01-014

PROJECT MANAGEMENT METHODOLOGIES: CHALLENGES AND TRENDS. THE PM2 CASE.

Martínez Montes, Germán [1]; Alegre Bayo, Javier [1]; Jadraque Gago, Eulalia [1]; Moreno Escobar, Begoña [1]

[1] Universidad de Granada

The projectification of most of the works is a reality at present and the trend will increase in the coming years. In this context, it is worth analysing the future of the project management methodologies, as well as the possible trends and challenges. The launch in open and free format of the PM2 methodology developed by the European Commission, the changes that the seventh edition of the PMBoK of the PMI is going to present and the lessons learnt from the changing environments left by the last events at world level make the moment timely to think about the future. This research investigates what characteristics the project management methodologies will have to have in order to allow the successful management of projects. This article presents some of the characteristics that are intuitively essential such as: flexible and adaptive, hybrid (sum of prediction and adaptation), with transferable contents and formats between them, oriented to the whole project life cycle and capable of defining the success of the initial project, taking into account all the objectives and stakeholders that may be affected by it. The case of the PM2 methodology is analysed in relation to all these characteristics.

Keywords: Project Management; methodologies; OPENPM2; trends;

METODOLOGÍAS DE GESTIÓN DE PROYECTOS: RETOS Y OPORTUNIDADES. EL CASO DE PM2.

La gestión orientada a proyectos es una realidad en la mayoría de los trabajos y la tendencia es que aumente en los próximos años. En este contexto, es interesante analizar el futuro al que se enfrentan las metodologías de gestión de proyectos, así como las posibles tendencias y retos que deberán afrontar. El lanzamiento en formato abierto y libre de la metodología PM2 desarrollada por la Comisión Europea, los cambios que va a presentar la séptima edición del PMBoK del PMI y el aprendizaje de entornos cambiantes a partir de los últimos acontecimientos a nivel mundial, hacen oportuno el momento para investigar qué características deberán tener las metodologías de gestión de proyectos para permitir gestionarlos de una forma exitosa. En este artículo se presentan algunas de las características que se intuyen imprescindibles, como son: flexibles y adaptativas, híbridas (suma de predicción y adaptación), con contenidos y formatos transferibles entre ellas, orientadas a todo el ciclo de vida del proyecto y capaces de definir el éxito del proyecto de partida, teniendo en cuenta todos los objetivos e interesados que puedan verse afectados por el mismo. Se analiza el caso de la metodología PM2 en relación con todas estas características.

Palabras claves: Gestión de proyectos; metodologías; OPENPM2; tendencias;

Correspondencia: Germán Martínez Montes gmmontes@ugr.es

1. Introduction

Project management is involved in continuous change in order to adapt to the needs of an increasingly uncertain and changing environment. The current dynamics in relation to the evolution of business and organisations' business relationships have shortened the timescales of what we understand as the near future.

Industry 4.0 and all of its attendant changes have forced organisations to adapt to a hyper-connected global economy in which a collaborative working scheme is essential for success (Cakmakci, 2019). Speed and agility are required to implement the various technologies that form the underlying basis of the 4th Industrial Revolution. This requires project teams and project managers to adjust their behaviour (A.L. Marnewick & C. Marnewick, 2020).

In addition, projectification of societies is a reality. Projectification of societies is defined as the degree of diffusion of project management in all sectors of the societies (Packendorff and Lindgren, 2014). It includes the relevance of projects and its environment changes (structural, working styles, requirements on projects and project management, solution areas and a holistic approach).

All of this has led to continuous change in the bodies of knowledge, standards, methodologies and methods related to project management in order to increase project success rates.

In this sense, it is widely accepted throughout the international community that project success goes beyond the so-called golden triangle (time, cost and scope in a quality context). The success of a project has to consider more general aspects related to the generation of value at all levels, for as many stakeholders as possible and with a time horizon, that includes long-term impacts. The model proposed by Khan, Turner and Maqsood (2013), which included five dimensions for measuring project success (project efficiency (golden triangle); organisational benefits; project impact; stakeholder satisfaction and future potential), would therefore be perfectly valid.

