Artificial Intelligence and Project Management

A Global Chapter-Led Survey
2024

Project Management Institute Sweden

About Project Management Institute

PMI is the leading authority in project management, committed to advancing the project management profession to positively impact project success. We empower professionals to excel in project management practices through our growing global community, knowledge sharing, and best-in-class certifications—driving positive change in organizations and communities. Since 1969, our unwavering mission has been to advocate for the profession by offering life-long learning and connections to sharpen high-demand skills. Today, PMI provides professionals at every stage of their career journey with the globally recognized standards, online courses, thought leadership, events, and tools they need to succeed. With more than 300 chapters around the world, PMI members can network, find mentors, access career opportunities, and learn from peers, working together to drive greater impact. Visit us at: https://www.linkedin.com/company/projectmanagementinstitute, and on X @PMInstitute.

About PMI Sweden Chapter

The PMI Sweden Chapter was founded in January 1998 and is a non-profit organization, chartered by the global PMI organization. PMI Sweden Chapter is driven entirely by volunteers, including the board.

The aim is to inspire and engage people to make ideas become reality. This is done by arranging events such as seminars, network opportunities, congresses, but also by being a source of knowledge in Project, Program and Portfolio Management tools and techniques, news and trends.

PMI Sweden Chapter is known to be a dynamic organization consisting of project managers and changemaker professionals.

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Collaborating Chapters

PMI Sweden Chapter, in proud collaboration with the following PMI Chapters around the world, presents this report to inspire and inform the future of AI and project management.

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Authors

Lead Author of the Report:

Marly Nilsson, PMP (PMI Sweden)

Regional Report Europe

Davide La Valle, PMP
PMI Northern Italy

Olalla García Pérez, PMP, PMI-ACP
PMI Galicia Spain

Aneliya Chervenova, PMP, DASSM
PMI Bulgaria

Regional Report North America

Temisan Sagay, PMP
PMI Ottawa Canada

Boris Piiavski, PMP
PMI Israel

Joel Cardenas, PMP
PMI Finland

Regional Report Asia

Lavanya Vijayaraghavan, CAPM
PMI Bangalore India

Sachin Sood, PMP
PMI Bangalore India

Riam Chazbeck, PMP
PMI Lebanon

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Regional Report Latin America

André Correia, PMP
PMI Portugal

Madina Baizhanova, PMP
PMI Kazakhstan

Hypotheses Analysis

Lavanya Vijayaraghavan, CAPM
PMI Bangalore India

Regional Report Africa

Madina Baizhanova, PMP
PMI Kazakhstan

Marly Nilsson, PMP
PMI Sweden

Hypotheses Conclusion

Kjetil Hatlestad Volle, PMP, PMI-RMP
PMI Norway

Lavanya Vijayaraghavan, CAPM
PMI Bangalore India

Regional Report Oceania (Australia, New Zealand, Cook Islands, Fiji)

Olalla García Pérez, PMP, PMI-ACP
PMI Galicia Spain

Lavanya Vijayaraghavan, CAPM
PMI Bangalore India

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Project Participants – Leveraging the Global Member Network

Contributors to the Report

The PMI Sweden Chapter President Katarina Strömberg would like to express gratitude and appreciation to the following people and organizations for making this project possible.

All PMI chapters around the world were invited to join and support the project by appointing a project manager. This individual was responsible for promoting the survey in newsletters and on social media to contribute to obtaining a high number of survey responses. In addition to providing insights into the project management community's interest, maturity, and knowledge in AI, the objective was for participants in this project to share their gained insights with members of their respective chapters. We hoped that the results would offer valuable input for the chapters' strategic planning in 2024.

Phase 1

Project managers from the following Chapters worldwide have helped the project by promoting the survey and contributing to the overall result.

Marly Nilsson, PMI Sweden
Imran Khursid, PMI Sweden
Bruno Rafael Santos, PMI Rio de Janeiro, Brazil
Iryna Udovenko, PMI Ukraine
Liza Moroz, PMI Ukraine
Olalla García Peréz, PMI Galicia Spain
Ricardo Naciff, PMI France
Boris Piiavskii, PMI Israel
Kjetil H. Volle, PMI Norway
Annesha Ahmed, PMI Bangladesh
Sachin Sood, PMI Bangalore India
Estelle Detrembleur, PMI UK
Laura Samso Pericon, PMI Germany
Enrico Toselli, PMI Denmark
André Correia, PMI Portugal
Adi Muslic, PMI Switzerland
Ala Lutz, PMI Switzerland
Davide La Valle, PMI Northern Italy
Giuseppe Di Maria, PMI Belgium
Michelle Caicedo Garcia, PMI Central Italy
Vincenzo Corvello, PMI South Italy
Yuliya Zhevno, PMI Kazakhstan
Temisan Sagay, PMI Ottawa Canada
Mei Yin Lin, PMI Dallas US
Kellie Brits, PMI Netherlands
Joel Cardenas, PMI Finland
Peter Glynne, PMI Ireland
Madina Baizhanova, PMI Kazakhstan
Riam Chazbeck, PMI Lebanon
Aneliya Chervenova, PMI Bulgaria
Ignacia Vargas, PMI Venezuela

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Phase 2

Contributing to the preparation of data for analysis, conducting data analysis, market research, writing the report, conducting quality reviews, and participating in the marketing of the report

Overall Project

Global Project Manager: Marly Nilsson

Deputy Global Project Manager: Kjetil H Volle

Project Planner: Enrico Toselli

Overall Quality Review

Madina Baizhanova
Enrico Toselli
Aneliya Chervenova
Adi Muslic
Giuseppe Di Maria
Olalla García Peréz
Kjetil Volle
Davide La Valle

Global Report

Team Lead: Temisan Sagay

Data Analysis, Market Research and Authors: Temisan Sagay, Davide La Valle & Lavanya Vijayaraghavan

Regional Reports

Europe

Team Lead: Davide La Valle

Data Analysis and Authors: Davide La Valle and Olalla García Pérez

Market Research and Author: Aneliya Chervenova

North America

Team Lead: Temisan Sagay

Data Analysis and Author: Temisan Sagay

Market Research and Authors: Boris Piiavski and Joel Cardenas

Asia

Team Lead: Sachin Sood

Data Analysis: Lavanya Vijayaraghavan and Sachin Sood

Market Research and Authors: Lavanya Vijayaraghavan and Riam Chazbeck

Latin America

Infographic: Bruno Rafael Santos

Data Analysis, Market Research and Authors: André Correia and Madina Baizhanova

Africa

Team Lead: Madina Baizhanova

Data Analysis: Madina Baizhanova

Author: Madina Baizhanova and Marly Nilsson

Market research: Madina Baizhanova, Marly Nilsson and Estelle Detrembleur

Oceania

Team Lead: Olalla García Pérez

Data Analyst, Market Research and Authors: Olalla García Pérez and Lavanya Vijayaraghavan

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Marketing

Global Marketing Lead: Yuliya Zhevno

Deputy Marketing Lead: Lavanya Vijayaraghavan

Giuseppe Di Maria: working on the report with the design team

Laura Samso Pericon

Boris Piiavski

Michelle Caicedo Garcia

Davide La Valle

Kellie Brits

Annesha Ahmed

Contributors to the AI Specialist Section

Marly Nilsson

Mei Yin Lin

Aneliya Chervenova

Yuliya Zhevno

Annesha Ahmed

Davide La Valle

Anthony Munge, PMI Africa

Jessica Pålsson, Mobile Heights

Volunteers in PMI Sweden

Marina Maric: Event Manager

Amin Behzadirad: IT support

Barbara Klein: Newsletters

Jagadeesh Babu: Social Media

PMI Europe

Lucila Dotto: Europe Head of Community

Mariami Meladze: Chapter Engagement Specialist

Anna Zhukova: Chapter Engagement Specialist

PMI Africa

George Asamani, Managing Director, Sub-Saharan Africa

Anthony Munge, Manager, Chapter Engagement, Sub-Saharan Africa

PMI

Dave Garrett, Senior Advisor to the CEO

Michelle Brown, Manager, Content Engagement

James Turchick, Community Content Specialist

Jill Diffendal, Thought Leadership Content Manager

Megan DuBose, Manager, Content Marketing Performance

Edivandro Conforto, PhD, Director of Thought Leadership

Project Management Journal

Ralf Müller, Editor in Chief

Giorgio Locatelli, Editor in Chief

Partners

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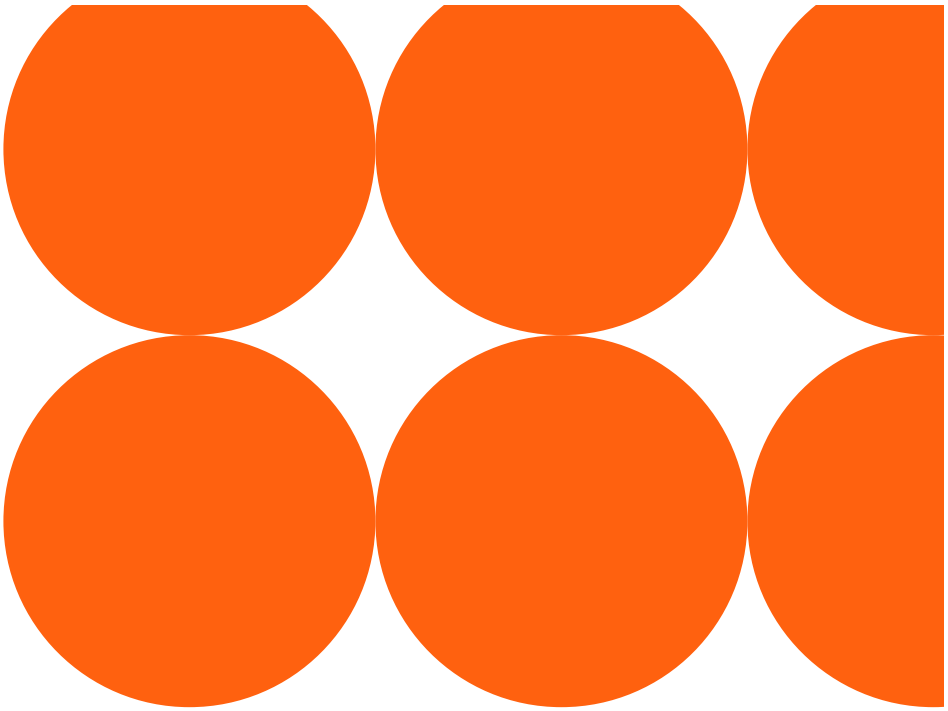

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PMI Sweden would like to acknowledge all the people who have made this initiative possible – the fantastic volunteers and our partners. More importantly, we acknowledge our respondents - mostly from the global PMI member community - because without you we would have nothing to share. You have taken valuable time to help us understand your view on AI, what you think about future developments and how PMI can support knowledge growth in AI. Thank you!

It has been very inspiring to see how an area of common interest and passion can bring so many people together, from PMI, the project management community and the corporate sector around the world.

Side by side, we have been working together to promote the survey, conduct an analysis and finally to document the results. The end result is this report that we are very proud to share with you all.

PMI Sweden hopes that this project will inspire many more cross-border projects within the PMI international member network and bring people together, with the intention of sharing knowledge, insights and experience.

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Foreword From PMI Sweden Chapter

"The only constant is change." However, in our times, change is happening faster and faster. Artificial Intelligence, or AI, is not only going to change the project management profession, but it will also be disruptive. At least this is what experts are projecting. With the introduction of Chat GPT-4 in 2023, many started to understand this impact and a lot of interest in AI was ignited globally. However, the discussion around AI is not new. For instance, in 2019, Gartner made the prognosis that 80 percent of project management tasks will be done by AI in 2030.

In PMI Sweden Chapter, we decided to highlight this technology in the 2022 Passion for Projects Congress. Marly Nilsson pitched an idea to me for the congress program, and I supported her to go ahead. A survey was also initiated during the congress, with the aim to map AI implementation and interest. The 2023 survey is the follow up of this initial survey. I am really happy that the 2023 survey has reached a global audience, with the support of many PMI chapters. I hope the findings will support chapters and their members on their AI journey. The report is indeed a milestone and I truly thank the dedicated volunteers who have created it.

Katarina Strömberg
President, PMI Sweden Chapter

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Foreword From PMI

The speed of the current AI revolution has created a lot of opportunities but is also raising several questions. Change is always challenging, especially when it affects our professions and comes from forces we cannot control. If the headlines and predictions surrounding AI have kept you up at night in the past year, let this community-led report put your mind to rest. Not because there's a magic answer hidden in the data, but because this is a call to action. It's an invitation to foster an AI ecosystem that's not only technically proficient, but also deeply grounded in the values, desires, and aspirations of our community.

Led by the PMI Sweden Chapter with collaboration from 27 other PMI Chapters around the world, the insights of this survey come from every corner of our globe. The findings cross cultural lines and language barriers. They range from early career professionals to executives and every step in between. The similarities and differences are a testament to our community's unparalleled insights and our capability to shape the future of the profession and the world we share.

AI will continue its rapid evolution and reach every part of our lives. We need to understand it and be prepared to embrace it to help our profession and people solve the most complex problems in our organizations and society by leveraging the best of this technology.

A special thank you to PMI Sweden Chapter for leading this effort, as well as the many other chapters who participated.

