

Future trends in IT project management – large organizations perspective

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Abstract

Purpose of the study: This article aims to identify and better understand the current trends in IT project management methodologies, focusing on the perspective of large organizations.

Methodology: Systematic literature review has been conducted in SCOPUS and Web of Science databases to understand the current state of knowledge. Also as an additional verification of the results, a narrative search was done later in the SCOPUS database to confirm the growing interest in particular project management methodologies over time.

Main Findings: The review has shown that the top two trends in project management methodologies are hybrid and agile approaches. The other two that consistently popped up and were also confirmed by follow-up narrative search, were AI-driven and sustainable project management.

Applications of the study: Results of this review are useful for both researchers and practitioners, pointing out areas for future research and development, as well as showing what are the best approaches to project management.

Novelty/Originality of the study: This systematic literature review has shown the latest state of trends related to research done recently, with explaining of how to use new trends to fight the nowadays challenges related to AI, sustainability, and performance of teams in large organizations, from a project management perspective.

INTRODUCTION

This article focuses on identifying and understanding trends in IT project management, particularly from the perspective of large organizations. Project management as such is a knowledge and research area that has been accompanying civilization for thousands of years, however, only in the last hundred years, it has gained larger recognition and the management theory has formalized into several different approaches on how to control and lead projects, programs, and portfolios.

Why are the methodologies evolving (as shown in Figure 1) and why is it worth predicting the next big thing? So far most of the evolution steps in the project management field resulted in companies successfully delivering more projects than before, giving a competitive advantage.

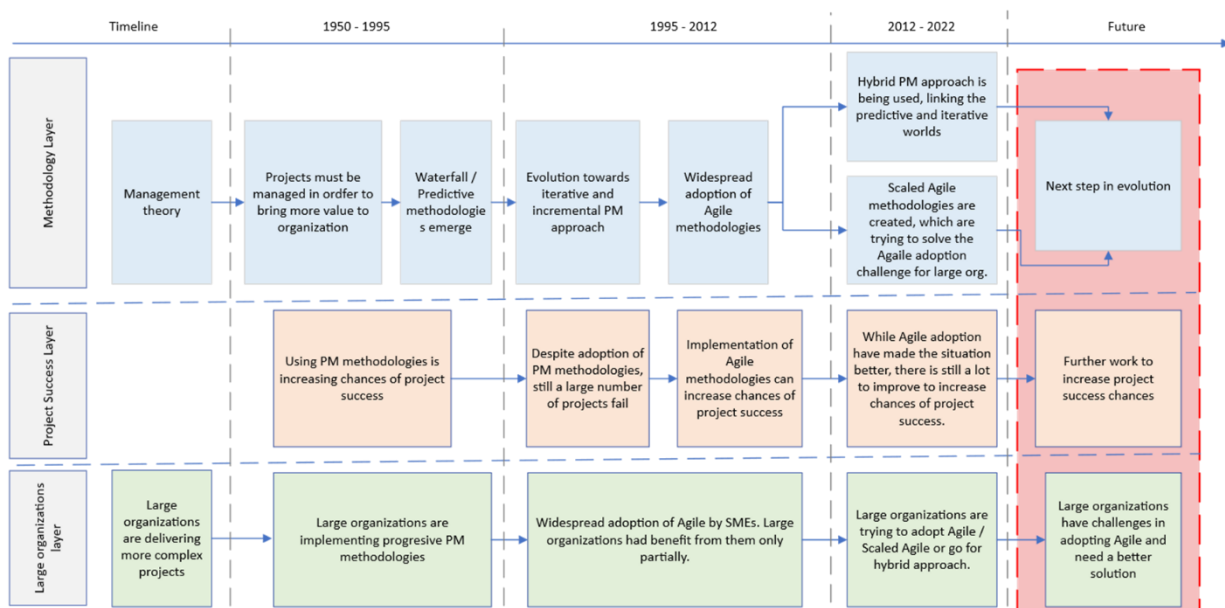


Figure 1: Historical trends in project management

Source: Own elaboration based on a literature review

Project management methodologies emerged after World War II when large investments were made as part of the rebuilding effort in different countries and industries, often led by construction and military projects. Knowing that previous research has led to the conclusion that initiatives that are somehow managed have a higher likelihood of achieving goals and their widely defined success criteria, first project management methodologies were formed, to which we often now relate as classical or waterfall (due to their cascade and structural nature). Many of those methodologies have their roots in governmental or related organizations, that wanted to ensure the best usage of public funds.