The project managers close relate the success of the project to the perspective approach. It is possible to work under two perspective: task perspective and organisational perspective. The first one is built thinking about the golden triangle and the second one considers the project as a part of the organization activities. We have to clarify the perspective from the earliest stage of the project in order to stablish the rules of the game (Kreiner, 2014). The start-up meeting is the right moment to stablish a unique perspective for the project and to share it with all the project stakeholders. That does not mean that the perspective is going to be one of the cited ones. It could be a mix of them but it has to be clear the key performance indicators (Halman & Burger, 2002).

In addition, the perspective adopted may change throughout the life cycle of the project. The evolution will adapt to changes that occur, to new needs identified, to the emergence of risks and to any other circumstance that forces the project manager to make decisions regarding the intensification of activities oriented towards deliverables or the broader generation of value.

The approach to project management determines the methodologies and methods to be employed. As an example, an approach focused on deliverables will use a Work Breakdown Structure (WBS) while a holistic approach, focused on organisational needs and generating value for all stakeholders, may use the Mission Breakdown Structure (MBS) (Andersen, 2014).

The near future of project management faces an environment subject to continuous change, new needs and new working contexts, greater complexity in the formulation of projects and their objectives, and globalisation of relationships. All these factors call for reflection on how

the field of project management will be able to meet these new demands in order to not only maintain project success rates, but to increase them in the upcoming decades.

Project management methodologies will play a fundamental role in this scenario. Therefore, knowing the future trends and challenges will allow us to draw the map of needs to cover by methodologies (McGrath & Kostalova 2020). It is important to remember that project management methodologies are the part of the project management field most closely linked to professionals and practice. This must be the fundamental axis on which any methodology will be built.

2. Objectives

The objectives of this research can be summarised in three: firstly, to identify the trends and challenges that project management will have to face in the next few years; secondly, to determine the characteristics that project management methodologies must have in order to serve their main purpose, which is to ensure the success of the project. Finally, to analyse the PM2 methodology developed by the European Commission focusing on the characteristics identified in the second objective.

3. Methodology

Among other methods, literature reviews are essential for identifying what has been written on a subject or topic; determining the extent to which a specific research area reveals any interpretable trends or patterns; aggregating empirical findings related to a narrow research question to support evidence-based practice; generating new frameworks and theories; and identifying topics or questions requiring more investigation (Paré et al., 2015).

It has used the literature review because it constitutes an original and valuable work of research in and of itself (Paré et al., 2015). Rather than providing a base for a researcher's own work, it creates a solid starting point for all members of the community interested in a particular area or topic (Mulrow, 1987).

Through the search of the Scopus database for project management trends and challenges, and project management methodologies' future the journal articles were reviewed. The relevancy of the studies obtained in the Scopus search were then evaluated via a two-step process, firstly via their titles, keywords and abstracts, and then the publications of interest remaining were read by the authors to finally determine the review literature most applicable to the present study.

Through the review of the final literature selected, the most prominent facts were identified.

In addition, the latest studies and reports related to the trends and challenges of the future of project management from internationally recognised organisations were analysed. The works carried out by the Project Management Institute (PMI), the Association of Project Management (APM) and the Australian Institute of Project Management (AIPM) in collaboration with the International Project Management Association (IPMA) were taken into account. It has included this additional information because of it is necessary to know the real needs of practitioners and organizations in order to draw the future framework of project management.

To understand the role that project management methodologies (PMM) can play, ISO 21502:2020 Project, programme and portfolio management — Guidance on project

management and the preview of the seventh edition of the PMBoK (to be launched in 2021), provided by the PMI, were studied in depth, due to their novelty.

The fundamental reason for this choice is that ISO has proceeded to reorganise its ISO 21500 series of standards, updating the general framework of project, programme and portfolio management, and adapting ISO 21502:2020 to the latest trends in project management.

The case of the PMBOK 7th edition is due to a radical change in focus, both in the body of knowledge and the ANSI standard it includes, motivated by the need to adapt to an environment dominated by uncertainty and continuous change.

Afterwards, the PM^2 methodology developed by the European Commission is analysed, an open and free methodology since 2016, which allows an unlimited customisation and adaptation process.

Once the trends and challenges are known and the optimum characteristics of the PMMs, the study reviews if the PM2 methodology meets them.

