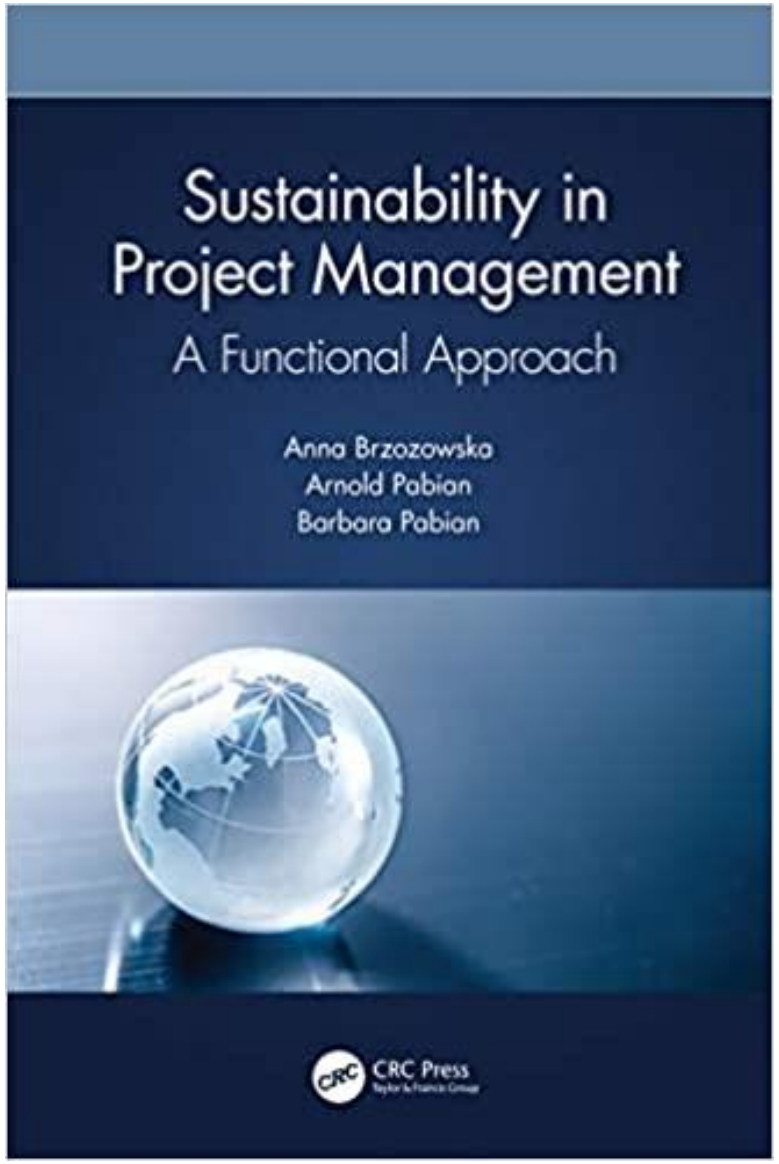


THINKING BEYOND BORDERS

concept which we call 4 × SUSTAINABILITY IN PROJECT ACTIVITIES. It means that sustainable personnel, using sustainable material resources, executes the project in a sustainable manner.

4 × SUSTAINABILITY IN PROJECT ACTIVITIES

SUSTAINABLE project team
SUSTAINABLE project team's equipment
SUSTAINABLE project execution
SUSTAINABLE projects



As follows from the above statements, sustainability can be present in different areas of project activity. Table 1.3 shows nine possible cases.

TABLE 1.3

Presence of Sustainability in Project Activities

	Object of the Project		
Project Organization	**Sustainable**	**Partly Sustainable**	**Unsustainable**
Sustainable organization	1	2	3
Partly sustainable organization	4	5	6
Unsustainable organization	7	8	9

Source: Own work.

From the point of view of sustainability, the least favorable option is represented by field 9. In this case, sustainability is not present in any project activity. Both the object of the project and the project organization are not sustainable and do not contribute in any way to sustainable development. The most desirable, model solution to be pursued by project initiators and executors is shown in field 1. A sustainable project organization carries out a project that results in products, services,

Project Sustainability Management (PSM)

- The demand for project sustainability has given rise to a new concept called **project sustainability management (PSM).**
- This refers to a complex *mix of systems, structures, plans, resources, laws, regulations, technologies, and other mechanisms* put in place for an effective and efficient management of the sustainability process of any project.
- The *project sustainability management process* is designed to customize sustainable development project goals and indicators to suit local conditions and priorities and to ensure that project sustainability goals are aligned and traceable to societal goals and objectives.