Brantlee Underhill
Chief Community Officer, PMI

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AI in Project Management Market Solutions & Service

Market Size, Share & Trends Analysis

Global AI in PM Market 2022:
USD 2.2B

Expected annual growth rate (CAGR) of
17.3%

Market size 2023 estimated to:
USD 2.5B

Revenue forecast 2030,
USD 7.7B

Market Revenue Share - 2022
35.9%
NORTH AMERICA

- Intelligent scheduling
- Real-time monitoring
- Natural language processing (NLP)-based communication
- Collaborative project management

The **solution segment dominated** the market with a revenue share of **72.1%** in 2022.

The **project scheduling and budgeting segment dominated** the market with a revenue share of **21.8%** in 2022.

The **Asia Pacific region** is expected to grow with the fastest CAGR of from 2023 to 2030.

23.8%

Source: grandviewresearch.com
Report ID: GRV-4-68040-091-2
Data is taken from the free report.

TOP 3 Using AI in PM Solutions

Bank, Finance Services & Insurance
21.9%

Government & Defense

IT & Telecom

The market is characterized by **strong competition, few major worldwide competitors** owning a significant market share.

Prominent players in the global AI in PM:

- Atlassian
- Adobe
- ALICE Technolgies Inc.
- Amazon Web Services
- Google LLC
- IBM Corporation

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Market Overview

The global market for AI in project management is projected to grow from USD 2.5 billion in 2023 to USD 5.7 billion by 2028, at a compound annual growth rate (CAGR) of 17.3% during the forecast period.

Some of the benefits driving this growth include:

1. **Automation and efficiency:** AI can automate routine tasks, freeing up project managers and project management professionals to focus on more strategic tasks.
2. **Data analysis and insights:** AI can analyze vast amounts of data, providing valuable insights and recommendations to project managers.
3. **Intelligent assistance and decision support**: AI can provide real-time assistance and decision support to project managers, improving the accuracy and speed of decision-making.
4. **Predictive planning and resource management**: AI can predict outcomes and optimize resource allocation, improving the efficiency and effectiveness of project delivery.
5. **Risk management and issue resolution:** AI can identify potential risks and issues, enabling project managers and risk managers to take proactive measures to mitigate them.
6. **Collaboration and communication:** AI can enhance communication and collaboration among team members, improving the overall efficiency of project delivery.

These are just a few examples of the factors driving the growth of AI in the project management market. As AI continues to evolve and improve, we can expect to see even more growth in the coming years.

Benefits is a collective view from following sources:
How AI will transform project management (hbr.com)
Five Practical Applications Of AI In Automation (forbes.com)

AI's Role in Project Management

Overall, AI's role in project management is to enhance decision-making, streamline processes, and improve the likelihood of successful project outcomes. It complements the skills and expertise of project managers, enabling them to lead projects more effectively and efficiently.

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AI's Impact on Project Management

AI is poised to have a significant impact on project management in the following four areas:

1. **Resource allocation and task distribution:** AI can help project managers allocate resources and distribute tasks more efficiently by matching the right skills and responsibilities to the right resources.
2. **Risk management:** AI can help project managers identify potential risks and opportunities by using real-time project data analysis.
3. **Project scheduling:** AI can assist project managers with the creation of detailed schedules and comprehensive risk logs, predict outcomes, and optimize resource allocation.
4. **Communication and collaboration:** AI can enhance communication and collaboration among team members by providing valuable insights and automating certain tasks.

These are examples of how AI is transforming project management at this time. By automating routine tasks, providing valuable insights, and improving communication and collaboration, AI can significantly improve the efficiency and effectiveness of project delivery.

Source: How Will AI Transform Project Management

The Openness to AI Adoption in Project Management

According to a recent article in the Harvard Business Review, researchers, startups, and innovative organizations are beginning to apply AI, machine learning, and other advanced technologies to project management. The article predicts that by 2030, the field of project management will undergo major shifts, with technology improving project selection and prioritization, monitoring progress, speeding up reporting, and facilitating testing. Project managers, aided by virtual project assistants, will find their roles more focused on coaching and stakeholder management than on administration and manual tasks.

Source: How AI Will Transform Project Management

Another study published in the Emerald Insight journal, Prospects, drivers of and barriers to artificial intelligence adoption in project management, attempts to identify the drivers of and barriers to, as well as the general perception and receptiveness of local project management professionals towards, AI adoption in project management. The study proposes potential strategies and recommendations to drive AI adoption in project management.

In summary, AI adoption in project management is gaining momentum, and it is expected to transform the field in the coming years.

Source: Emerald.com

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Risks with AI in Project Management

There are several risks associated with implementing AI in project management. Here are some of them:

1. **Data quality and availability:** AI relies heavily on data, and the quality and availability of data can significantly impact the accuracy and effectiveness of AI algorithms.
2. **Bias and fairness:** AI algorithms can inherit biases from the data they are trained on, potentially leading to biased decision-making.
3. **Lack of human judgment:** While AI can provide insights and recommendations, it lacks the human judgment and contextual understanding that project managers possess.
4. **Performance instability:** AI models can be unstable and unpredictable, leading to performance issues and errors.
5. **Enterprise or financial risk:** AI can introduce new risks to the enterprise, such as security breaches, data privacy violations, and regulatory compliance issues.
6. **Job displacement**: AI can automate routine tasks, leading to job displacement and the need for re-skilling and up-skilling.

Source: How AI Will Transform Project Management

Mitigating the Risks with AI in Project Management

To mitigate these risks, organizations should build risk management directly into their AI initiatives, so that oversight is constant and concurrent with internal development and external provisioning of AI across the enterprise. This approach is called “de-risking AI by design” Companies should also spend time cleaning and training the data, which is the most labor-intensive part of training AI algorithms.

In addition, organizations should consider giving guidelines to their employees in using AI solutions like Open AI in a responsible way by highlighting these two principles:

1. Use content produced by GenAI with care, as there is no way to guarantee the quality, accuracy, or safety of the information generated from such platforms.
2. Avoid uploading or sharing proprietary, personal, confidential or sensitive information onto any open source GenAI platforms.

Read more HBR Principles for using AI responsibly

By taking these steps, organizations can prepare and minimize the risks associated with AI adoption in project management.

Source: Hbr.org

Artificial Intelligence in Project Management | PMI

Project Management Institute has also recognized the potential of AI in project management and has launched the PMIxAI journey to discover the future of project management by merging human ingenuity with AI advancements that are proven to support project success and empower you to focus on value-driven project work.

Read more at PMI.org

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Executive Summary

In 2020, the global pandemic triggered a digital upheaval. Two years later, coinciding with the Passion for Projects congress, PMI Sweden seized the opportunity to explore the pandemic's influence on AI adoption in project management.

This has been accomplished by:

1. Publishing a follow-up article to Brain Power in PMNet 2019 "AI impact on project management and has the pandemic sped up the adoption?"
2. Including AI and PM as a topic on the Passion for Projects Congress program
3. Conducting an initial survey from 16 May – 30 June 2022 and a follow up survey from 1 June – 30 September 2023 aimed to gauge the project management community's position on the AI adoption life cycle and measure interest in and knowledge of AI applications for project management.

The findings of the survey, documented in the October 2022 report, 'AI and Project Management' by Nilsson and Santos, provide valuable insights into the evolving landscape of AI integration in project management practices.

Subsequent developments in late 2022, especially in Large Language Models (LLM) and the launch of ChatGPT by OpenAI, made it necessary to conduct a follow-up survey. This time, the research project was expanded to include detailed demographics, extend the geographical scope, and pose deeper questions about AI maturity and insights. Respondents were also encouraged to share their experiences in implementing AI and using it as a tool. The goal was to gain a better and deeper understanding of the interest in the technology and where individuals and companies stand in the technology adoption curve and investments in AI.

This chapter-led research project initiated in Sweden, and conducted between the 1st of June and the 30th of September 2023, has engaged and inspired PMI chapters from all over the globe with 32 project managers joining the project. The number of people responding to the survey reached an incredible number of 2,314 project management professionals from 129 countries. This shows the enormous importance and impact the project manager community gives to this technology and the urge to know how far other project managers have come in mastering the skill in implementing AI or using AI as a tool.

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The aim of this survey was primarily to examine four hypotheses:

1. **AI Adoption is Still in its Early Stages:** AI adoption is still in its early stages, but is steadily increasing. By comparing the 2022 AI in Project Management (PM) survey results for Sweden with the responses gathered in 2023, we hope to provide insights on the potential impact of developments such as ChatGPT by OpenAI on the AI maturity within the project management community in Sweden.
2. **AI Adoption Varies by Region:** The analysis of market research will provide insights into the stage of AI adoption across regions. This will include an exploration of government-led initiatives that promote investment, legislative measures, and educational efforts geared towards harnessing the vast potential of AI.
3. **Organizations That Lag in AI Adoption Will Struggle to Attract Talent:** In the context of the global digital economy, our assumption is that AI transformation will lead to a "survival of the fittest" scenario. Falling behind in AI adoption could jeopardize a company's ability to attract and retain talent. The analysis of the responses will uncover how respondents would react if their employer lagged in technology development and innovation, providing intriguing insights.
4. **The Project Management Community Deems Certain AI Skills Necessary in Order to Maintain a Competitive Advantage:** The analysis will shed light on the AI skills that the project management community deems necessary to remain relevant and competitive. It will also show how individuals are acquiring these new skills, considered crucial for being employable and securing assignments as project managers.

To enable regional comparisons, the countries of operation reported by respondents were mapped to their respective continents using the United Nations Statistics Division dataset.

This research endeavors to offer a comprehensive understanding of the evolving landscape of AI in project management, encompassing regional variations, global competition for AI talent, and the imperative for skill evolution in the face of advancing technology.

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In addition to the analysis of the responses and market research, the report also contains insights from 15 renowned AI in project management specialists on the following questions:

1. How can AI be used to improve project management processes and outcomes?
2. How can we ensure that AI is applied in an ethical way and does not lead to unwanted consequences in projects?
3. Considering that cultural and political aspects potentially affect how projects are managed in different regions/countries, do AI experts expect future GenAI to customize the AI-generated results of the prompts based on the region/country? If so, what problems or impediments could be associated with this?

This report presents a comprehensive guide to the evolving landscape of AI in project management and contains detailed analysis on a global and regional level (Africa, Asia, Europe, North America, South & Latin America, and Oceania), offering crucial insights for organizations navigating technological transformations on a regional and global scale.

This research project marks a significant milestone for the PMI Chapter Management Community, showcasing the collaborative strength and forward-thinking vision of the PMI organization and network.

Enjoy reading!

Together We Can!

Marly Nilsson
Global Project Manager

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Mission Statement

The mission of this survey is for PMI chapters around the world to discover where members are on the AI technology adoption life cycle and build a strategy on the best way to support the members on their AI transformation journey.

Hypothesis

Based on the results from the previous report 'AI in Project Management' (Report October 2022, Nilsson and Santos), our hypothesis is that AI in project management is still in the early stages. We believe very few PMI members and the overall project management community have been involved in AI projects.

We also believe that AI adoption will vary between regions. North America and Asia are assumed to have a much higher adoption rate due to leading global technology companies like Microsoft, Apple, Amazon and Ali Baba paving the way. We also think that other regions will pick up, due to the implementation of AI government-led programs. These will stimulate investments, legislation and educational programs, to mention some effects.

We are also convinced that with a global digital economy, AI transformation will be a "survival of the fittest." According to a report from KPMG 2019, "AI Transforming the Enterprise," organizations who have invested in AI say they've seen, on average, a 15% improvement in productivity. According to the world economic forum, AI has the potential to increase labor productivity in developed countries by up to 40% until 2035. With this said, we believe it will be a global competition for talent. Not keeping up as a company may risk falling behind and not being able to keep or attract new talent.

Through a global digital economy, employers potentially have a global workforce at their disposal. This means that the project management community needs to adapt and transform, both to support global digitization and the new AI technology. We believe this will require significant and fast adaptation, and it also means strengthening essential human skills. Teams will still be local, but powered and supported with AI; the project teams need new leadership. We think our survey will show that the respondents are aware, interested in, and recognize the importance of adapting to this situation.

In conclusion we think that our survey will support the following assumptions:

- AI adoption is still in an early phase, but it's picking up. We will examine this assumption by comparing the results from the report in 2022 for Sweden to the result in 2023.
- We think that many regions and countries realize the potential of AI and that we will see many AI government-led programs to stimulate investments, legislation and educational programs.
- Our respondents will see it as a reason to seek out employers who are not falling behind in the use of AI, new digital technology and keep up when it comes to adopting new innovative solutions.
- Our respondents realize the importance of keeping up with new technologies and learn how to master and acquire new technical and leadership skills necessary to be competitive. They will show a large interest in learning more about AI, both in leading AI projects and using AI tools.