4. Results

4.1. Project Management Trends and Challenges

In relation with the trends and new challenges in project management, McGrath and Kostalova (2020) have synthesised the main studies conducted in recent years related to:

- Technological development (Boogaard, 2019; Musienko, 2019);

- Sustainability in project management (Silvius et al, 2012; Misopoulos et al., 2018; Chofreh et al., 2019);

- Tailored approach, agile and flexibility (Aston, 2019);

- Future of the project management profession and the role of the Gig Economy (Schroeder, 2019; Chappelow, 2019);

- Diversified project teams (Brownlee, 2019; Musienko, 2019);

- Project Managers Skills (Brownlee, 2019; Aston, 2019) and

- The future role of Project Management Offices- PMO (Boogaard, 2019).

Subsequent to this analysis, McGrath and Kostalova (2020) have confirmed the above trends and indicated where project management is heading:

1. *Globalization, Industry 4.0, Digital Transformation and hyper-competition has changed the worldview for most project environments.*

2. *High performing organizations acknowledge Project management has evolved from the solving of technical problems to the enablers of change and organizational transformation.*

3. *Projects are the new normality and therefore project management can no longer be seen as merely about functional project management or interlinking systems and processes, but more about faster, empowered, focused execution of strategy.*

4. *Successful project execution requires project teams to develop a network of building block to construct more agile, responsive approaches to achieving successful project outcomes.*

5. *There is a need for a more bespoke approach than the generic frameworks allow.*

6. *New technologies available enable project managers to effectively manage a project from anywhere on the planet without a single face-to-face meetings with the team.*

7. *There is also a whole new dynamic complexity of megatrends added to the mix: Globalization, AI, Automation, Virtual Teams, Digital Transformation, Diversity of Workforce, Gig Economy and changing corporate culture.*

The more customised approach cited by McGrath and Kostalova (2020) allows for adaptation to any project (size, environment, stakeholders and fields) throughout its life cycle. The term "one size fits all" does not work in project management. These are the attributes most requested by practitioners to make ad hoc PMMs the most valued by project managers (McGrath & Whitty, 2020).

This customised approach has been greatly aided by the adoption of agile methodologies, which are gaining prominence in project management. New business models require rapid adaptability to change and practitioners need to be able to choose which approach to apply to their project, whether it is predictive, agile, adaptive or hybrid. Merging different approaches to find the most appropriate one is a key element for project success. PMMs need predictability (from traditional methods), adaptability (from agile methods) and waste reduction (from lean methods) (Lalmi, Fernandes & Boudemagh,2021).

Paredes and Ribeiro (2018) after analysing the evolution of the versions of the main standards, methodologies and methods used in project management (PMBoK; APMBOK; P2M; PRINCE2; OPM3; ICB; PEB; OCB; EVM; ISO 10006; ISO31000) established the main points to consider in the future of project management in terms of organization, people / skills and processes.

a) In relation to the organization, evolution will be divided into two types of projects (output driven and outcome driven). Another independent point of evolution is change management, due to the increased complexity in the projects, thus leading to constant changes during the development of the projects.

b) In terms of people / competencies, evolution will depend on artificial intelligence due to the development of software capable of helping the human make decisions.

c) In terms of processes, the evolution go through hybrid methods, blockchain of project data, DevOps (collaboration between software development and operations) and benefits management.

According to Martens and Carvalho (2016) the field of project management has ignored sustainability issues. However, sustainability can influence the success of projects. Companies are concerned about sustainability in project management, but there is a gap between the perception of importance and the practice. Sustainability in project management and project success are important issues and deserve the attention of practitioners and researchers in both fields. For J. Larsson and L. Larsson (2020) the need to consider sustainability has considerably increased the complexity of the execution of construction and infrastructure projects. Including sustainability in project management as a holistic approach is a trend in project management.

Bartlett School of Construction and Project Management at University College of London, APM and the advisory firm ARUP developed a project in order to involve professionals, academics and other commentators in collaboratively mapping out the future, and to look forward to seeing

how the project develops through the year. They identify seven key trends and challenges (ARUP, 2017):

1. *Globalisation and Virtual Teams; the development of tools and processes that enable effective collaboration and coordination between teams and employees separated by thousands of miles.*

2. *Open Innovation Culture; collaborative practices are becoming more commonplace within industries. There is a greater readiness to cooperate and collaborate with other organisations to produce and deliver services. 'Coopetition' occurs when companies forge alliances across traditional boundaries in order to share common costs.*