This continued until the end of the XX century, when a new trend emerged, with Agile, Scrum, and Extreme Programming (XP) taking the front and leading the development of project management practice. Agile Manifesto (Kent Beck et al., 2001) published in 2001 stressed 12 principles of working, that asked to put collaboration, fast feedback, and working products over documentation or long processes. The main difference between Agile and previous waterfall practices was, that Agile was looking at things differently, and recommending to deliver work in short incremental cycles, rather than following a structured plan. This approach has gained widespread popularity, especially in the IT sector, where changes made during the software development cycles were something rather frequent and the new iterative (and not predictive) approach was a very good match, allowing companies to go to market faster and deliver products that were bringing in more value.

The issue with adopting Agile is, that it was relatively easily implemented in smaller companies, working in smaller teams, but large organizations have a lot of challenges associated with iteratively moving to work. That is why approximately a decade after the Agile movement appeared, the next step of evolution was done and new, so-called Scaled Agile methodologies started to emerge. The idea of Scaled Agile is, that it should be addressing the original sin of Agile, which was aimed at small product teams, and instead enable companies with larger teams to benefit from Agile practices consistently while working on a larger scale. There are a lot of methodologies that we currently see on the market, some are less formal, some more, but each aims to achieve similar targets and ease the migration and mindset change for larger firms.

It's fair to say, that after a decade of Scaled Agile, we already see that it's not going to solve all the problems and that those methodologies have a lot of issues on their own, which means that the search for a better way is continuing.

One of the popular topics is also the hybrid approach, which is trying to combine the best of two worlds (typically predictive and iterative, but it can get more complex). But since the world is changing all the time, we can see a lot of other approaches that are trying to address issues like sustainability, not to mention the recent breakthroughs in AI technology, which will probably impact the project management profession.

Companies that will be able to see those trends and use them earlier than others, will get the benefits and added value before their competition, which in a world where the go-to-market time is critical, maybe a game changer in some of the markets.

Research questions that will be answered in the course of the research work are:

1. What are the trends in project management methodology?
2. Are those trends helping large companies overcome their difficulties in adopting agile practices and achieving a higher project success rate?

LITERATURE REVIEW

Project Management

Project management is a discipline that involves planning, organizing, and controlling resources to achieve specific objectives within a defined timeframe. It is widely recognized as a critical process for completing projects in various fields, such as engineering, construction, information technology, and business. In recent years, project management has gained significant attention from the scientific community, with numerous studies exploring its principles, methods, and best practices. This scientific abstract provides an overview of project management, drawing on findings from three selected scientific articles, and discusses its key elements, benefits, and challenges ([Harrison & Lock, 2017](#)).

Project management methodology is a systematic approach to planning, executing, and controlling projects to achieve specific goals within defined constraints. Many authors are highlighting the critical role of project management methodology in project success ([Dursun et al., 2022](#); [Munns & Bjeirmi, 1996](#)).

Large organizations

Large organizations, also known as large-scale enterprises, play a crucial role in modern economies and societies. Understanding and defining these complex entities requires interdisciplinary approaches that draw on various fields, including management, economics, sociology, and organizational theory.

One key aspect of understanding large organizations is their size. While there is no consensus on the precise definition of a "large" organization, researchers often use criteria such as the number of employees, revenue, or market share to classify organizations as large ([Scott & Davis, 2015](#)). For example, the Fortune Global 500 list ranks the world's largest corporations based on their total revenues, providing a common reference point for identifying large organizations ([Global 500 | Fortune, n.d.](#))

Another important element in understanding large organizations is their structure and complexity. Large organizations typically have multiple hierarchical levels, formalized roles, and specialized functions that shape their internal dynamics and decision-making processes ([Mintzberg, 1989](#)). The structure of large organizations can be influenced by various factors, including their industry, culture, and history ([Jr, 1969](#)). For instance, organizations in the healthcare sector may have a different structure compared to those in the technology industry due to the unique characteristics and demands of each sector.

Moreover, large organizations often face challenges related to coordination, communication, and control, which can affect their performance and effectiveness ([Galbraith, 1999](#)). Managing these challenges requires strategic planning, leadership, and organizational culture that aligns with the organization's goals and values. Additionally, large organizations need to adapt to external changes such as market fluctuations, regulatory shifts, and technological advancements to remain competitive and sustainable ([Hitt et al., 2019](#)).

Waterfall

The classical or waterfall approach to project management was driven by a linear approach in which work was divided into phases ([Garel, 2013](#)). Each of those distinct stages always had a specific list of deliverables and clear relations were set between different tasks to set the order of tasks and dependencies between them. This approach is well known for its significant effort in the early phases to define requirements and documentation upfront as well as plan as much in advance as possible (Ambler, 1999; B. Boehm, 2002). Even though nowadays this traditional approach is often criticized as it was often not flexible enough and changes in markets forces different industries to look for other options how to create value faster ([Chesbrough & Spohrer, 2006](#); [Laursen & Svejvig, 2016](#)), it's worth stressing that it still may be a good match for projects and work where requirements can be clearly articulated early in the process and there's a well-defined vision of the end product. Some of the classical project management techniques coming from the waterfall approach are the critical path method and the critical chain method.