Sustainability Principles for Projects

1. Commitment & Accountability - Recognize the essential rights of all to healthy, clean and safe environments, equal opportunity, fair renumeration, ethical procurement, and adherence to rule of law

2. Ethics & Decision Making- Support organizational ethics, decision making with respect for universal principles through identification, mitigation, and the prevention of adverse short and long-term impacts on society and the environment

3. Integrated & Transparent - Foster the interdependence of economic development, social integrity, and environmental protection in all aspects of governance, practice and reporting

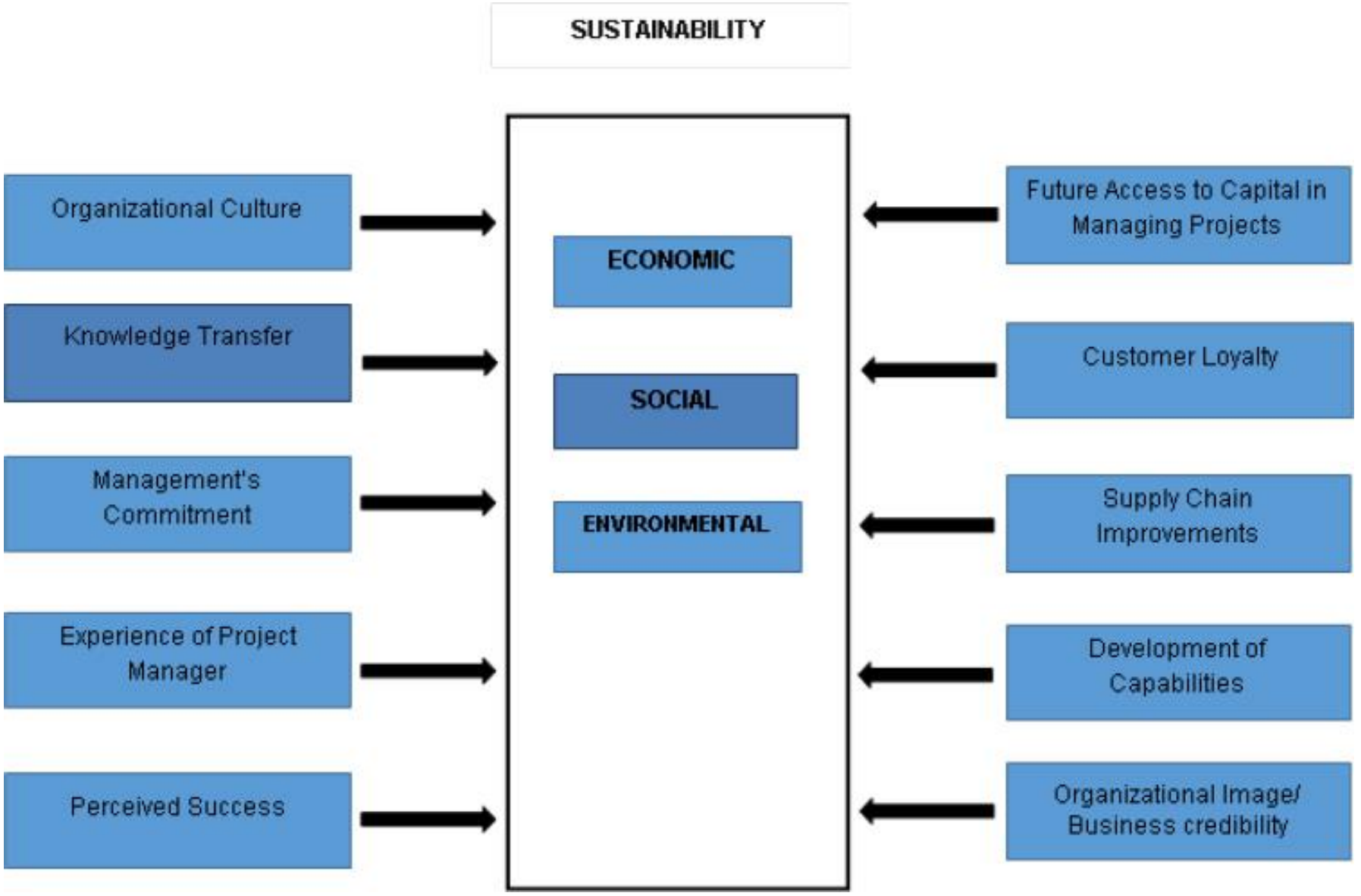
4. Principles & Values Based- Conserve and enhancing our natural resource base by improving the ways in which we develop and use technologies and resources