3. *Diversity of Workforce; Organisations today are able to access a hugely diverse workforce. New technologies, global connectivity and shifting demographics are all helping to make people of all ages, skills and cultures available, wherever they are.*

4. *Gig Economy, also known as platform capitalism, on-demand economy, refers to web-enabled marketplaces that connect businesses and other organisations to freelancers, independent consultants and service providers.*

5. *Changing Corporate Culture; especially with more and more millennials entering the workplace, traditional relationships and corporate cultures are changing, or have to change.*

6. *Automation and Human-Machine Collaboration; Driven by rapid advances in digital technologies, the nature of work is being transformed. While artificial intelligence (AI) and robotics grow more sophisticated, jobs are being reinvented.*

7. *Digital Construction and Project Complexity; while digital technologies can make organisations more efficient and provide tools for better managing change and uncertainties, the challenge remains of developing teams that hold the necessary digital skills.*

The APM carried out a study in 2019 trying to know the trends for the next years (APM, 2020). The study conclusions stated eight ideas to shape the future:

1. *Project management's future: the adaptive profession*

2. *Building the profession's pipeline – from starter to charter*

3. *Strengthening the culture of professionalism through life*

4. *A seat at the table – shaping strategy as well as delivery*

5. *Collaboration with other organisations – a challenge*

6. *Promoting the profession and building its impact (project manager is not a profession yet)*

7. *Building the evidence base for what works*

8. *Embedding sustainability in projects*

AIPM in collaboration with IPMA and the advisory firm KPMG developed in 2019 a research focused on the future of project management. They have tried to answer to know how the

profession will respond to the coming challenges (KPMG, IPMA and AIPM, 2019). The main finds of the survey related to the near future are:

1. *Project management is being increasingly used to drive organisational strategy and success and has moved beyond merely delivering outcomes for the business to pick up and adopt;*

2. *The overall sense of success rates of rates continues to be low when viewed through the lens of cost, time, scope and stakeholders satisfaction;*

3. *The importance of sponsorship in the project ecosystem continues to be a key factor in project success;*

4. *Collaboration software usage is increasingly being recognised as important in assisting in complex and large projects and has a link to success;*

5. *Opinion remain divided about the effectiveness of enterprise wide PMOs;*

6. *The use of Agile approaches is becoming more widespread;*

7. *Change management is an increasingly important skill and knowledge area for PMs; and*

8. *Project management as a skill continues to grow in importance.*

PMI conducted an assessment of the most pressing, long-term trends around the globe—from climate change to shifting demographics to technological breakthroughs—and explored how

these trends are influencing the work of project leaders. The main results of this study are the next six insights (Project Management Institute, 2020a):

1. *Insight 1: Africa and most of the developing world will be home to a new generation of talent ready to tackle a new generation of projects.*

2. *Insight 2: Climate change ranks as one of the biggest existential threats to civilization, but project professionals can play a pivotal role in avoiding the point of no return.*

3. *Insight 3: As artificial intelligence truly moves into the mainstream, it brings harsh realities—and immense opportunities for project leaders with the right blend of people and tech skills.*

4. *Insight 4: Rampant protectionism is forcing a rethink of the once unstoppable force of globalization. But for many project teams, it's cross-border business as usual (with a few tweaks).*

5. *Insight 5: The global infrastructure gap between needs and investment is wide. To close it, project leaders are relying on data-driven innovation—and good old-fashioned people skills.*

6. *Insight 6: Keeping information safe requires a united front, backed by a cross-disciplinary, enterprise-wide cybersecurity culture.*

4.2. Analysis of ISO 21502:2020 and PMBoK 7th Edition (preview)

The reason why practitioners use PMM is to enhance project effectiveness and increase chances of success (Vaskimo, 2011). However, currently is still missing the quantification of the PMMs on project success (Wells, 2013).

Therefore, it is necessary to know the approach that methodologies are taking in order to assess whether they are capable of facing the challenges that will arise in the near future.

In this section ISO 21502:2020 and PMBoK 7th Edition (preview) will be presented. The reason for carrying out this study lies in the novelty of the proposals.

ISO 21502:2020 Project, programme and portfolio management — Guidance on project management.

The core of the main changes and novelties lies in a holistic approach to the project, which requires a contextualisation of the project, beyond the limits of the project itself, of the relations of the project with the organisation that promotes it and the rest of the stakeholders.