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Testing Our Hypotheses

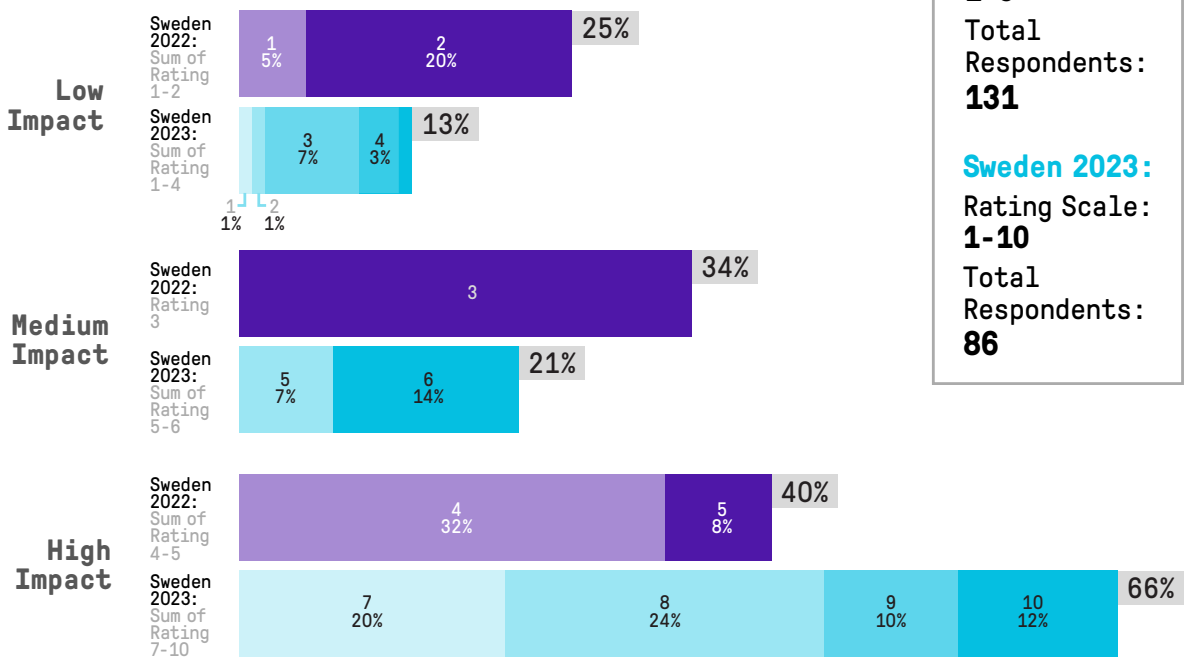
Hypothesis 1: AI adoption is still in an early phase, but it's picking up. We will review this assumption by comparing the results from the report in 2022 for Sweden to the result in 2023.

Conducted before and after the revolutionary release of generative AI, the two surveys offer a unique perspective on how this paradigm-changing event may have altered the way professionals perceive the role of Artificial Intelligence in project management. Keeping in mind certain caveats, such as differences in the number of respondents from Sweden (131/148 in 2022 vs. 86/2314 in 2023), different response options to certain questions and lack of age and gender data for 2022, there are many valuable insights to be garnered.

Firstly, it is encouraging to note that while most respondents in both surveys evaluate their knowledge of AI as basic or beginner-level (47% in 2022 vs. 57% in 2023), the number of respondents reporting no knowledge decreased from 26% in 2022 to 16% in 2023 and proficiency, though minor, has increased from 4% to 7%. Moving on to the predictions of how AI will affect project management, the increase in the perceived impact in the next three years is notable, with ratings of high impact rising from 40% in 2022 to 66% in 2023 post-ChatGPT. This suggests growing recognition of AI's capabilities in enhancing project management practices.

Impact of AI on Project Management

Sweden 2022 and 2023



Sweden 2022:
Rating Scale: **1-5**
Total Respondents: **131**

Sweden 2023:
Rating Scale: **1-10**
Total Respondents: **86**

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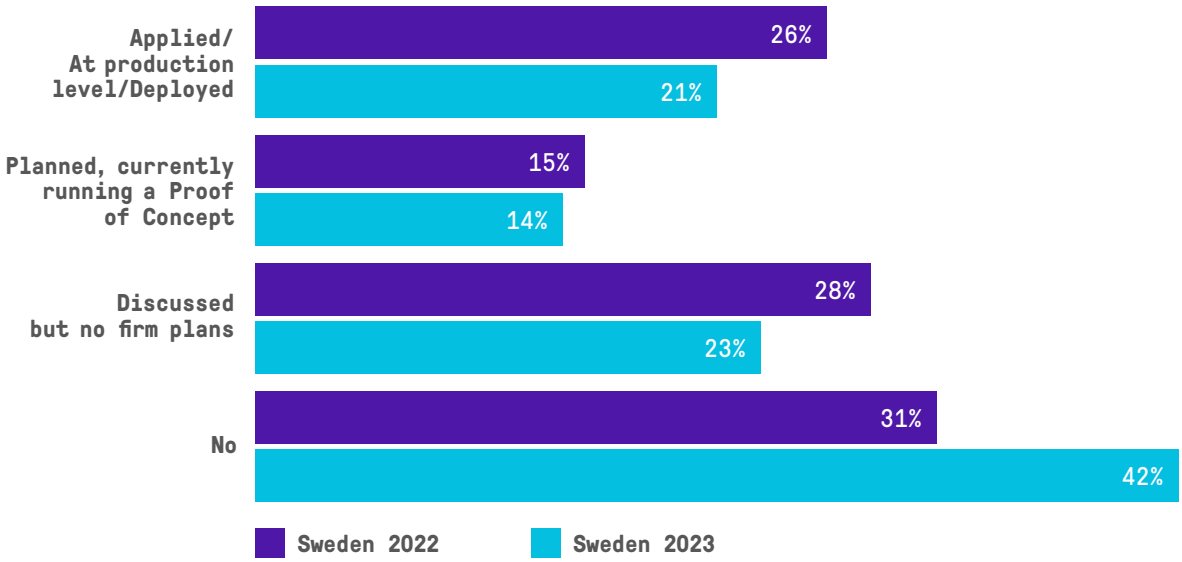
Organizational plans to implement AI:
Sweden 2022 vs. 2023



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Of skills considered important for the future of project management, some gained greater value in 2023: An innovative mindset was rated as high impact by 72% in 2023 while only 42% chose 7 on a scale of 1-10 in 2022 (there were no ratings above 7). Other skills that rose in importance were the ability to make data-driven decisions (62% ratings of high impact in 2023 vs. no ratings of 7 and above in 2022) and ethics on AI (57% ratings of high impact in 2023 vs. no ratings of 7 and above in 2022). The importance of making data-driven decisions for respondents in 2023 is further evidenced by 77% showing a keen interest in learning how to create business cases for AI applications.

Two areas of project management where AI was perceived to have a greater impact in 2023 were data collection (73% chose high impact in 2023 vs. 25% chose 7 or higher on a scale of 1-10 in 2022) and performance monitoring (51% chose high impact in 2023 vs. 2% chose 7 on a scale of 1-10 in 2022). This points to increased awareness of the potential of AI for automation. Interestingly, the reverse was seen for cost management, where 58% chose 7 (no ratings other than 7) in 2022, while 39% chose high impact in 2023. Stakeholder engagement remained the area that respondents felt would be least affected by AI (44% chose low impact in 2023, while only 14% felt AI would have any impact at all in 2022).

Finally, organizational implementation of AI does not seem to have advanced across the two survey periods. Fewer projects were in production/deployment in 2023, while the number of negatives increased (the options of 'No' and 'I don't know' provided in 2023 were consolidated into a single negative to compare with 2022). These findings agree with the regional and global trends of low organizational maturity, implementation of AI projects and training and recruitment efforts.

In conclusion, despite the limitations and the qualitative nature of the comparison, project management professionals show increasing awareness of the impact of AI overall and greater clarity regarding its impact on project management functions and the skills required to navigate an AI-driven future, while organizations are lagging.

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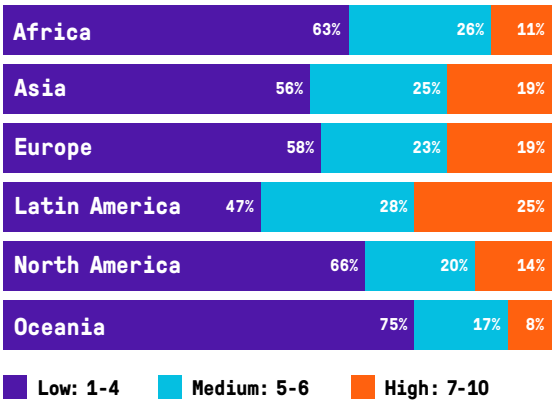
Hypothesis 2: We think that many regions and countries realize the potential of AI and that we will see many government-led AI programs to stimulate investments, legislation, and educational programs.

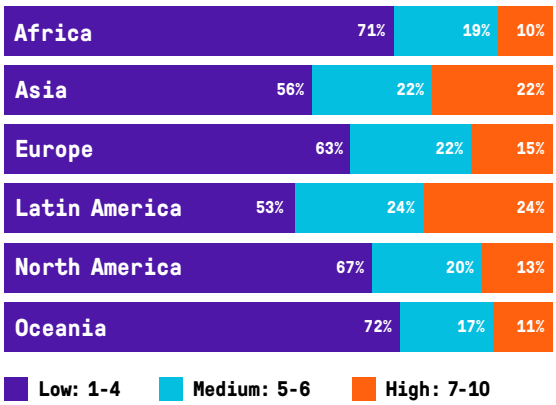
As discussed in detail in the regional sections of this report, well-defined AI strategies, significant investments in AI education and research and increasing adoption of AI in public services demonstrate the growing determination of nations in every region to not be left behind in the AI race. This is supported by the finding that while the United States leads the world in Governmental AI Readiness, nations in Asia, Europe and Oceania are also found in the top 10. Furthermore, nations around the globe recognize the importance of regulatory structures for AI, based on fairness, privacy, data security, accountability, transparency, and safety.

However, in striking contrast, our survey reveals that organizations across regions are lagging significantly in several facets of AI adoption, with some regional differences. As shown in the figure below, AI maturity is rated predominantly low with the exception of Latin America, where respondents deliver a more balanced rating across low (1-4), medium (5-6) and high (7-10) maturity. Regional differences of a moderate degree emerge in the report of effort invested in training personnel, with Africa, North America and Oceania reporting less effort than Europe, Asia, and Latin America. Recruitment of AI talent seems to be on a slightly better footing, with positive reports ranging from 30-45%, (the outlier Oceania has only 36 responses of 2,314, warranting cautious interpretation). While implementation of AI is predominantly in the discussion phase world-wide, again regional differences emerge when projects in deployment and proof-of-concept are considered together, with Europe at the leader at 40%, closely followed by Latin America at 37% (further details available in the regional sections). In summary, organizations worldwide will have to invest significantly greater effort, or risk losing out on the tremendous benefits AI is already beginning to deliver.

What is the AI maturity within your organization?



How much effort is your organization investing in training to make personnel AI ready?



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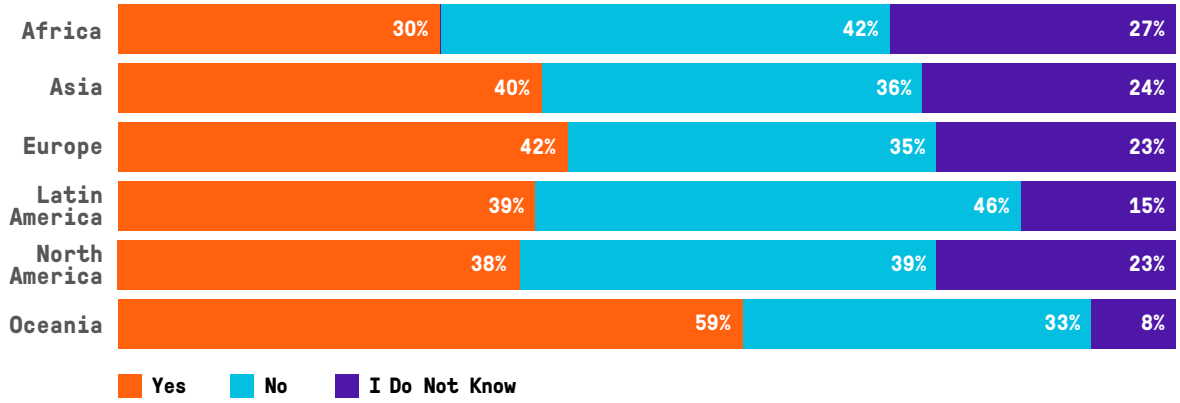
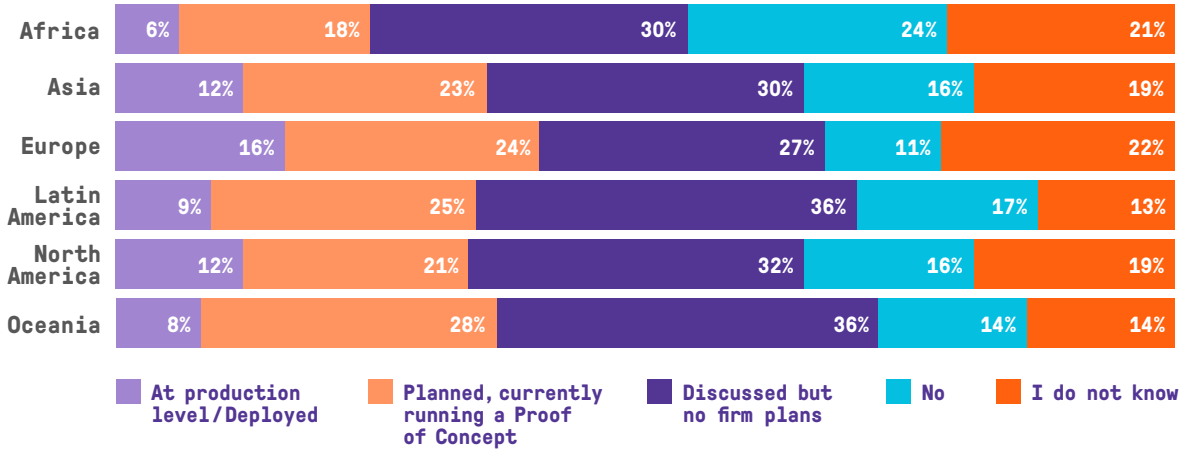
Are you building or recruiting AI competence to your organization?