Agile

Agile Manifesto was published in 2001 ([Kent Beck et al., 2001](#)), and it brought a new perspective on how to approach project management, which focused on organizations being flexible and having adaptability. This step in methodology and approach evolution was caused by a relatively high rate of project failure in the past ([Matta & Ashkenas, 2003](#)), whereby their failure we assume that they were not able to meet their business goals or were completed late or with significant budget overspent. ([B. Boehm & Turner, 2003, 2005](#); [B. W. Boehm & Papaccio, 1988](#)).

Agile methodologies that emerged shortly after the Agile Manifesto were Scrum and Extreme Programming (XP). Both those frameworks followed the philosophy of developing products incrementally and iteratively, where work is divided into smaller phases called sprints or iterations ([Dingsøyr et al., 2012](#)). Completing work in shorter periods allows for implementing changes more often and getting feedback from the end-users earlier, making it a good fit for initiatives with a high level of uncertainty ([Mustafa Dülgerler, 2015](#)). This approach, which originated from computer science engineering, in time has gained recognition and was adopted in other industries like aerospace ([Parvez Alam & Toppur, 2019](#)), engineering ([Kohlbacher et al., 2011](#)), manufacturing (Walters et al., 2011), human resources ([Kavitha & Suresh, 2021](#)), construction ([Arefazar et al., 2022](#)) and various others ([Gunn et al., 2013](#)).

As the benefits of using Agile started to be obvious and visibly across different companies and markets ([Al-Saqqa et al., 2020](#)), it was clear that a better way is needed that would allow the implementation of a similar approach in large companies and enterprises, as they wanted to be able to go-to-market faster without compromising on elements like quality or cost ([Jou et al., 2009](#); [Tatikonda & Rosenthal, 2000](#)). The answer to this need was scaled agile frameworks which aimed to reduce the risk and bring consistency across a larger number of teams ([Carroll & Conboy, 2020](#)). Looking at a large amount of scaled agile methodologies, we can recognize the most popular ones like ([Agnieszka Sienkiewicz, 2022](#)) Disciplined Agile Delivery (DAD), Scaled Agile Framework (SAFe), Large-Scale Scrum (LeSS), Scrum@Scale or Spotify Model, but their implementation is not straightforward and a significant amount of various variables and parameters should be taken into consideration where choosing the right framework ([Almeida & Espinheira, 2021](#)). It's fair to say that even thou scaled agile was designed explicitly for large organizations, they face a lot of challenges with their implementation, and further work is required in this area.

Sustainable

Sustainability is an item on the agenda of most of the organizations and countries in the world, due to the geopolitical situation and climate crisis, but it's not something that was discovered recently and in fact, it has been an important topic since the second half of twentieth century and multiple countries organizations have been driving the effort to raise awareness and start actions in this domain ([Serageldin, 2013](#)).

Sustainable project management is a school and a topic that exists already for decades and initial research has been done on some of its elements and how choosing the right methods might improve the sustainability of project management processes however still there is lack of clarity on how to incorporate some of the ideas ([Marcelino-S Adaba et al., 2015](#); [Wang et al., 2015](#)). This topic is considered to be one of the top trends in project management nowadays ([G. Silvius, 2021](#)). While the concept of sustainability is much wider and related to green energy, green market, and circular economy, aiming to integrate what we have in nature, economy, and society, researchers tend to agree, that project

management has a role to play in solving the issue (Chofreh et al., 2019a; Li et al., 2008), but it seems we're lacking concrete solutions and recommendations that may have a larger impact (A. J. G. Silvius & Schipper, 2015).

Hybrid

Looking at the challenges that large organizations are facing with adopting agile methods and best practices (B. Boehm & Turner, 2005; Dikert et al., 2016), and gaining the benefits and value that they are expecting it's clear a better way of doing things is required. Scaled Agile and its various versions were supposed to be the answer, but it seems those methodologies were able only to solve part of the issues, despite their large numbers and complexity (Uludağ et al., 2022). It appears more and more clear that hybrid project management might be the new trend that will bring in the best of both worlds (Gemino et al., 2021; Papadakis & Tsironis, 2020). Also, we see this already in both practice and literature, that a hybrid approach to project management allows combining elements of project management with product management. While still a lot of scientific papers treat hybrid only from a perspective of mixing waterfall and agile, the reality is more complicated and we're starting to see evidence of it across various industries (Edwards et al., 2021; Gunn et al., 2013; Sommer et al., 2015; Žužek et al., 2020).