The first significant change that can be detected is the structure of the standard itself, which is now presented in narrative form and focused on practices (integrated or not). This totally

conditions the proposal, which includes a vocabulary that is sometimes not the same as that of other standards.

The most relevant aspects of the new ISO 21502 are (ISO, 2020):

- Orientation towards results, expected outputs or services; but especially on how projects can be able to generate improvements and benefits for the organisation.

- Definition of Organisational Context and the project environment.

- Focus on the Project Life Cycle emphasising that its composition should contain several phases and decision points or gates between the phases.

- Develop a tangible approach to the involvement of roles, responsibilities and competencies, whereby responsibilities.

- The competence approach is maintained at the technical level, i.e. project management; at the behavioural level, i.e. personal relationships; and at the business and other organisational and external levels.

- A first approach is proposed through the formulation of eight (8) integrated project management practices considered essential (pre-project activities; overseeing a project; directing a project; initiating a project; controlling a project; managing delivery; closing and terminating a project and post-project).

- Subsequent to the formulation of the integrated practices, 17 management practices for a project are incorporated. They include the traditional ones of planning, scope, schedule, cost, quality, resources, risks, stakeholders, communication and procurement, adding new ones such as benefits management, organisational and

social change management, reporting, information and documentation management, change control, issues management and lessons learned.

- New roles and responsibilities have been included (sponsor organisation and assurance project) that were not defined in the previous version.

- Conditions of constant change and uncertainty are assumed, which advises a flexible and adaptable approach to project management throughout the life cycle of the project.

- The previous condition is managed through the process of "tailoring" the methodologies in such a way that, in the end, an "ad hoc" tool is available that adjusts to the reality of the project and the organisation in which it is set.

PMBoK seventh edition (preview)

The changes that PMBoK Seventh Edition is going to include (2021) are based on the following ideas:

1. The practical approach is essential for project managers.

2. Any methodology has to be light.

3. Outcomes and people have to be in the core of the methodology.

4. Agile is an interesting complement for project management.

5. Practitioners' community will help to improve the methodology.

6. Digital repository is the best place to upload any kind of not essential information and additional tools, technics, etc.

7. Tailoring is an important part of PMBoK.

8. Artefacts (in US English – Artifacts) will be use and improve by the community.

9. Finally, a common project management language is the foundation.

PMI has presented the next facts related to the new edition (Project Management Institute, 2021):

- *The PMBOK® Guide – Seventh Edition contains two resources: The Standard for Project Management, which carries the American National Standards Institute (ANSI) designation, and A Guide to the Project Management Body of Knowledge (PMBOK® Guide).*

- *Overall, the goal with the next edition of the PMBOK® Guide is to make the content more user-friendly and relevant to project managers using predictive, hybrid and adaptive, or agile, approaches.*

Some of the planned updates include:

- *A move from processes to principles: The 12 project management principles in the draft of The Standard for Project Management are built around a set of statements that guide the actions and behaviours of project management practitioners regardless of development approach.*

- *A move from Knowledge Areas to project performance domains: The PMBOK® Guide is organized around eight project performance domains defined as a group of related activities that are critical for the effective delivery of project outcomes.*

- *An expanded list of tools and techniques in a new section of the guide titled "Models, Methods, and Artifacts"—with additional content on how to apply these tools and*

techniques by project type, development approach, and industry sector are available on a digital platform, PMIstandards+™.

- *A new section with guidance on tailoring, which is the deliberate adaptation of the project management approach, governance, and processes to make them more suitable for the given environment and the work at hand.*

Definitely, PMBoK is moving from the current five technical domains to a new framework in which three are clearly defined: people, process & business environment.

4.3. PM² by EC.

PM² is a Project Management Methodology developed and supported by the European Commission. Its purpose is to enable Project Managers (PMs) to deliver solutions and benefits to their organisations by effectively managing the work across a project's entire life cycle.

The Initiative also seeks to rectify mistakes of the past, when efforts were duplicated and divergent project management approaches were sponsored rather than promoting convergent approaches based on similarities and the common interest of the broader European community.

The PM² Methodology is built on project management best practices and is supported by four pillars (DIGIT–EC, 2018):

1. A project governance model (i.e. roles & responsibilities).
2. A project lifecycle (i.e. project phases).
3. A set of processes (i.e. project management activities).
4. A set of project artefacts (i.e. documentation templates and guidelines).