Has the organization which you are currently working for (consultant/employee) any plans on implementing AI?



TOTAL RESPONDENTS	Africa	Asia	Europe	Latin America	North America	Oceania
2,314	135	542	861	203	717	36

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Hypothesis 3: Our respondents will see it as a reason to seek out employers who are not falling behind in the use of AI, new digital technology and keep up when it comes to adopting new innovative solutions.

We tested this hypothesis by examining responses to the question, “If your organization were lagging in product innovation and/or technology, what would you do?” An encouraging majority of respondents across all regions would propose new and innovative projects, demonstrating their drive to be change-makers. However, a striking degree of ambivalence emerged, with ‘Maybe’ overtaking ‘Yes’ and often tying with ‘No’ as a response to options such as staying but looking for a new role in the organization, looking for a new role elsewhere or striking out to start one’s own company, indicating that keeping up with AI is considered important by the participants. Trust in the leadership was on the lower side, except for Asia, where ‘Yes’ garnered a slightly higher share compared to other regions. Therefore, organizations would do well to avoid complacency and enhance trust in leadership by transparency and collaborative decision-making.

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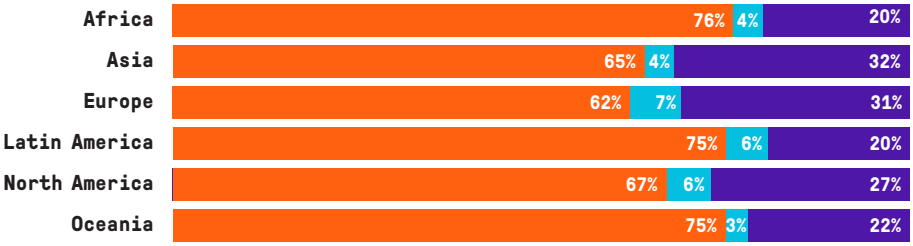
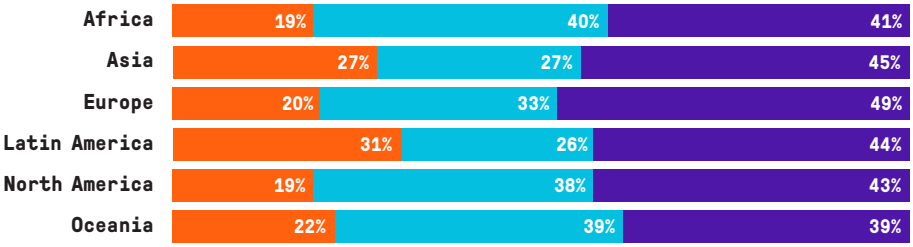
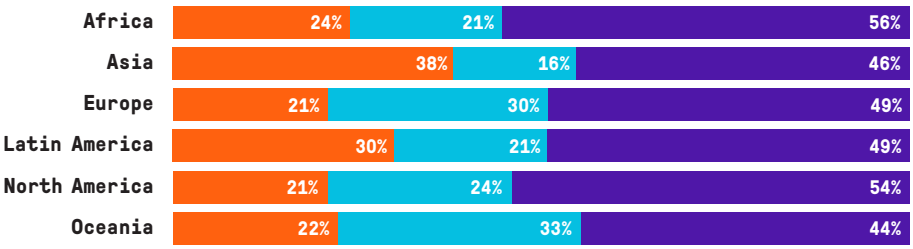
Propose new innovative projects



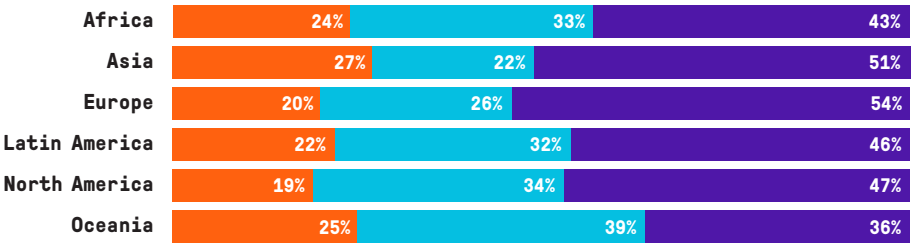
Look for new position within the organization



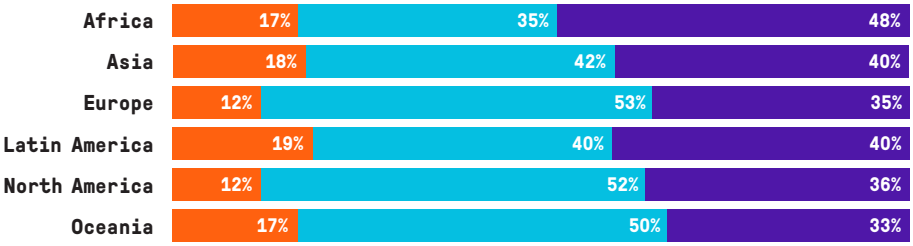
Trust the leadership



Look for new position in other organization



Open my own company



TOTAL RESPONDENTS 2,314

Africa **135**

Asia **542**

Europe **861**

Latin America **203**

North America **717**

Oceania **36**

Yes
No
Maybe

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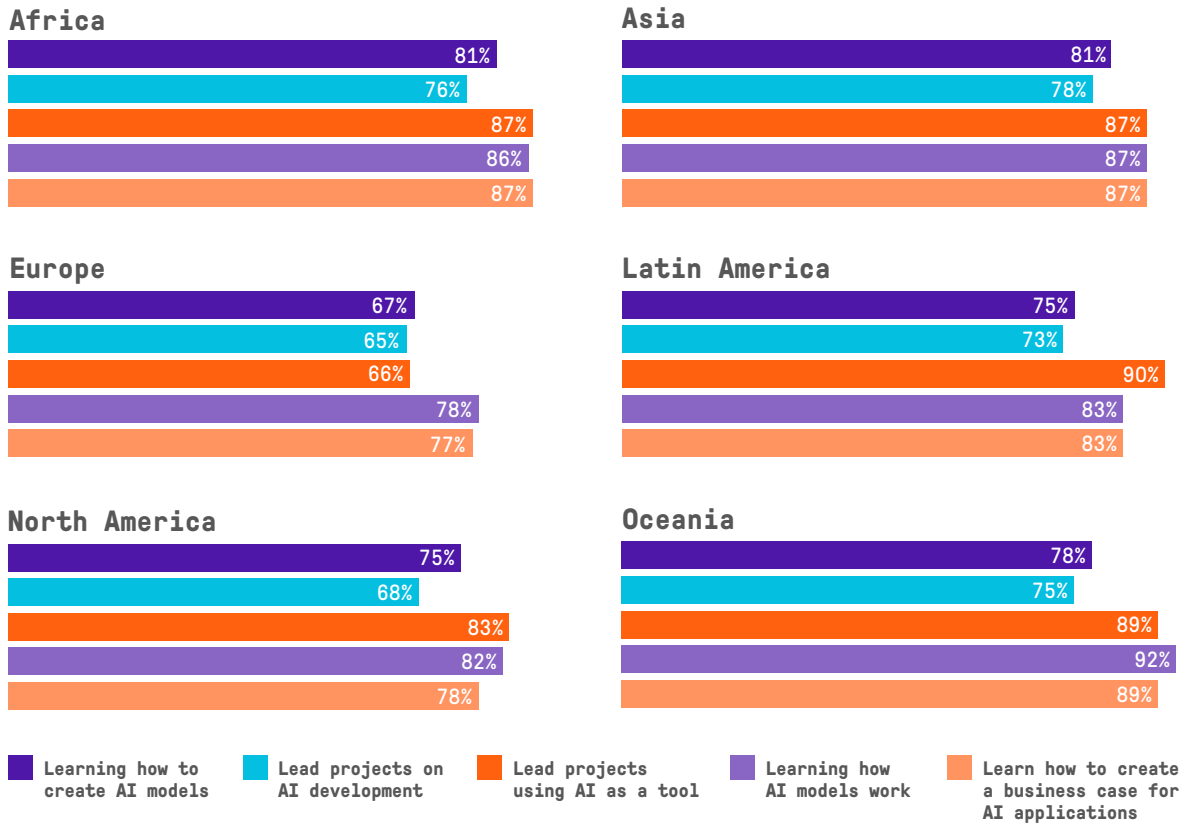
Hypothesis 4: Our respondents realize the importance of keeping up with new technologies and learn how to master and acquire new technical and leadership skills necessary to be competitive. They will show a large interest in learning more about AI, both in leading AI projects and using AI tools.

A consensus has been identified across all regions that artificial intelligence will greatly change the way we work in project management in the coming years. Accordingly, our hypothesis is supported by overwhelming enthusiasm across regions for learning about various use cases of AI, such as learning how to create AI models, leading projects on AI development, leading projects using AI as a tool, learning how AI models work and learning how to create a business case for AI applications. This is unsurprising, given the thirst for professional improvement demonstrated by the high incidence of the demanding PMP® certification in the cohort. Across regions, online videos/podcasts/webinars and books were the most preferred sources, as to be expected for busy professionals, followed by formal education and open-source documentation. This is encouraging news, not just for organizations interested in upskilling their personnel, but also for educational providers.

Are you interested to learn more about how to use AI as tool in project management or run AI projects?



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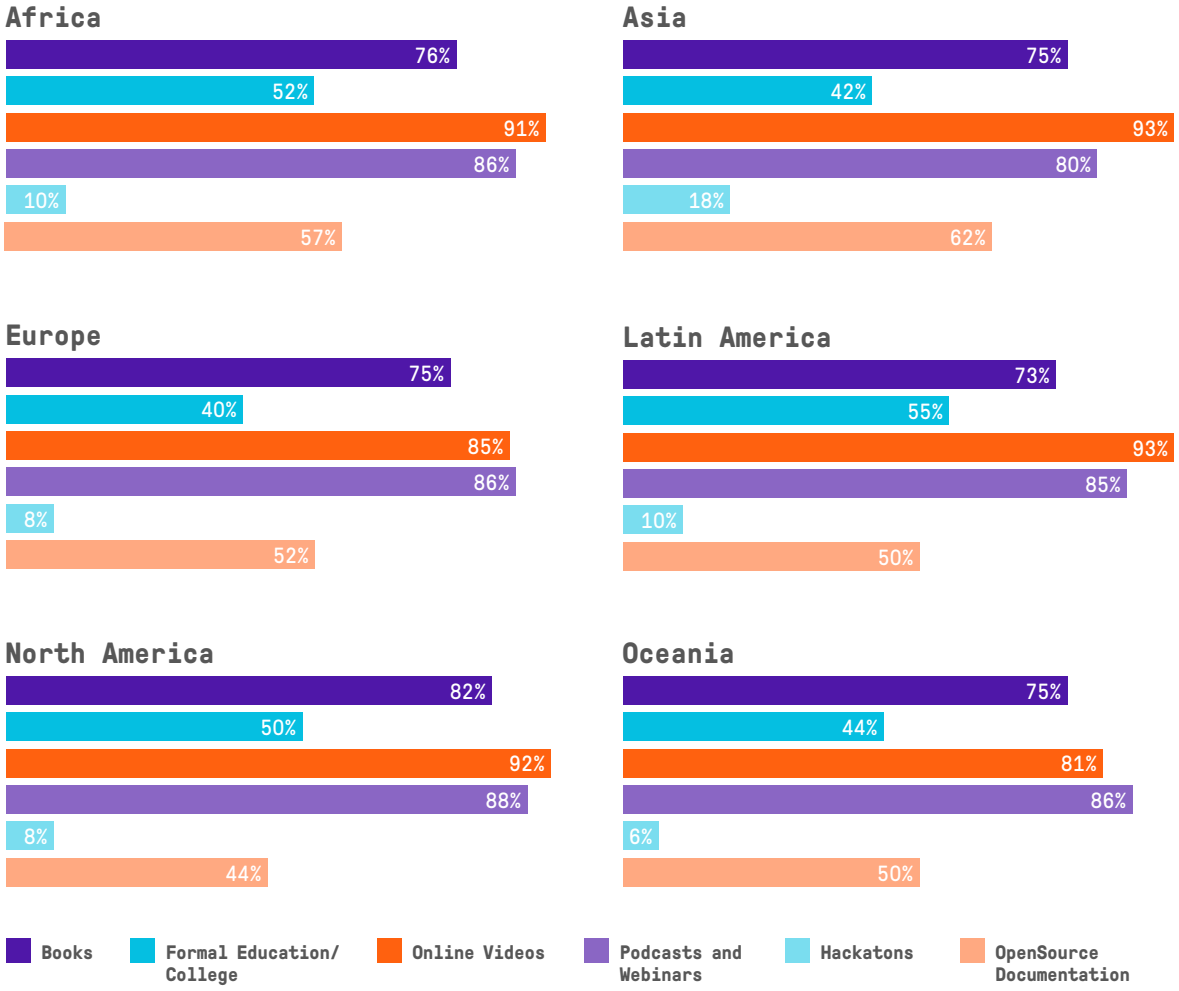
Which sources do you use for self improvement and qualification?



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Hypothesis Summary: How did we do?