Artificial Intelligence (AI)

Intelligent project management was a topic of multiple research articles and work conducted in the past, where the focus was on designing systems, algorithms, or methods that would be able to support and enhance the project management function. With recent changes and the evolution of AI technology, we expect AI to revolutionize various industries, including project management. AI-driven project management methodologies are starting to emerge as a promising approach to optimize project planning, execution, and control, ultimately leading to successful project outcomes. One of the key trends in AI project management is the integration of machine learning algorithms for predicting project risks and performance (Williams et al., 2020). Machine learning algorithms can analyze historical project data to identify patterns and trends, enabling project managers to make informed decisions and take preventive actions to mitigate risks. Another emerging trend in AI project management is the use of natural language processing (NLP) techniques for automated project documentation and communication (Nuhn & Oswald, n.d.). NLP algorithms can analyze and extract relevant information from project-related documents, such as meeting minutes, progress reports, and emails, to generate real-time updates, summaries, and recommendations for project stakeholders. Furthermore, AI-based project management platforms have been developed to optimize resource allocation and scheduling (Business Process Reengineering: A Scope of Automation in Software Project Management Using Artificial Intelligence, n.d.; Pan et al., 2008). For instance, there are attempts to build an AI-driven project management platform that utilizes reinforcement learning algorithms to dynamically allocate resources and optimize project schedules.

METHODOLOGY

Research planning and design

Systematic literature review [SLR] has been chosen as the research method to review future trends, following the best practices and research did earlier that pointed out it's an excellent way to perform an analysis on multiple sources of knowledge. This activity is extremely important to any research or scientific initiative and SLR is highly recognized as one of the most well-defined techniques used in management and quality disciplines and gives the ability to collect, review and analyze data in a way that's reproducible by others and gives specific insights into a given problem. SLR supports different analysis methods, including network, tern content, or just simply bibliometric techniques to establish an understanding and build a network of relationships between various areas and authors.

Best practices for SLR have been established and polished by multiple authors (Kitchenham & Charters, 2007), however, one of the recent recommendations include dividing the systematic literature review process into 8 phases, as suggested by Okoli (Okoli, 2015). Those phases are

1. Purpose definition – which was listed in the introduction to this article
2. Establishing procedures and protocols – to define the steps in which SLR will be executed (Figure 2)
3. Setting the screening rules – defining the keywords and limitation criteria
4. Literature/Article search, which was executed in SCOPUS and Web of Science databases
5. Extracting meaningful data
6. Quality assurance
7. Analyzing the results
8. Finalizing review and sharing the outcomes, which was done in the Discussion and Conclusion chapters of this work.

The main research questions we're aiming to answer by performing the review are:

RQ1: What are the project management trends in project management?

RQ2: Are those trends influencing the chances of project success?

Research execution

Performing the execution of planned research is covering the steps described in phases 4, 5, 6, and 7.

The review was done using Scopus and Web of Science, which are recognized as top bibliometric databases that contain a significant set of scientific literature from peer-reviewed journals. It has been divided into 5 step process (Figure 2):

- Step 1 – Search using a query string: "project management" AND trend* AND methodology* AND “large organizations”. Those keywords and phrases were used to perform a wide search, without limiting or suggesting any particular project management methodology, but rather to identify articles that may lead to discovering trends in that area, with a focus on large organizations.
- Step 2 – The results were limited to display only papers written in the English language only and only as “article” type, as coming from journals, which has been previously confirmed to be likely to represent the most important findings in the given area (Webster et al., n.d.).
- Step 3 – Review the titles and abstracts of the selected articles, to select only those related to the IT project management discipline.
- Step 4 – Performing a full-text analysis of a selected range of articles – screening on article text to confirm if it even slightly suggests any findings about trends or way forward in the project management discipline.
- Step 5 – Final in-depth analysis of filtered knowledge sources.