5. Social & Ecological Equity- Assess human vulnerability in ecologically sensitive areas and centers of population through demographic dynamics

6. Economic Prosperity- Adhere to fiscal strategies, objectives, and targets that balance the needs of stakeholders, including immediate needs and those of future generations

4. Project Sustainability Models and Plans

Sustainability project management model



Principles are characterized as:

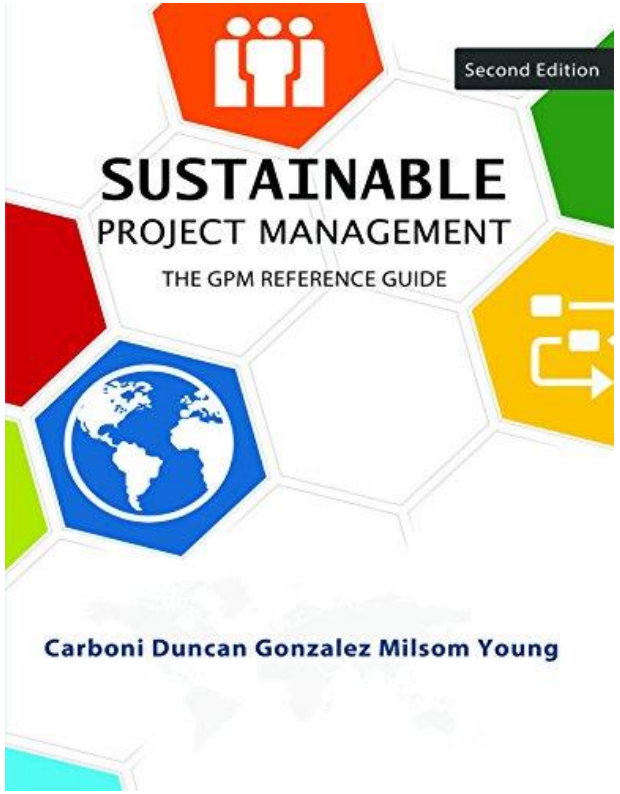
- Universal
- Apply to the area of focus
- Self-validating
- Proven in practice over many years
- Empowering
- Invoke confidence and ability to influence and shape how the initiative will be managed
- Provide a framework of good practice for those involved
- Managing by principles revives human responsibility

The Six Principles for Sustainable Projects are derived from the *UN Global Compact's Ten Principles*, *PRME, Earth Charter*, and *ISO:26000 Guidance on Corporate Social Responsibility*.

Management models have escalated in importance to become the foundation for assessing organizational **capability, capacity, and competency** as well as for identifying **opportunities for improvement**.

- Despite the search for new conceptions of value—"*shared value*" for example—executives are clear that action must be justified against the traditional measures of success.
- The more adept companies become at measuring and tracking their own sustainability performance, the more their frustration grows at an apparent inability to tie performance improvements and industry leadership to the fundamentals of business value beyond incremental gains.