We are pleased to report that most of our hypotheses have been substantiated, supporting the validity of many of our initial conjectures. This exercise has been a captivating journey, leading us to unexpected discoveries that extend beyond the boundaries of our original hypotheses. The richness and complexity of the data have resulted in intriguingly nuanced findings in some respects, highlighting the multifaceted aspects of our research.

Hypothesis 1: AI adoption is still in an early phase, but it's picking up: Although the number of Swedish responses are fewer in the 2023 survey compared to the 2022 survey, we see an encouraging increase in the interest and understanding of how AI will change the PM profession. We conclude that this hypothesis is supported by our survey, albeit to a limited extent.

Hypothesis 2: We think that many regions and countries realize the potential of AI and that we will see many government-led AI programs: Our hypothesis is clearly supported by the very interesting results of the market research conducted by our team, which reveals a strong focus on how AI technology will impact and benefit countries and regions. This is evidenced by in-depth governmental strategies, significant budget investments and government-led research in countries around the globe. However, it is even more interesting that while the public sector is highly focused on and engaged in AI exploration, we found that this does NOT seem to be the case within the private business sector, at least with respect to the survey respondents. In earlier disruptive technology shifts, like the adoption of the Internet, or even perhaps in leveraging social media, we have seen interest, adoption and exploration often happening first in private and international business. Our survey results indicate a significant change in this phenomenon. However, a distinction must be made between entities that develop the technology (usually private, such as those leading the development of generative AI, for example) and those who make use of or adopt it (either private or public).

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Hypothesis 3: Our respondents will see it as a reason to seek out employers who are not falling behind in the use of AI: Our analysis reveals that this hypothesis receives the least support from the survey responses, although it unfolds with some intricacies that warrant careful consideration. To better comprehend this outcome, we must initially consider the profile of our survey respondents, who constitute a relatively homogeneous group of professional project managers. The majority has received training in the PMI framework of professional behaviour, ethics, and code of conduct, and they conduct themselves accordingly. This means that they perceive themselves as agents of change, as executing a project involves managing a temporary endeavour aimed at transitioning from the current state to a future state. Consequently, they are inclined to accommodate and support organizational evolution and growth. Moreover, despite the typically limited scope of their mandates, project managers often need to apply their technical knowledge and communication skills to influence decision-making and ensure project success.

Nevertheless, a substantial portion of respondents opted for 'Maybe' when considering alternatives to proposing new projects, such as seeking another position within the same organization or departing the workplace for either a different organization or launching their own company. This 'Maybe' response may signify a degree of uncertainty, implying that the question of 'employee loyalty' in the context of AI adoption is more intricate than initially apparent. Trust in leadership also emerged as a salient factor. Except for Asia, where 38% expressed confidence in leadership, most regions reported relatively low levels of trust in their organizational management. This is significant given their enthusiasm for proposing new projects. The interplay between trust in leadership and the eagerness to drive innovation is a dimension that warrants further exploration.

It must also be noted that while respondents may be interested in using AI as a tool for project management, AI integration might not be immediately applicable or possible for industries other than IT, making it less important to seek another job if their employer is not immediately adopting AI. Furthermore, it's imperative to acknowledge that cultural behaviours and the prevailing job market conditions in different regions could substantially shape how project managers perceive and respond to AI adoption within their organizations. Our survey did not encompass these aspects, constraining our ability to fully interpret the results across regions.

In conclusion, while this hypothesis does not garner unequivocal support from our survey data, the results unveil a nuanced landscape that necessitates more meticulous examination. The relationship between project managers' attitudes toward AI adoption and their loyalty to their current employers is multifaceted and contingent on various contextual factors. Organizations would be prudent to refrain from complacency and take heed of what project managers deem pivotal in the age of AI.

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Hypothesis 4: Our respondents realize the importance of keeping up with new technologies (like AI): This hypothesis is clearly supported in the response from our survey. Across all regions it is recognized that there is a need to investigate and leverage new technologies in general, and AI in particular. Again, it should be emphasized that we are predominantly analysing responses from project managers with a PMI background. A foundational principle of PMI is the constant requirement to develop and improve, to remain certified, so a willingness to incorporate AI technology into this learning mix is to be expected. All regions scored very high in support of this hypothesis.

In summary, the survey responses generally align with most of our hypotheses. However, a few caveats must be considered. The results for hypothesis 1, as mentioned, must be interpreted keeping in mind the potential limitations of comparing data from two different surveys, which could introduce bias or discrepancies. Secondly, the global nature of our data set might introduce cultural influences and biases that need to be considered.

Despite these caveats, we believe that our findings hold value for the project management community. They can serve as valuable insights to inform AI-related organizational strategies and support personal career growth. Moreover, we hope that our study's limitations will inspire future research endeavours, aimed at addressing and mitigating these specific challenges for a more comprehensive understanding of the role of AI in project management.

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Scope

We aim to assess the project management community and PMI members' knowledge and experience with AI implementation, as well as their openness to use AI technology as a tool in project management. We will investigate types of AI solutions implemented, team preparation, and challenges faced. We will check if there is inclination to change employment in case their current employer is lagging in adoption of new technology like AI, and whether such adoption is a criterion for job seekers.

We also seek to determine how companies are preparing for AI implementation, including personnel training and recruitment of AI specialists, while considering the impact of demographic and geographic differences. We will use the strength of being part of a global member network and invite PMI volunteers to support us in this important work.

Our desire is to understand the AI maturity of individuals and organizations, as this new technology is likely to impact all aspects of our work. The anticipated impact of this survey is to give a snapshot of the current state of AI with individuals and companies in countries, in regions and globally. We think this will provide PMI with guidance on how to support its members on their AI transformation journey.

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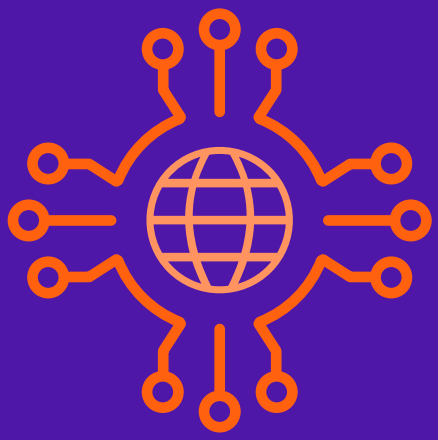
Global Results

AI IN PROJECT MANAGEMENT

Key Findings

Global Report



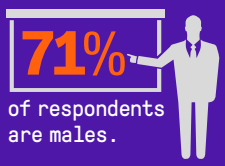
PARTICIPANTS

84% of participants are members of PMI Global and/or PMI Local chapters

74% are PMP certified.

83% of participants hold Bachelor or Master of Science degree.

More than **62%** are equally distributed in 35-44 and 45-54 age ranges.



of respondents are males.

48 industries represented. However, **IT Services** stand out as the most prevalent.

TOP 3 AREAS MOST IMPACTED BY AI

- Data Collection and Reporting
- Performance Monitoring
- Project Time Management & Scheduling

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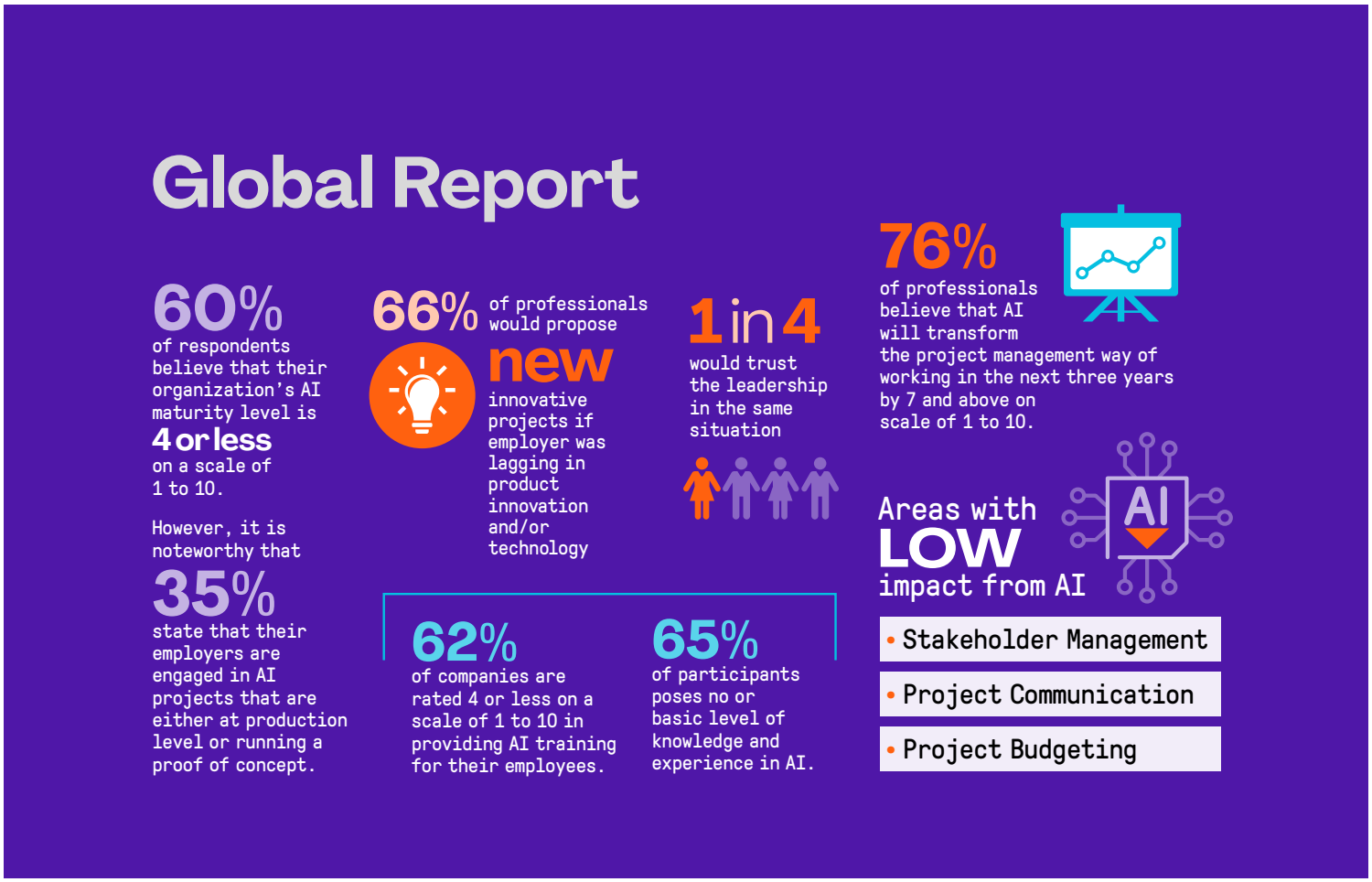

The Global State of Artificial Intelligence

2023 is rightly AI's 'breakout year', with the explosive entry of generative artificial intelligence (Gen AI) on the scene, profoundly impacting governments, businesses, and individuals. Automation of routine tasks and more advanced abilities such as novel content creation, predicting, identifying and analyzing issues and formulating solutions, with continuous self-improvement have led to the prediction that 80% of organizations are expected to have implemented Gen AI in some form by 2026. Comprehensive re-structuring of business strategies and a concerted effort in workforce reskilling are essential to ensure that the AI revolution is inclusive and minimizes job displacement. Addressing risks such as cybersecurity, privacy invasions, carbon footprint, and electronic waste generation demands a cohesive global initiative that extends from organizational responsibility to the sphere of governmental and societal obligation.

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Artificial Intelligence Around the World

In the realm of project management, the integration of AI is making noticeable strides globally, albeit with varied levels of maturity and adoption across different sectors.

The survey demographics reveal that more than 62% of respondents are equally distributed in the 35-44 and 45-54 age ranges group and are predominantly male (71%). Respondents have a strong affiliation with PMI, as 84% are members of PMI and/or local chapters, and 75% of all respondents hold Project Management Professional (PMP)® certifications. This implies a solid foundation in project management principles among those exploring AI applications. Educationally, 83% hold a bachelor's or master's degree in science, indicating a high level of academic qualification in the field. IT Services stand out among the 48 represented industries, highlighting the sector's lead in AI adoption.

From the above infographic, a notable 60% of respondents perceive their organization's AI maturity to be low, rating it 4 or less on a scale of 1 to 10. Despite this, a significant 35% of these organizations are actively engaged in AI projects, either in production stages or as proofs of concept. This reflects a growing commitment to AI despite a general sense of nascent maturity in the field. However, there is a notable deficiency in AI training and expertise. About 62% of companies rate poorly in providing AI training to their employees, and 65% of participants admit to having no or only basic levels of knowledge and experience in AI.

When it comes to innovation and leadership, 66% of professionals would propose new innovative projects if their employer lagged in product innovation and/or technology. However, only one in four would trust the leadership in such a situation. This suggests a readiness among professionals to drive innovation, yet a lack of confidence in current leadership to effectively navigate technological advancements.