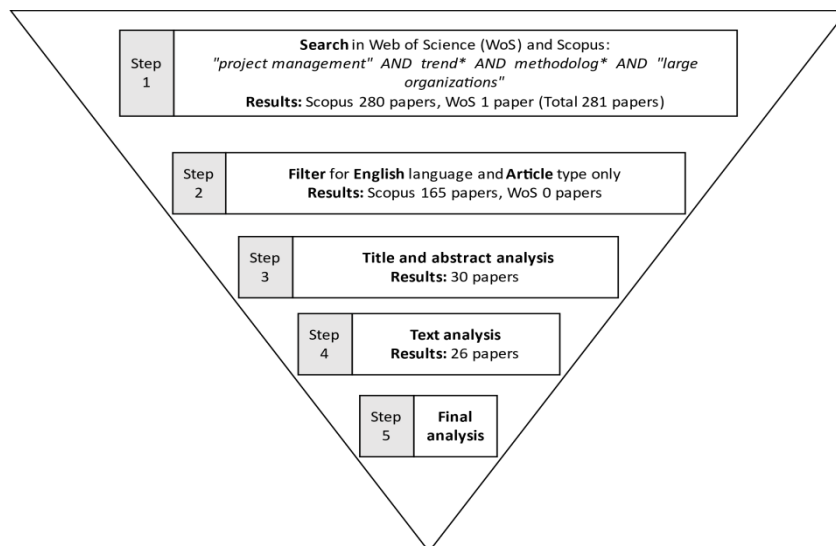


Figure 2: Systematic Literature Review 5-step process

Source: Own elaboration based on literature review and research design process

FINDINGS / RESULTS

Bibliometric analysis of the full scope of 165 articles showing that this topic of research (as project management methodology trends in large organizations) is gaining popularity over the years, as shown in Figure 3.

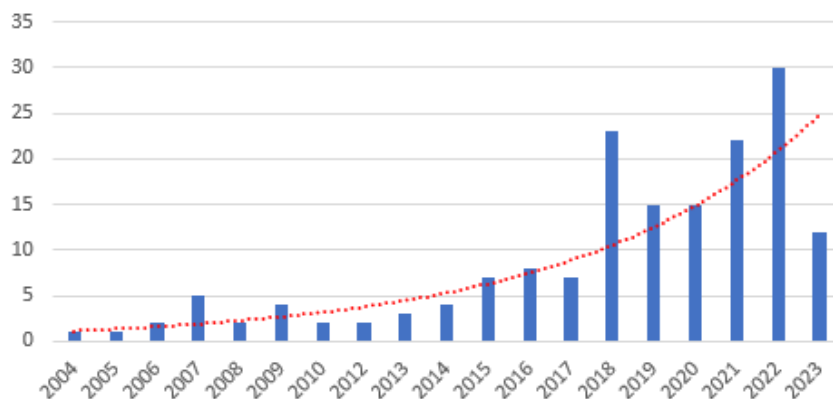


Figure 3: Number of articles related to project management methodology trends in large organizations per year

Source: Own elaboration based on analysis of selected range of 165 articles from Step 2 of SLR

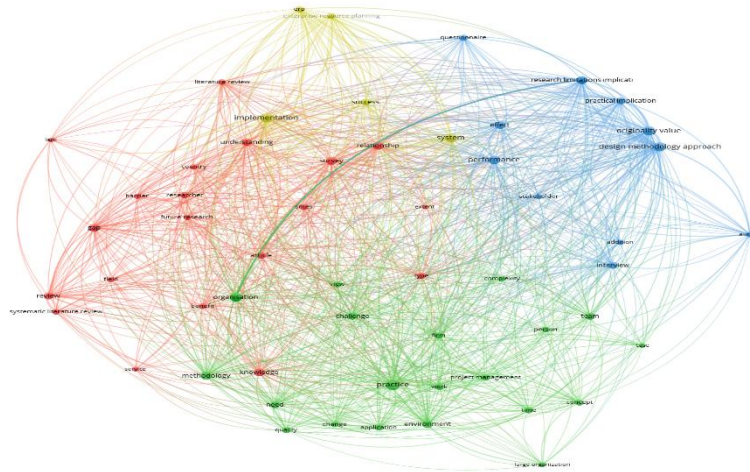


Figure 4: Network relationship on key terms

Source: Own elaboration - analysis of 165 articles from Step 2 of SLR using VOSviewer software

Network analysis of all 165 articles is also not providing a lot of insights, just pointing out there's a lot of research and reviews happening which is focusing on relationships between different elements, performance, and practical implementation, which is represented in Figure 4, which was generated using VOSviewer software (Jan van Eck & Waltman, n.d.).

Detailed analysis of the selected articles was performed, where each research paper was reviewed to understand the recommendations regarding the best practices towards project management methodologies and suggestions for the future. As 10 out of the 26 articles were suggesting to use of more than one approach, a scoring system was implemented, where each methodology mentioned in the article was listed and the priority was given 2 points, and the second was given 1 point. Then all the points were added for all analyzed articles, to understand the overall trends in the domain in a comparable way (Table 1).