The GPM P5 Standard for Sustainability in Project Management v2.0

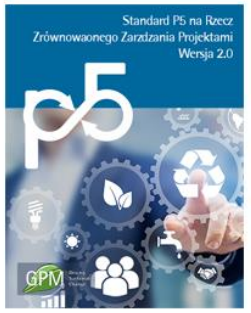


English 2.0

Spanish 2.0

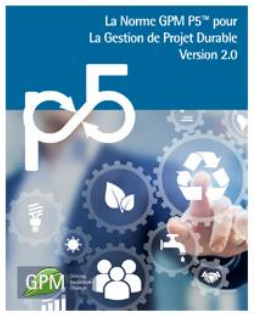
Malay 2.0

Indonesian 2.0



Polish 2.0

Farsi 2.0



French 2.0

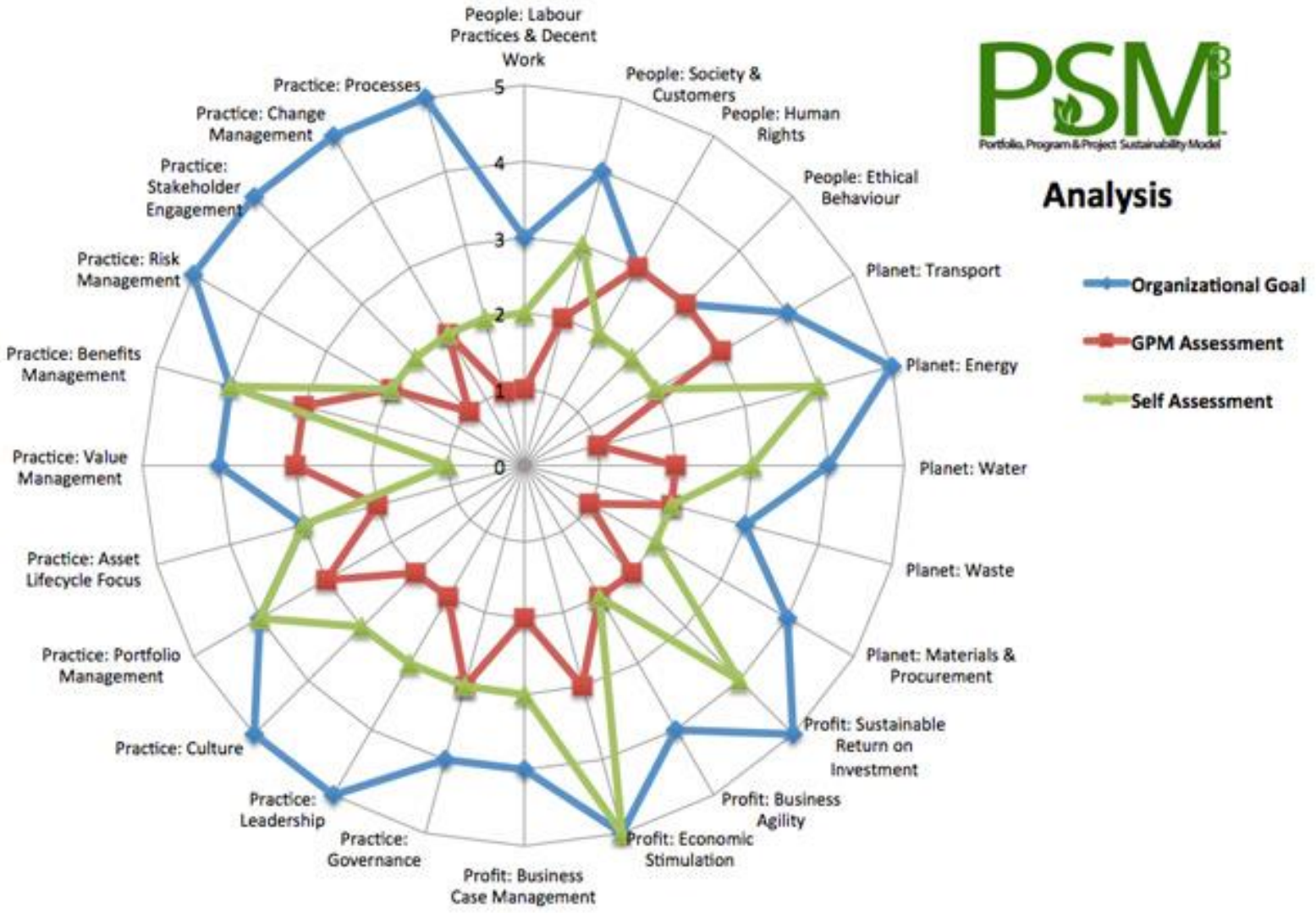
Portuguese (BR) 2.0

Russian 2.0

Serbian 2.0

Italian 2.0

Arabic 1.1



Combining the best practices of ***portfolio, program and project management*** as well as the ***GPM® P5™ Standard for Sustainability in Project Management***, GPM's Portfolio, Program, & Project Sustainability Model (PSM3™) is the key to clear and achievable maturity goals for organizations that demand the greatest return on investments from their projects by infusing sustainable methods to reduce risks and increase benefits.

How PSM3™ Benefits you.

Provides a Clear Picture of Where you Stand

Determination of your organizational sustainable change delivery baseline

Strengthens Vertically and Horizontally

Identification of current organizational strengths and potential areas for increased sustainability integration

Continuous Improvement

Determination of strategic goals for continuous and sustainable improvement

Infrastructure Benefits

Builds the business case and outlines benefits for investing in change delivery infrastructure and competence development

Reduces Costs

Reducing costs and increasing benefits from organizational change delivery (Portfolios, Programs and Projects).