PM² has taken care of its writing using at all times the common language of all project methodologies. To do so, it has taken into account all the terminology and expressions included in the international standard ISO 21500 (replaced by ISO 21500:2021 and ISO 21502:2020). A common language for all project managers avoids misunderstandings and communication problems.

PM² includes roles and what to do in all the project's phases. Because project managers' skills and capabilities are essential, PM² refers to ICB, designed by International Project Management Association (IPMA).

It also has taken in account *agile methodologies* because its utility in changing environments.

"PM² recognises the complex and uncertain nature of many types of project and the positive contribution of the agile way of thinking to their effective management. Agile approaches meet various challenges, which often grow with the size of the organisations in which they are applied". (DIGIT-EC, 2018, p. 27).

Tailoring and customization of the methodology and the artefacts are a fundamental part of the Open PM² proposal.

"Tailoring makes more sense at the organization/departmental level, but some tailoring can also take place at the project level, based, for instance, on the complexity, size or type of a

project. In addition to any tailoring, further customization may also be required at the project level to reflect the project's specific management needs" (DIGIT-EC, 2018, p. 27).

Other of the Open PM²' key points is the PM² Project Support Network (PSN). It aims to become a decentralized project management support network, which provides guidance and support to PM² users.

The Project Support Network (PSN) (DIGIT-EC, 2018, p. 10):

- *Promotes the exchange and sharing of knowledge, experiences and best practices.*

- *Makes it possible to collect feedback to continuously improve and build on the PM² Methodology.*

- *Enables the Local Project Support Offices (LSPOs) to support each other as a community.*

- *Depends on the contributions of PM² champions (individuals and organizations).*

5. Discussion

Summarizing the trends and challenges for the project management, it has found out the next main facts:

- Projects are no longer being seen as simply a transitional hand-off between a strategy and an ongoing operational process. Project management will be required to help formulate strategy into the needed actions to deliver and demonstrate a long-term benefit to the organization.

- Change management is a continuous topic among project management trends—whether it's mitigating change, reducing change, embracing change, or accelerating change.

- Globalization of Project management. The new workforce will be the Gig economy, "new cosmopolitan" and dispersed and culturally diversified Project teams.

- Including sustainability into the project management as a holistic approach.

- Virtualization: This concept includes cloud work, handling Big Data, fast communication, decision making support and visualization of processes.

- Professionalization of Project management. Project management will not be seen as only an engineering discipline. Understanding the benefits of the use of projects will be seen as an important skill for all managers. It is going to be an adaptive profession.

- Work conditions change fast and continuously. The environment in which we carry out our activities also changes. The future framework is defined using the term VUCA (Volatility, Uncertainty, Complexity and Ambiguity).

- Managing in multicultural / institutional context, most projects include stakeholders from different institutional environments. There is a challenge how to effectively integrate these stakeholders in a project.

- Because of the need of customization and adaptation of PMM's it will necessary to redefine the role of PMO's. PMO's will help project managers in their daily tasks but also ensure that goals of their enterprises are reached.

Everything is changing, but also the terminology related to Project Management. One new concept is the term "project economy". With the new rules, project managers have all the skills and capabilities they need to turn ideas into reality – no matter what kind of project they are

working on. Organizations delivery value to all the stakeholders through successful completion of projects and delivery of products (Project Management Institute, 2020b)

In order to achieve this success, Project Management Methodologies (PMMs) are essential as they allow us to know the activities and processes to be carried out. Most of the PMMs include monitoring and control processes that allow us to know the degree of compliance with the objectives and fix milestones, making easier the decision making process that corrects deviations and prevents us from overrun and over budgets.

In addition, some advantages of using PMM's are (Errida et al., 2020; Harold, 2018; Mir et al., 2014; Charvat, 2003; Wells, 2012; Ozmen, 2013; Justin & Müller, 2015):

- Clarifies project goals and objectives.
- Work processes are more efficient and effective.
- Greater flexibility, adaption of lesson learned from project to Project in order to make the most value from the organizational Know-how.
- Increased accuracy in planning, identifying and managing risks, challenges & complexities.
- Assures a greater degree of standardisation.
- Clear roles and responsibilities are identified, thus communication is enhanced.
- Optimises deliverables, outputs, outcomes and benefits.
- Establishes the connection between benefits and value.
- Contribute to ensure projects' success regarding the aspects of knowledge management, quality, ongoing improvements, repeatability and comparability.
- Integration of tools, techniques and knowledge to improve present and future projects.
- Optimises change management.