Table 1: Analysis of project management trends in selected articles

Title	Project Management trend			
	Hybrid	Agile	Sustainability	AI
A New Path Toward a Hybrid Model: Insights from PwC's Italian Experience Centre (Magistretti et al., 2019)	2	1		
The Role and Characteristics of Hybrid Approaches to Project Management in the Development of Technology-Based Products and Services (Copola Azenha et al., 2021)	2			
The imperative and research directions of sustainable project management (Chofreh et al., 2019b)			2	
Co-evolution efficacy of project portfolio based on strategic orientation (Bai & Du, 2018)				2
Scrum adoption and architectural extensions in developing new service applications of large financial IT systems (Ihme, 2013)	1	2		
Recommendation of Project Management Practices: A Contribution to Hybrid Models (Bianchi et al., 2022)	2	1		
Exploring the challenges and benefits for scaling agile project management to large projects: a review (Santos & de Carvalho, 2022)		2		
How project management approach impact project success? From traditional to agile (Ciric Lalic et al., 2022)	2			
Agile project management and stage-gate model—A hybrid framework for technology-based companies (Conforto & Amaral, 2016)	2	2		
Resilience of operating models: exploring the potential of agile project management as enabler (Kadenic & Tambo, 2023)		2		
Self-Service Kits to Scale Knowledge to Autonomous Teams – Concept, Application and Limitations (Poth et al., 2023)	1	2		
Improving Agility in Organizations with a Hierarchical Culture: Leadership Strategies (Xu & Shen, 2022)		2		
Proposal and Solution of a Mixed-Integer Nonlinear Optimization Model That Incorporates Future Preparedness for Project Portfolio Selection (Albano et al., 2021)				2
Project governance and stakeholders: a literature review (Derakhshan et al., 2021)	2			

2019)				
Managing the unexpected in megaprojects: riding the waves of resilience (Nachbagauer & Schirl-Boeck, n.d.)	1	2		
A method to create hybrid models using a morphological matrix (Bianchi & Amaral, 2021)	2			
Agile or traditional project organisation: a quantitative assessment of decision criteria among firms in the DACH region (Maier & Emmerich, n.d.)	2			
Scaling Agile Company-Wide: The Organizational Challenge of Combining Agile-Scaling Frameworks and Enterprise Architecture in Service Companies (Van Wessel et al., 2022)	2			
Project governance and its role in enabling organizational strategy implementation: A systematic literature review (Musawir et al., 2020)	2			
Toward an Improved Understanding of Agile Project Governance: A Systematic Literature Review (Lappi et al., n.d.)	1	2		
Governance and governmentality in projects: Profiles and relationships with success (Müller et al., 2017)	2			
Why and how is Scrum being adapted in practice: A systematic review (Hron & Obwegeser, 2022)	1	2		
Agile trends in Chinese global software development industry: Fuzzy AHP based conceptual mapping (Khan et al., 2021)		2		
The effects of working agile on team performance and engagement (Peeters et al., n.d.)		2		
Agility as an innovation driver: towards an agile front end of innovation framework (Brand et al., 2021)	1	2		
Sustainability meets agile: Using Scrum to develop frugal innovations (Endres et al., 2022)		1	2	
TOTAL POINTS	28	27	4	4

To perform additional validation of obtained results post SLR, a follow-up bibliometric research was conducted in the SCOPUS database, where an article search was conducted on those trends, looking separately for (Agile AND “project management”), (Hybrid AND “project management”), (Sustainable AND “project management”) and (AI AND “project management”). The first 20000 results of each query were analyzed to understand the interest in the trend over time.