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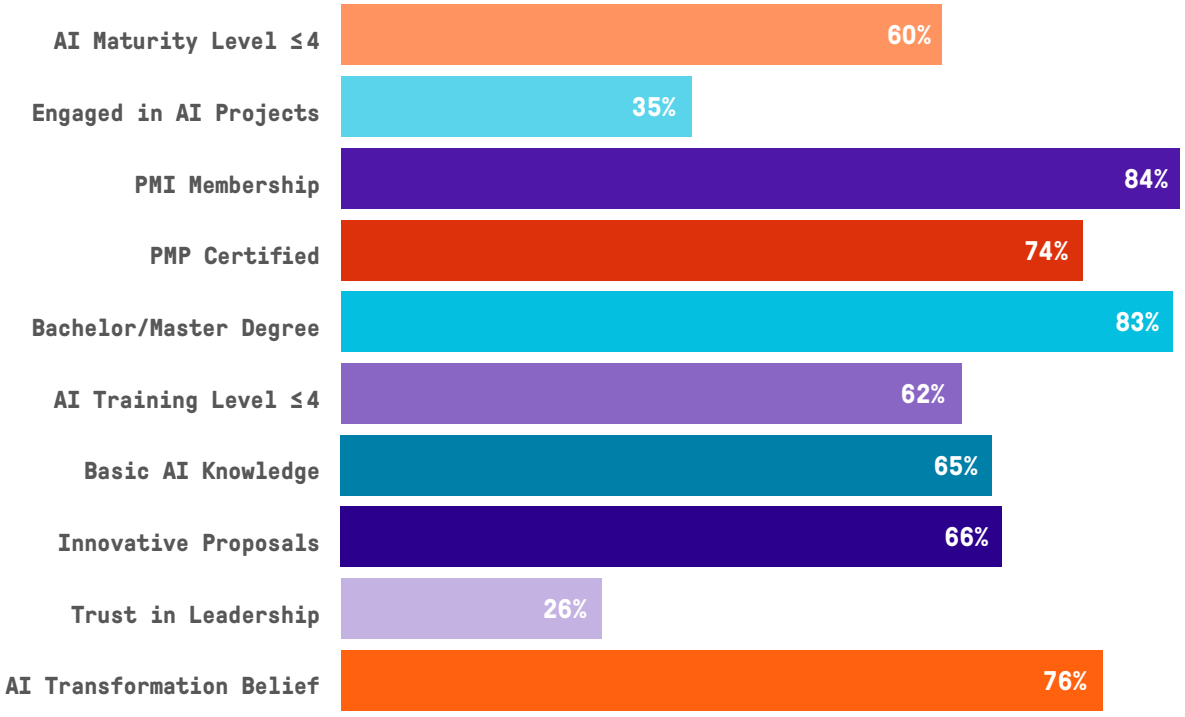
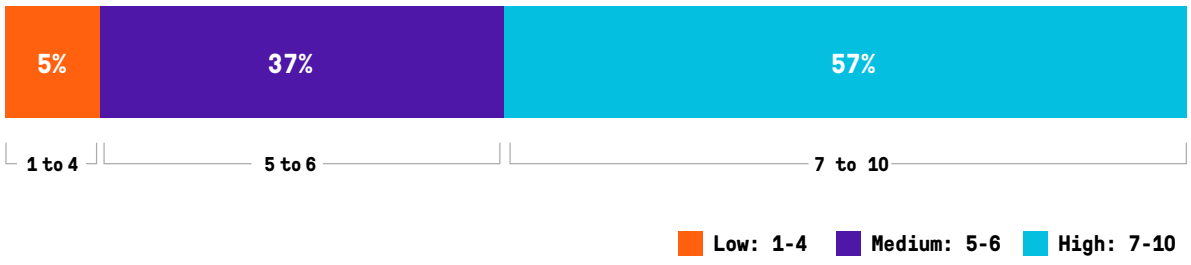
Looking ahead, a significant 76% of professionals believe that AI will transform project management within the next three years, scoring 7 or higher on a scale of 1 to 10. This optimistic outlook underscores the expected influential role of AI in reshaping project management practices. The impact of AI is most prominently seen in areas such as Data Collection and Reporting, Performance Monitoring, and Project Time Management and Scheduling, indicating a trend toward using AI for enhancing analytical capabilities and efficiency in project management. Interestingly, areas like Stakeholder Management, Project Communication, and Project Budgeting are currently experiencing a lower impact from AI, suggesting these domains still rely heavily on traditional management approaches and individual competencies. This highlights potential areas for future AI integration and development in the field of project management.

Global AI Adoption and Expertise in Project Management



How much do you think that AI will change project management way of working in the next three years?



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Regional Insights and Leading Countries

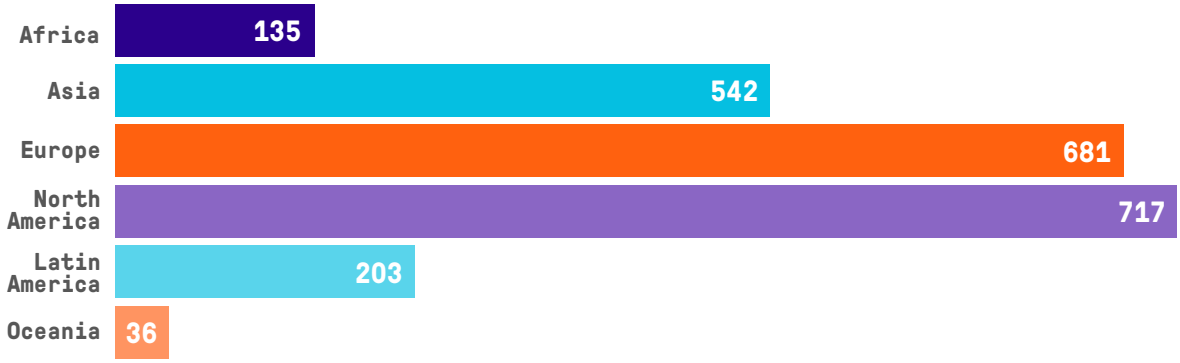
Countries Leading AI Adoption in Project Management Globally

The concept of 'Lead' in AI is multifaceted, as nations and regions have varying strengths in different aspects of AI. Therefore, national comparisons should be made cautiously, in the context of history, current situations, and distinct policy landscapes. It is encouraging to note however, that our survey received answers from 129 different countries, not just those cited in other reports as leading in AI, indicating that AI is rapidly gaining interest worldwide.

Key Findings and Trends

The provided data offers a comprehensive global perspective on the impact of Artificial Intelligence (AI) in project management, spanning across various continents: Asia, North America, Latin America, Africa, Oceania, and Europe. Each region presents unique insights into the adoption and influence of AI in this field.

Respondents by continent



Total respondents: 2314

In Asia, a significant 79% of professionals believe AI will transform project management (rating of 7 and above on a scale of 1-10 measuring impact), with major impact expected on Data Collection/Reporting, Performance Monitoring, and Knowledge Management. India (30%), Bangladesh (12%), Kazakhstan (10%), and Saudi Arabia (6%) lead in responses, reflecting diverse AI engagement across the continent.

Interestingly, North America shows a similar trend in AI's impact on Data Collection and Reporting, Performance Monitoring, and Project Time Management & Scheduling. Here, 76% of professionals foresee AI highly transforming project management (rating of 7 and above on a scale of 1-10). However, like Asia, there's a gap in AI training and knowledge, with 67% of companies rated low in providing

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AI training (4 or less on a scale of 1-10) and 65% of participants possessing basic or no AI knowledge. The USA (63%), Canada (23%), and Mexico (6%) are the top responding countries, indicating a concentrated focus on AI in these regions.

Latin America reflects a strong belief (87%) in AI's transformative potential, yet faces challenges similar to Asia and North America in AI training and expertise. Brazil leads in responses (58%), followed by Peru (11%) and Colombia (11%). Africa shows a parallel trend, with a notable belief in AI's impact (76%) but a gap in organizational maturity and AI training.

Oceania presents an interesting case with a high belief in AI's impact (86%) and a focus on Data Collection/Reporting, Performance Monitoring, and Knowledge Management. Australia (69%) and New Zealand (25%) dominate the responses.

Finally, Europe mirrors other regions in recognizing AI's transformative potential (71%), with Italy (26%), Sweden (13%), and Portugal (11%) leading in responses. Stakeholder Management, Project Communication, and Project Budgeting are consistently noted as low-impact areas across continents, suggesting a global trend.

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Conclusion

While organizations are progressively engaging in AI projects, a noticeable gap in AI training and expertise exists, indicating a pressing need for upskilling initiatives. The strong affiliation of respondents with PMI and the prevalence of PMP certifications among them suggest a solid foundation in project management principles, creating a conducive environment for the integration of AI. The age distribution insights, coupled with the professionals' optimistic outlook on AI's transformative role in project management within the next three years, highlight the dynamic landscape ahead.

The identified impact areas of AI, such as Data Collection and Reporting, Performance Monitoring, and Project Time Management, signify a promising trend toward leveraging AI for analytical capabilities and efficiency improvement. However, the deficiency in AI impact in areas like Stakeholder Management and Project Communication suggests the need for further exploration and development. As project management continues to evolve, embracing AI in traditionally less impacted domains presents an opportunity for growth and efficiency gains.

Recommendations

Strategic Implementation: Organizations should devise a strategic roadmap for AI integration, focusing on areas with the highest impact potential, such as data analysis and project monitoring. This should involve a phased approach, starting with pilot projects to gauge effectiveness before wider implementation.

Investment in Training: Given the deficit in AI training and knowledge, it's crucial to invest in comprehensive training programs for project managers and teams. These programs should not only cover the technical aspects of AI but also its application in project management.

Policy and Ethical Frameworks: Organizations need to develop robust policy frameworks to address the ethical implications of AI, including data privacy, cybersecurity, and the potential for job displacement. This involves creating guidelines that ensure AI is used responsibly and ethically.

Collaboration and Global Standards: Encourage global collaboration to develop AI standards and best practices in project management. This collaboration could take the form of international forums, joint research initiatives, and knowledge-sharing platforms.

These recommendations aim to facilitate a more effective and equitable integration of AI in project management, maximizing its benefits while mitigating associated risks and challenges.

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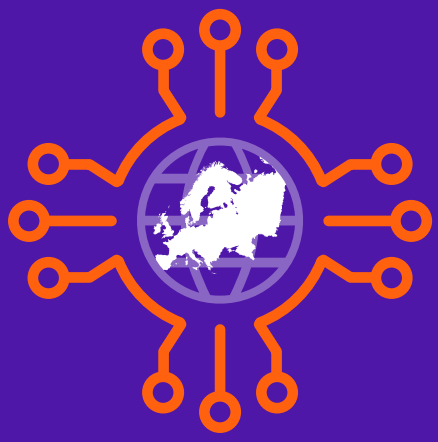
Artificial Intelligence in Europe

AI IN PROJECT MANAGEMENT

Key Findings Europe



PARTICIPANTS

83% of participants are members of PMI global and/or PMI local chapters

71% are PMP® certified.

81% of participants hold Bachelor or Master of Science degree.

Gen-Xers

Majority of respondents **32%** in 45-54 year old age group.

2 in 3 of respondents are males.

45 industries represented. However, **IT Services** stand out as the most prevalent

TOP 3 AREAS MOST IMPACTED BY AI

- Data Collection and Reporting
- Performance Monitoring
- Knowledge Management

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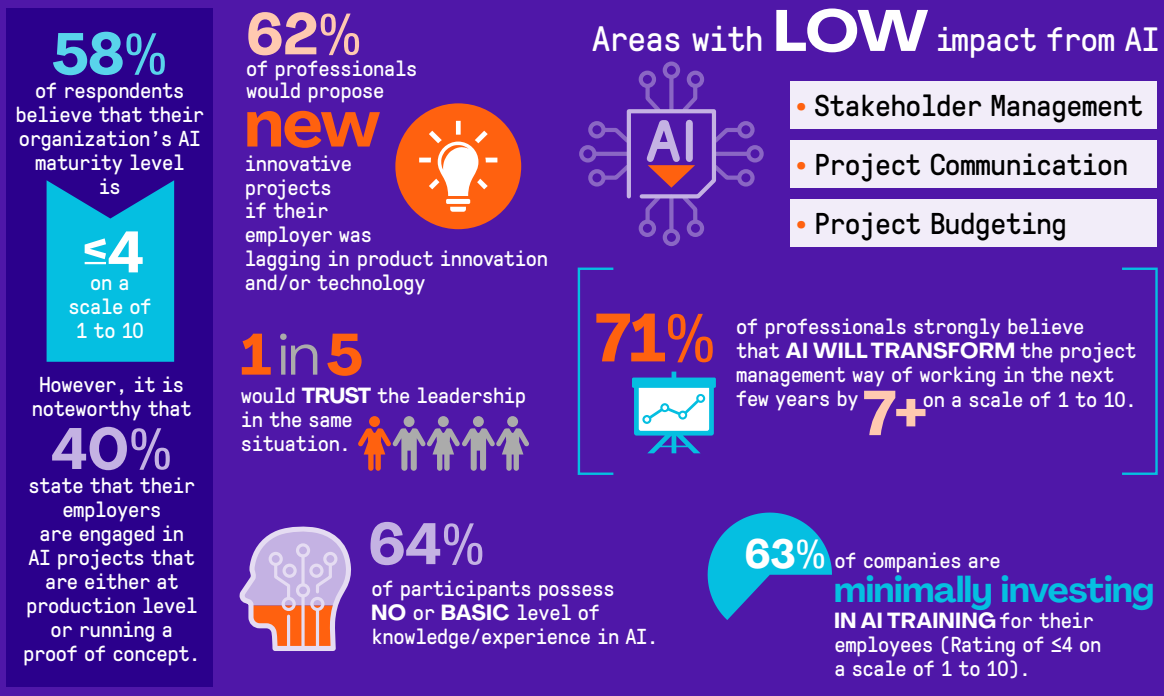
Europe Report



The AI Watch[1] report highlights the significance of Artificial Intelligence (AI) as a transformative technology. It emphasizes the importance of tracking AI's development and deployment, given its potential impact on society and the economy.