Project managers cannot reinvent the wheel every time they develop a project. In any case, project managers should have access to a comprehensive PMM with the experience to know which of the PMM elements to apply to any given project, and if required, supplement missing PMM elements.

Furthermore, taking into account the future trends and challenges that project management is going to face in the near years, PMM's should have some of the next essential characteristics:

- To be flexible enough to be customisable for any project (size, environment, stakeholders, and fields) and to provide tailoring throughout the project lifecycle -ad hoc PMMs.
- To share a common language to avoid communication problems and misunderstandings.
- To hybrid project management approaches, with predictability, adaptability and waste reduction.
- To Ensure open access and collaborative work. A methodology in which the whole community can contribute experiences, challenges and lessons learned is a benefit, as

it provides an up-to-date tool that adapts to the changing needs of organisations and the projects they undertake.

- To enable its digitisation and virtualisation in an automatic and intuitive way.

- To be able to adapt in real-time and this is possible by having the latest versions online. Online versions make possible to be supplement them with tools and methods and the global community will be part of the knowledge workforce.

- To include a clear framework and mindsets but also artefacts and templates for helping to project managers to develop their daily activities and tasks.

- To be light. The project management methodology has to adapt to the project and never the vice versa.

In any case, PMM's have to be relevant (it means that are focused on doing the right things) and efficient (make possible doing things right) (Picciotto, 2021).

Analysing the case of PM^2 by EC it is possible to state that:

- It is flexible and light.

- It has developed to be customized and offers a well-structured tailoring.

- It develops a predictive approach compatible with an Agile extension (when necessary).

- It incorporates approaches, concepts, good practices and elements from other bodies of knowledge, standards, methodologies and even competency-based approaches to project management.

- It includes artefacts (templates) that help and guide the project manager throughout the whole process, facilitating the customisation and adaptation of the methodology and its documents to any kind of project.

- Because of its open and free nature, the workforce is too much bigger. A well-organised community of users shares experiences, lessons learned and documentation.

- It defines clear and strong mindsets. The mindsets crystallise the philosophy of PM^2 as a methodology and make it both more effective and complete.

On other hand, PM^2 does not meet some trends. These are:

- To enable its digitisation and virtualisation in an automatic and intuitive way (not yet)

- Throughout the methodology, elements are included that recall its dual origin: developed by the European Commission and in a working environment defined by projects in the IT sector. This circumstance requires a greater effort in some cases when it comes to customize it to other types of projects and environments.

- The methodology is really simple and light. However, some of the artefacts are too long and make the project management documentation unnecessarily repetitive.

6. Conclusions

Project management is becoming increasingly important in organisations because it provides value and benefits to all parties involved; it must be results-oriented, always bearing in mind the strategic focus of the projects. To achieve this, it is important to professionalise management and use collaborative structures, flexible, adaptive methodologies, prepared for

change management, open, allowing digitisation and virtualisation, and homogeneous in terms of terminology.

Methodologies, standards and methods related to project management are constantly changing in order to increase project success rates in an increasingly uncertain and changing environment. However, the work developed in recent years by institutions and organisations has not been collaborative, which is manifested in the divergence in their approaches, and they have not managed to unify terminologies or frameworks. This circumstance is an issue that hinders the work of project managers in a changing environment and with increasingly diverse actors involved.

It should not be forgotten that PMM is nothing more than an approach to a play in which the main actor is the project, its products, its results and its benefits (in the short, medium and long term). If the PMM becomes the protagonist, it is a sign that we are managing the project incorrectly.

The PM2 methodology developed by the European Commission is an open and free methodology where the community of practitioners plays a very important role in its improvement process. It presents certain essential characteristics to meet future trends and challenges, but it shows some shortcomings that need to be improved such as its digitisation and virtualisation, its adaptability and the lightness in terms of documentation of artefacts. Reaching these shortcomings would benefit its promotion, dissemination and use.

Finally, because of its novelty, it will be necessary to research about how this new open methodology runs in different fields, types and sizes of projects.

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