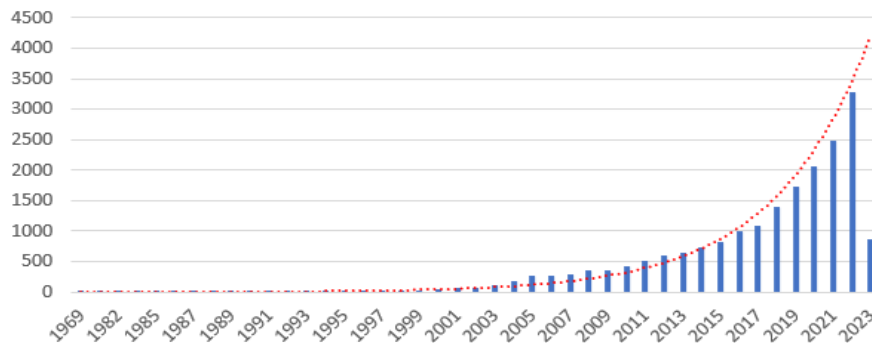


Figure 5: Trend in Hybrid project management

Source: Own elaboration based on first 20000 results from the SCOPUS database

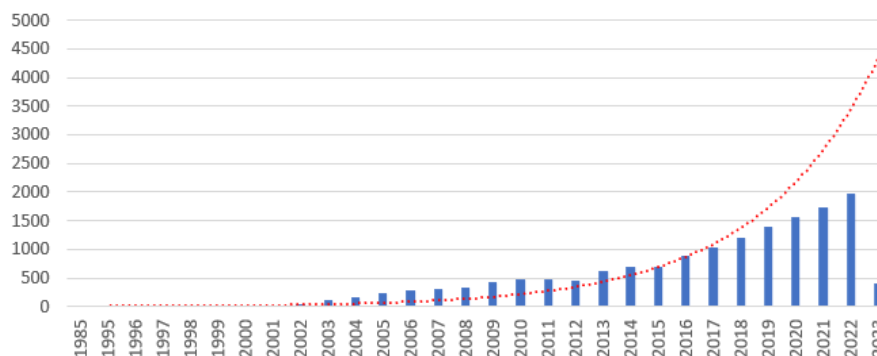


Figure 6: Trend in Agile project management

Source: Own elaboration based on first 20000 results from the SCOPUS database

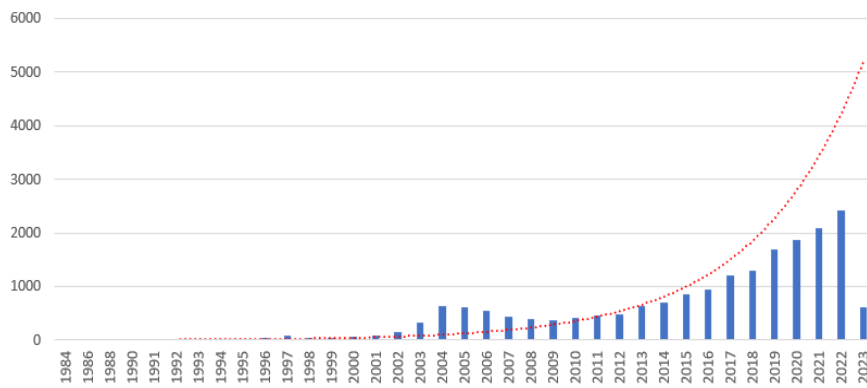


Figure 7: Trend in Sustainable project management

Source: Own elaboration based on first 20000 results from the SCOPUS database

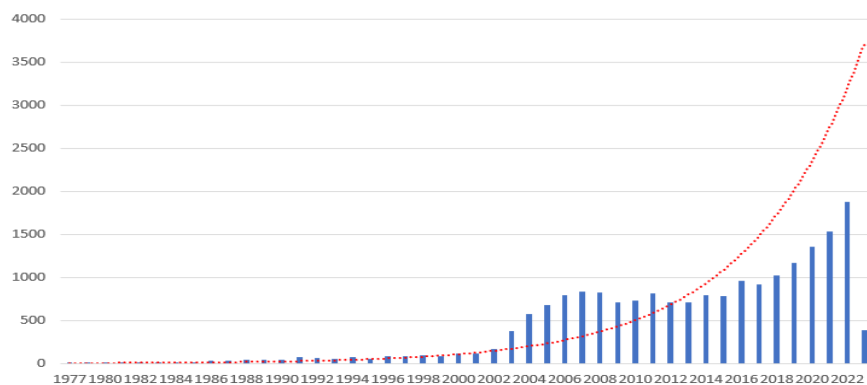


Figure 8: Trend in AI project management

Source: Own elaboration based on first 20000 results from the SCOPUS database

Results obtained from the follow-up bibliometric check seem to be consistent with the results coming from the systematic literature review, confirming that Hybrid and Agile are the main trending project management methodologies, while AI and sustainability are visible and gaining momentum both in the world of practitioners and researchers, but still far behind those top two.

DISCUSSION / ANALYSIS

Agile continues to be a continuing trend as even right now 70% of project managers declare they either use Agile or some of its elements in their daily work ([Digital.ai, n.d.](#)) and there's already a lot of evidence suggesting that using Agile practices and techniques can, in multiple cases, add flexibility and allow firms to be more resilient while increasing their go-to-market speed without compromising on quality. Still, there is no one good way for large organizations to benefit from an iterative way of working and adapting an Agile mindset, and there are numerous articles that refer to multiple challenges in that area. While we can see that the most popular Agile methodologies are evolving (for example Scaled Agile Framework just released version 6.0 of the methodology in March 2023), it's unlikely, that given the large organization complexity, they will be able to cover it all. One of the trends visible outside of the scope of SLR is a wider usage of the Agile approach on the portfolio management level ([Gogichaty et al., 2023](#)).

Sustainability is a topic that will continue to exist and have a place in project management, however, it seems the conclusions are still unclear – it seems that while everyone should aim to contribute to improving the situation and fight the climate crisis, how project management methodology can contribute is still questionable. The author's impression is that the main challenge is for the project sponsor to set project goals not only about the technical or business outputs but also about sustainability, which will then force the project team to consider it. But still, there is an area where how we manage projects also has an impact on sustainability and the project management scientific community is discussing how to ensure effectiveness while limiting the usage of resources and limiting the carbon footprint.

AI-driven project management is visible as a trend, however, the articles reviewed as part of the SLR recommended using it more on the portfolio level rather than directly in projects. The reason for that is most likely that the search query was focused on results related to larger organizations, while both sustainability and AI seem to be a trend regardless of the organization side, that's why, while the narrative follow-up search has confirmed that those trends exist, the scale of the trend in SLR and narrative research are not proportionate.