All EU Member States are formulating and implementing national strategies to harness AI's benefits. As of June 2021, 20 Member States and Norway have published their national AI strategies, while seven are in the final drafting phase. Since the 2020 release of the AI Watch report, additional Member States, including Bulgaria, Hungary, Poland, Slovenia, and Spain, have published their strategies. Cyprus, Finland, and Germany have revised their initial strategies.

The report provides an overview of national AI policies in areas such as human capital, market transition, networking, regulation, and infrastructure. It also discusses AI policies addressing societal challenges like the COVID-19 pandemic and climate change.

At the same time, the 2021 Coordinated Plan on Artificial Intelligence[2], published in April of that year, aims to boost AI investments, implement AI strategies, and align AI policy to tackle global challenges. This plan complements the Proposal for a Regulation on Artificial Intelligence[3].

The European Union consists of 27 member states and together with Norway and Switzerland represent approximately 462.29 million people.

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AI Maturity in Europe

AI adoption in Europe is on the rise, capitalizing on its multilingual and multicultural environment, rich science and tech talent, and robust manufacturing and services sectors. McKinsey, in its AI in Europe: Tackling the Gap[4] report, underscores AI's potential to revolutionize various industries in Europe. However, a Microsoft AI in Europe Report: At a Glance[5] reveals that most European companies are still in the planning or early-stage pilots of AI, with only 28% having selectively implemented AI in certain processes. Our survey findings align closely with those of Microsoft's, indicating a significant opportunity for growth and advancement in AI applications across the continent.

Countries Leading AI in Europe

Based on the most recent data from Eurostat[6], Denmark, Portugal, Finland, Luxembourg, and the Netherlands are at the forefront of AI implementation in the private sector across Europe. It's observed that large enterprises are utilizing AI more extensively than small and medium-sized enterprises.

In the public sector, instead, the 2022 Government AI Readiness Index[7] ranks Western Europe as the second highest globally (the region comes second only to North America), with half of the top 20 countries. The UK, Finland, and France lead in the region. Eastern Europe, led by Estonia, ranks just behind East Asia. Despite a significant gap with Western Europe, Eastern European countries are progressing in digital transformation. The close scores within regions suggest regional collaboration on AI readiness, with many initiatives at the EU level.

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Key Findings and Trends

Significant opportunity for growth and advancement in AI application.

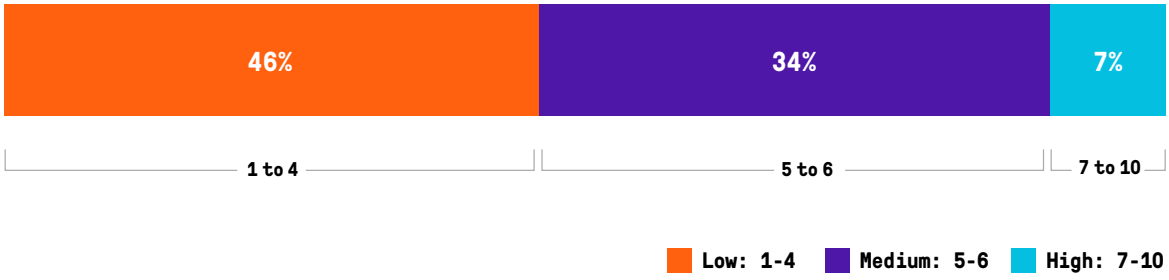
The level of AI maturity within organizations is generally perceived to be quite low. In fact, over 70% of participants rate their company's maturity level as less than or equal to 5 on a 10-point scale. Only a handful of countries, including Denmark, Portugal, Spain, Sweden, and the UK, have attributed higher or maximum maturity scores.

A significant total of 38% of participants indicated that their companies have no plans to implement AI, contrasting with a mere 16% who confirmed that AI is already deployed in their organisations. This suggests a potential lack of strategic direction or understanding of the benefits of AI at the organizational level. It's also possible that some organizations are cautious due to factors like cost, complexity, or data privacy concerns. It underscores the need for increased awareness and education about AI's potential benefits and implementation strategies.

Furthermore, over 74% of companies are minimally investing in AI training, as evidenced by respondents' ratings of 1 to 4 on a 10-point scale, which could impede successful AI implementation. This could indicate plans to outsource AI tasks, underestimation of implementation effort, or a strategy to hire AI-ready talent. Each approach carries risks, including dependency on external entities, unforeseen challenges, or hiring difficulties. It's vital for successful AI integration to consider these factors.

While most countries are still in the preliminary stages of implementation, if they've started at all, a select few have announced that they already have projects at production level or are conducting a proof of concept, indicating that companies are beginning to plan for AI implementation.

What is the AI maturity within your organization?



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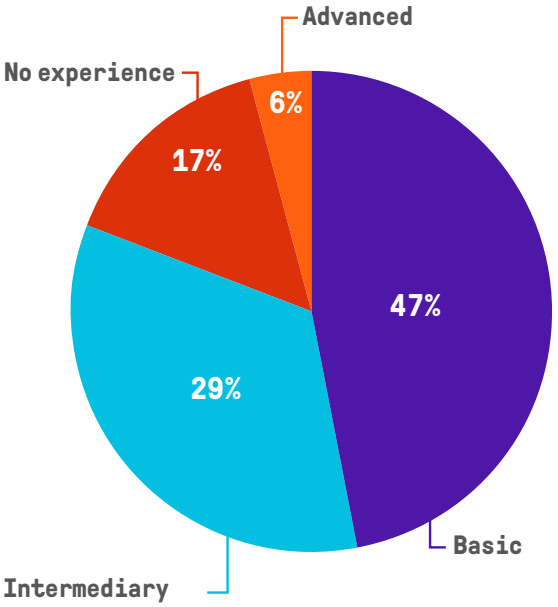
AI will transform the project management way of working in the next few years.

There is a strong interest among project managers to utilize AI not just as a tool for their work, but also to gain deeper knowledge about AI model creation and to lead AI development projects. Most participants believe that Artificial Intelligence (AI) will significantly impact project management and alter the way of working within the next three years. However, there seems to be a gap between this belief and the readiness of companies to embrace AI.

Upon examining the AI knowledge and experience of the respondents, it is evident that generally it is quite limited, with nearly half indicating they possess only basic knowledge. However, about 30% of respondents demonstrated an intermediate level of understanding, and a few even reported an advanced level.

What level of knowledge and experience do you have in AI?



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Mastering relevant AI skills is in-demand to stay ahead of the curve.

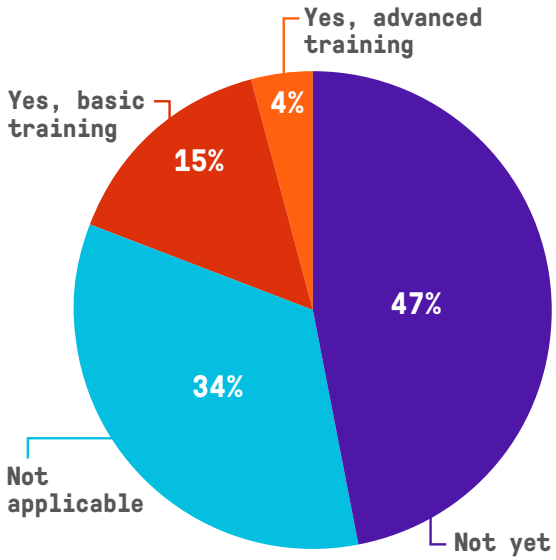
In terms of training investments, most respondents confirmed that they have not started or are not even planned. Only a handful have received basic or advanced training. This isn't necessarily negative, as some AI tools don't require specific AI training or knowledge due to their seamless integration into other services. Nonetheless, respondents feel that some form of training is necessary and are seeking assistance internally or independently.

Interestingly, about 40% of respondents stated that they are either building or recruiting AI capabilities within their organizations (35% say they aren't and the other 23% don't know). However, among those planning to implement AI projects, only a small fraction (20%) have received specific training, either basic or advanced. A significant 47% reported not having received any training at all.

It is important to note that the specific skills in demand may vary depending on the industry and organization but, in the context of AI, mastering relevant skills can help individuals and organizations stay competitive and adapt to the changing landscape.

Are you building or recruiting AI competence to your organization?

If yes to plans implementing AI – Have you received any AI training from your employer?



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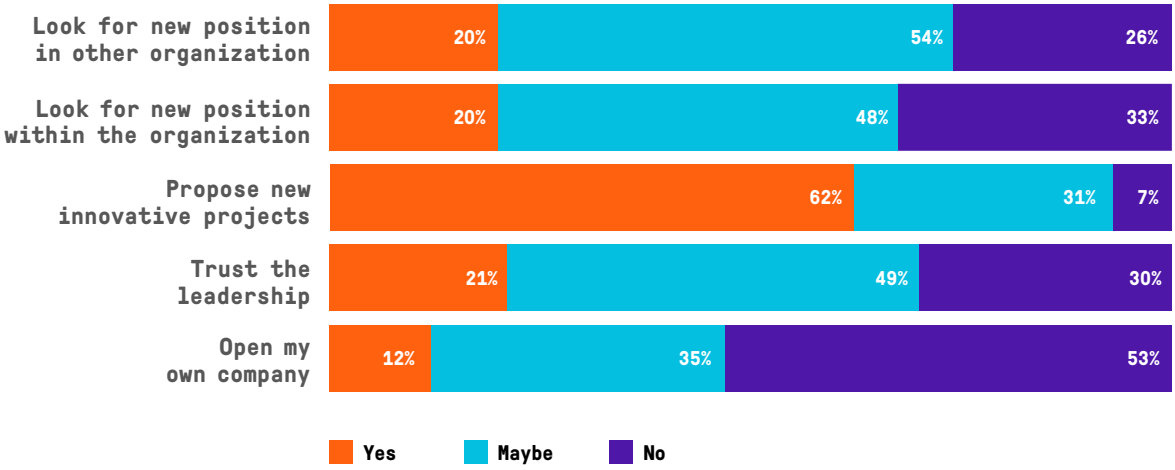
Professionals are increasingly considering company's adaptability to AI technology.

Professionals are increasingly considering a company's adaptability to AI technology when deciding whether to stay with their current employer or seek new job opportunities. According to our survey responses, the primary strategy professionals would employ is to propose innovative projects within their organization, thereby fostering an environment of innovation.

If your organization were lagging in product innovation and/or technology, what would you do?



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Conclusions and Recommendations

With the advent of the AI revolution, many countries and organizations are eager to invest in this emerging technology. This has led to a surge in professionals seeking to enhance their skills and stay at the forefront of this transformation. Online videos, podcasts, webinars, and books have become popular resources for self-improvement, as they provide up-to-date information on the rapidly evolving field of AI.

Looking ahead, project management professionals believe that an innovative mindset and the ability to make data-driven decisions will be crucial skills. Business acumen is also seen as important. These findings suggest that while AI is expected to streamline tasks and lighten workloads, it is not anticipated to replace human labor immediately. Instead, the future of project management may be shaped by leaders who can leverage data-driven insights while also bringing unique vision and direction to their roles.

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Artificial Intelligence in North America

AI IN PROJECT MANAGEMENT

Key Findings North America

PARTICIPANTS

92% of participants are members of PMI global and/or PMI local chapters

81% are PMP® certified.

84% of participants hold Bachelor or Master of Science degree.

Majority of the respondents **34%** are from the 45-54 age group.

61% of respondents are males.

44 industries represented. However, **IT Services** stand out as the most prevalent

TOP 3 AREAS MOST IMPACTED BY AI

- Data Collection and Reporting
- Performance Monitoring
- Project Time Management & Scheduling

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North America Report

66% of respondents believe that their organization's AI maturity level is

≤4 on a scale of 1 to 10

However, it is noteworthy that **33%** state that their employers are engaged in AI projects that are either at production level or running a proof of concept.

67% of professionals would propose **new** innovative projects if their employer was lagging in product innovation and/or technology

Areas with **LOW** impact from AI

- Stakeholder Management
- Project Communication
- Project Budgeting

76% of professionals believe that **AI WILL TRANSFORM** the project management way of working in the next few years by **7+** on a scale of 1 to 10.

65% of participants possess **NO** or **BASIC** level knowledge and experience in AI.

67% of companies are rated **4 or less** **IN AI TRAINING** for their employees (on a scale of 1 to 10).

Artificial Intelligence is undeniably a game-changer in North America, and the numbers and metrics of this report speak volumes about its transformative impact. According to a report by Technavio, North America is estimated to contribute 56% to the growth of the global artificial intelligence market share during the forecast period (2023 - 2027). Moreover, North America is home to some of the world's leading AI research institutions, producing over 60% of global AI research papers.

This report further aims to highlight the significant inroads AI is making into project management, underscoring the growing integration of AI tools and technologies in optimizing project workflows and outcomes - ultimately driving greater efficiency and success in project management practices across the continent.

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Countries Leading AI in North America

As mentioned in the Fortune Business Insights report, North America (with the United States leading the way) dominates the global AI market with the presence of hyper scalers like IBM, Microsoft Corp. and others, using those who have the agility to upgrade their respective AI technologies to develop solutions necessary to harness changing user requirements. Canada also exhibits strong growth potential, with a focus on AI research, talent development, and government support. Our studies confirm these statements, as the number of responses is considerably high in these two countries.