Sustainability and Transparency Reporting

Establishes the basis by which change initiatives can be material in sustainability / non-financial reporting

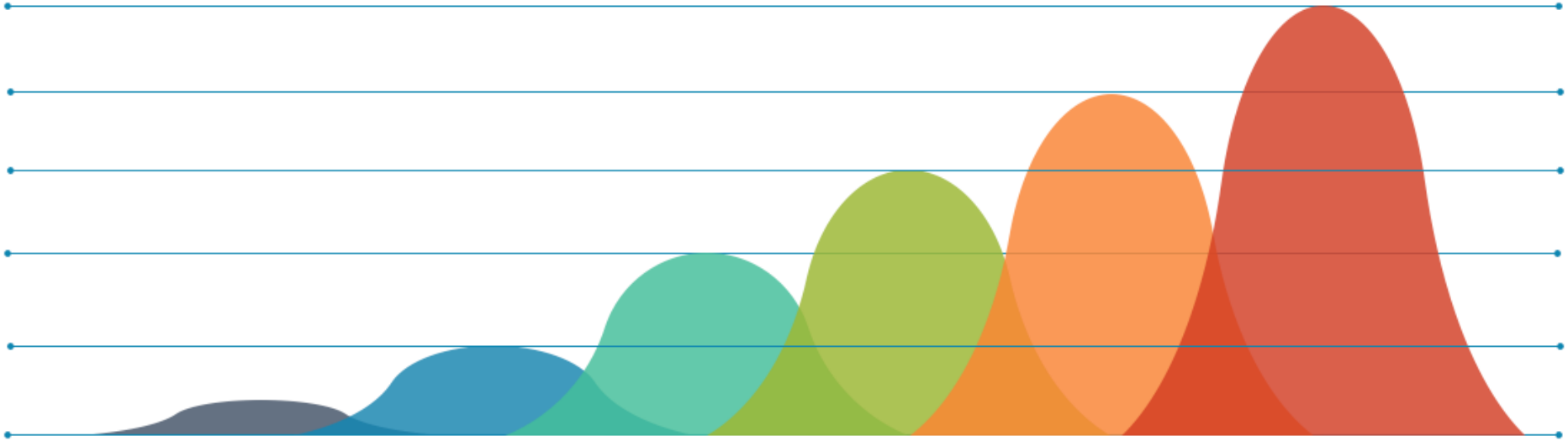
Provides Assurance

Leverages ISO standards to provide assurance to your sustainability report in order to breathe confidence to your investors and stakeholders

Supports Risk Mitigation on Over 50 Areas

Provides new areas of focus in order align social and environmental parameters to mitigate and manage risk to change, product development, and service delivery.

PSM3™ Organizational Sustainability Levels



F

Undefined

Zero sustainability practices in place and is at high risk. Ignores environmental and social regulations.

E

Provisional

Has Ad-hoc sustainability policies and practices in place with little consistency.

D

Foundational

Manages liability and adheres to all labor, health & safety, and environmental regulations

C

Essential

Makes proactive efforts to improve profitability by becoming eco-friendly.

B

Optimized

Aligns corporate principles and values towards a sustainable model. Seeks out opportunities to improve products and services

A

Principled

Bases decisions on value creation to improve society and the environment through their products and services.

The benefits of PSM3™ to an organization

Undertaking an ***independent assessment to determine what environmental, social and economic*** sustainability risks and opportunities are most critical to a business's capacity to create value has never been more important as investors expect a company to not only disclose these risks, but also be able to explain how they will manage them.

Bundesministerium
Bildung, Wissenschaft
und Forschung

Fostering the Sustainable Development Goals in Horizon Europe

This report is produced for the Austrian Federal Ministry of Education, Science and Research.

Mayer, K. and Schuch, K. (2019): *Fostering the Sustainable Development Goals in Horizon 2020*. Report for the Austrian Federal Ministry of Education, Science and Research. Vienna, February 2019.
DOI 10.22163/fteval.2019.416

Literature

- Mayer, K. and Schuch, K. (2019): Fostering the Sustainable Development Goals in Horizon 2020. Report for the Austrian Federal Ministry of Education, Science and Research. Vienna, February 2019. DOI 10.22163/fteval.2019.416
- Morfaw, J. (2014). Fundamentals of project sustainability. Paper presented at PMI® Global Congress 2014—North America, Phoenix, AZ. Newtown Square, PA: Project Management Institute.- https://www.pmi.org/learning/library/fundamentals-project-sustainability-9369
- Mikulskienė, Birutė RESEARCH AND DEVELOPMENT PROJECT MANAGEMENT. Study book. – Vilnius: Mykolo Romerio universitetas, 2014.- p.90-95.
- Magano, Jos´e, Gilbert Silvius, Claudia Sousa e Silva, Angela ˆ Leite. The contribution of project management to a more sustainable society: Exploring the perception of project managers. Project Leadership and Society, Volume 2, December 2021, 100020.

That's all.