Results from SLR are quite interesting, and the recommendation is to be pragmatic and build portfolio-level mathematical models or algorithms, that will be able to drive or enhance strategic decision-making in project portfolio

investments based on available data. This would require all projects to be parametrized and “tagged” to a degree, that would allow qualitative and/or quantitative comparison that would allow accurate and value-adding decision-making.

Given that the SLR results on AI are providing a limited view into the actual project-level use, for the discussion a wider search has been conducted to gain an understanding of the current state of the matter. While the first articles explaining the possibilities of AI in project management are dating way back (Foster, 1988) there are also recent works that are elaborating on the AI trend and the state of knowledge in this area ([Hany Fawzy et al., 2023](#); [Maphosa & Maphosa, 2022](#); [Skinner, 2022](#); [Taboada et al., 2023](#)). In general, they are suggesting four potential uses:

- Using AI to increase and improve estimation accuracy and precision.
- Using ML, NLP, and NN to perform a stakeholder analysis to understand them better.
- Enabling AI-powered decision-making in project management.
- Getting benefits of AI in everyday tasks, such as dealing with stakeholders, scheduling, procurement, assessing project performance, and resource allocation.
- Log analysis to detect anomalies.
- Getting AI insights to perform better risk management and find ways to reduce costs.

Interestingly enough, it seems to be no visible fear of project managers being replaced by AI, but rather being enhanced and empowered to be more efficient and successful in what they are doing, regardless if it’s about scheduling, communication, or predictions (Dam et al., 2019). Also, recent studies are showing that delivering AI projects require a slightly different approach, where for example definition of done can be understood quite differently (Vial et al., 2022).

The narrative review has revealed additional use cases of AI in project management, and the expectation is that with further advancements in AI technology, capabilities and possibilities of using it to enhance project management, either as a co-pilot in creating documentation, using natural language processing to support meetings, or leveraging technology for optimal resource allocation or project schedule ([Rakade, 2020](#); [Sheoraj & Sungkur, 2022](#)).

CONCLUSION

The conducted review has shown that the current top trends in project management methodologies are hybrid and Agile, while sustainable and AI-driven project management are also visible, but have not gained interest compared to the first two. The main winner seems to be the hybrid approach, as the researchers tend to agree that currently, it is more important how we select and tailor the methodology or framework, rather than what we select and in multiple cases, it was pointed out that while Agile is providing a lot of practices that add value, quite often it needs to be tailored to particular organizations need and therefore leaning close to a hybrid approach, which suggests being pragmatic over following a single prescriptive methodology. Each organization is unique and it’s hard to find one methodology that will be a good fit for everyone, which means that each firm needs to find its way. This specifically applies to large organizations, with distributed teams, complex project portfolios, and various challenges (regulatory, cultural, other) to face, that must consider performing an analysis of as-is state and their desired state to build their unique hybrid framework to allow them to succeed and gain competitive advantage.

The evolution of project management methodologies has still a long future and it’s unlikely that the community of scientists and practitioners are running out of ideas on how to make the practice and working world better and project more successful.

LIMITATION AND STUDY FORWARD

As no research is ever able to cover the whole aspects of the given subject, here as well several limitations are worth pointing out, such as:

- Selection of bibliometric databases
- Low representation of AI-driven project management, which is a relatively new trend
- Low representation of sustainable project management, which is a relatively new trend
- Not expanding the search to cover related domains such as product management, program management,

By analyzing the results of the conducted systematic literature review, there are also suggested further research opportunities:

- Analyze the AI usage in project management, taking into consideration the latest technology advancements, which were not available when most of the previous articles (analyzed in this paper) were written.
- Continue investigating hybrid frameworks, which seem to be leading the way towards the future, following the assumption (which has been supported by data and previous research in multiple articles) that in the long run, large companies must go for a hybrid approach in project management if they want to use their resources optimally and remain competitive.

- Expand working and research on sustainable project management:
 - Incorporate sustainable metrics and parameters as being built into portfolio-level decision-making criteria.
 - Implement sustainable practices as part of the product development life cycle, which nowadays is often connected to or impacted by project management practices (Gmelin & Seuring, 2014; Loeh, 2016; Philip & Thirion, 2021).

CONFLICT OF INTEREST AND ETHICAL STANDARDS

Competing interests

The author has no competing interests or other interests that might be perceived to influence the results or discussion reported in this paper.

Ethical standards

No unethical practices were followed during the study and the author applied well-known best practices when writing the paper.

Availability of data and materials

Data is available at request submitted to the corresponding author.

AUTHOR'S CONTRIBUTION

A single author was responsible for all the work done in the article.

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