Key Findings and Trends

For the skill "Data Storytelling," most respondents (56%) are familiar with it, while only 11% consider themselves practitioners. In contrast, regarding "Deep Learning / Neural Networks", a significant portion (58%) have no knowledge and only 5% identify as practitioners. For "Data Ethics" and "Data Visualization", the familiarity is high, with 56% and 55% respondents, respectively, being familiar, and a notable number of practitioners, particularly in data visualization (22%).

Interestingly, respondents aged 55 - 64 showed relative indifference (choose "Maybe") to learn something more about AI, with the likelihood of this increasing by 1.63x.

An impressive 75% of respondents expressed their enthusiasm for learning how to create AI models. This signifies a profound curiosity and eagerness to adapt to cutting-edge technology in project management. Likewise, 68% of those surveyed are willing to lead AI development projects, underlining the transformational role of AI enthusiasts in shaping the future of project management.

Our findings also highlight the significance of AI as a potent tool. A whopping 83% of respondents stated they are interested in leading projects using AI as a tool, underscoring the widespread enthusiasm for leveraging artificial intelligence in project leadership and management. Additionally, 82% are committed to understanding how AI models work, equipping themselves with essential knowledge to navigate this exciting terrain. Moreover, a substantial 78% of respondents are devoted to creating a business case for AI applications, illustrating a keen eye for opportunities and innovation.

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In the face of organizational stagnation in product innovation and technologies, professionals are contemplating their next steps. A notable 19% are actively seeking new positions in other organizations, while 47% are considering this as a potential option. These figures reflect a proactive approach in response to challenges within the organization.

For those who opt to stay within their current organizations, 19% are exploring new roles and opportunities, while 43% are open to the possibility. This demonstrates a dynamic spirit and a willingness to adapt and grow within the current work environment.

In the quest for progress, a remarkable 67% are keen to propose new innovative projects, showcasing a strong commitment to drive change and embrace innovation. This appetite for innovation is a testament to the forward-thinking nature of professionals in the field.

Finally, our survey also sheds light on the trust professionals have in their leadership. While 21.48% trust their leaders wholeheartedly, 54% are in the 'maybe' category, showing potential for increased trust-building and alignment with leadership. Nevertheless, 24% remain skeptical, emphasizing the importance of transparent and effective leadership in the journey of AI integration in project management.

33% of respondents confirm that their organizations have plans that are underway to implement AI; however, approximately 50% of these respondents report that they have not yet received any AI training from their respective employers. This suggests that while many organizations recognize the importance of AI and have plans to incorporate it, they might be lagging in terms of employee training. The large number of respondents who have not received any training suggests that there might be a gap between an organization's intent to adopt AI and its execution in terms of skill development.

If your organization were lagging in product innovation and/or technology, what would you do?

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Conclusion

The dataset demonstrates a clear trend of increasing AI integration in project management across North America, with the United States at the forefront. This reflects a broader movement towards digital transformation and the adoption of advanced technologies in various industries:

- A total of 597 respondents (83%) expressed an interest in leading projects utilizing AI as a tool, while 68% expressed an interest in leading projects focused on AI development. This underscores that most respondents acknowledge the need to be skilled in AI to stay sought-after in the evolving digital economy.
- The age group of 45 - 54 years has the highest interest. This indicates that mid-career professionals see AI as a valuable skill for remaining competitive in the job market.
- The “45 - 54 years” age group also represents 24% of respondents interested in leading AI development-related projects. This underscores the growing recognition of AI's strategic importance in this professional domain.

Recommendations

Fostering AI Integration in Other Countries: While the United States and Canada show high AI adoption, there is room for growth in other North American countries. Initiatives to promote AI awareness and training could be beneficial.

Case Studies and Best Practices: Extracting and disseminating case studies from the United States and Canada could serve as valuable learning resources for other countries.

Further Research: Additional research into the specific types of AI tools used and the challenges faced could provide deeper insights and guide future AI integration strategies in project management.

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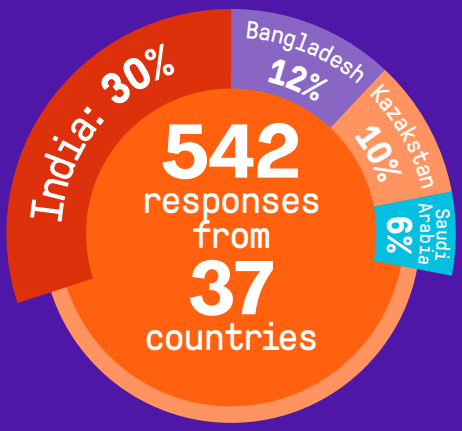
Artificial Intelligence in Asia

AI IN PROJECT MANAGEMENT

Key Findings Asia

PARTICIPANTS



79% of participants are members of PMI global and/or PMI local chapters

74% are PMP® certified.

81% of participants hold Bachelor or Master of Science degree.

Gen-Xers

Majority of respondents

45% in 35-44 year old age group.

83% of respondents are males.

40 industries represented.
IT Services most common at 25%.

TOP 3 AREAS MOST IMPACTED BY AI

- Data Collection and Reporting
- Performance Monitoring
- Knowledge Management

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Asia Report

Almost **56%** of respondents believe that their organization's AI maturity level is **≤4** on a scale of 1 to 10

BUT **35%** of organizations are engaged in AI projects that are either at production level or running a proof of concept.

65% of professionals would propose **new** innovative projects if employer was lagging in product innovation and/or technology

BUT **38%** would **TRUST** the leadership as second choice, in the same situation.

56% of companies are **NOT INVESTING** in AI training for their employees (effort ≤4 on a scale of 1 to 10.

79% of professionals believe that **AI WILL TRANSFORM** the project management way of working in the next three years (rating of 7+ on a scale of 1 to 10 measuring impact).

79% of participants have **BASIC** or **INTERMEDIATE** knowledge and experience in AI.

15% of participants have **LITTLE** knowledge/ **NO** experience.

Areas with **LOW** impact from AI

- Stakeholder Management
- Project Communication
- Project Budgeting

AI in Asia is governed by a synergy of governmental strategies and regional cooperation. East Asian AI development is driven by China's 2019 multi-trillion RMB 'A New Generation Artificial Intelligence Development Plan', Japan's investment goal of 30 trillion yen by 2026, and the Republic of Korea's 1.02 trillion won allocation to semiconductor chip expertise, while private efforts include South Korea's SK Telecom's investment of $100 million in Anthropic. The Association of Southeast Asian Nations, (ASEAN) emphasizes regional AI collaboration; notable member initiatives are Singapore's $700 million investment in AI and Malaysia's RM 2.84 billion digital budget. In South Asia, India projects AI growth at a CAGR of 30.8%, reaching $881 million by 2023, while Bangladesh's National Strategy for Artificial Intelligence aims to harness AI for societal good. Kazakhstan leads Central Asia with a $362 million 5-year development budget, including AI. In the Middle East, the UAE's goal of AED 335 billion in extra growth from AI and Saudi Arabia's SAR 776 million AI joint venture with Hong Kong based SenseTime Group as part of its $20 billion AI investment goal are notable.

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AI Maturity in Asia

Asia's AI maturity is underpinned by education, research, and application. AI learning is woven into primary schools in China, Singapore, and Kazakhstan and bolstered by university offerings region-wide and AI training bootcamps. Initiatives like Digital India and Singapore's "AI for Everyone" aim to enhance AI literacy. In the Middle East, Qatar's provision of internet access to nearly 94% of the population and the educational activities of the QCRI Centre for Artificial Intelligence contribute to the nation's high digital skill level. China's global lead in AI is marked by its 29,853 patents in 2022. Applications of AI in Asia include regulating traffic in China, aiding Japan in real-time natural disaster management, optimizing maintenance for Malaysia's oil giant Petronas with RM 15 million savings, securing identity verification via India's Aadhar system, powering Singapore's smart cities and SELENA+ to detect eye diseases and AI-driven projects for telecom services, IoT, and smart city solutions by Etisalat Digital in the UAE. Amidst the enthusiasm for AI adoption, several Asian nations recognize the importance of regulatory structures based on ethical principles like fairness, privacy, data security, accountability, transparency, and safety in AI applications; however, few laws have yet been enacted.

Countries Leading AI in Asia

Asia is emerging as a leader in AI, with Singapore second only to the United States followed by the Republic of Korea and Japan in the top 10 nations of the Oxford Insights Government AI Readiness Index 2022. On Wiley's Digital Skills Gap Index (DGSI), four Asian nations were in the top 10 in 2021: Singapore in first place, followed by the UAE, Qatar and Malaysia. Yet, the state of AI in Asia is inconsistent, with some subregions and nations excelling while others are just taking their first steps in digital technology.

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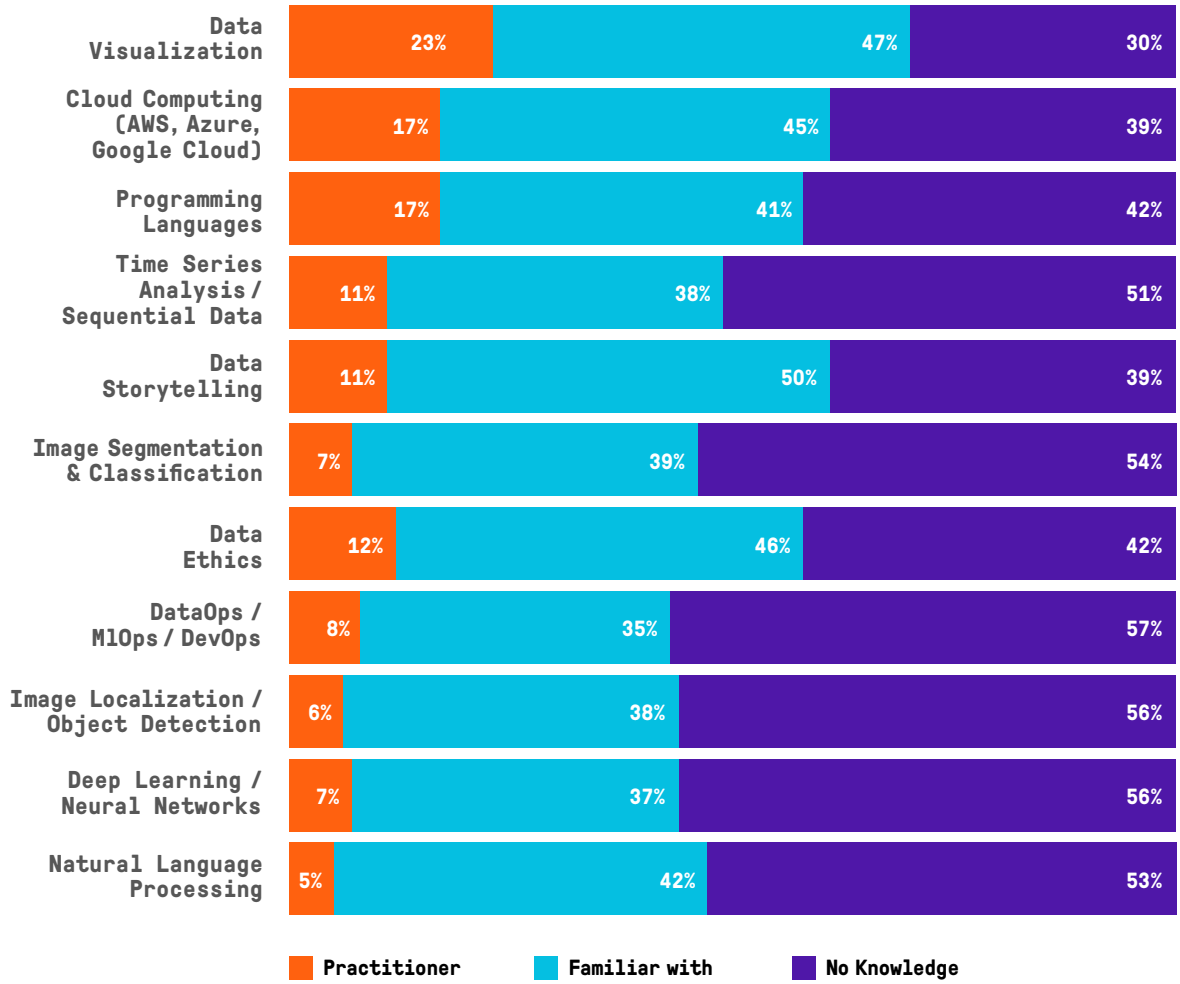
Key Results

AI Knowledge & Experience of Respondents

Most reported basic (49%) or intermediate (31%) knowledge and experience in AI overall, while 15% reported no experience at all. For specific data-science skills, on average, only 11% considered themselves practitioners, while 41% reported familiarity and 47% reported no knowledge. However, nearly 40% of the participants have worked on AI-related projects; of these, 65% feel they have achieved the desired outcome (ratings between 7-10 on a scale of 1-10).

How are you acquainted or experienced with the following Data Science related skills?



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Impact of Artificial Intelligence on Project Management

79% of respondents felt AI would change the project management way of working significantly in the next three years (ratings between 7-10 on a scale of 1-10). AI is expected to have the highest impact on Data Collection / Reporting (72%), Performance Monitoring (62%), Knowledge Management (57%), with Stakeholder Engagement being the least affected (27%).

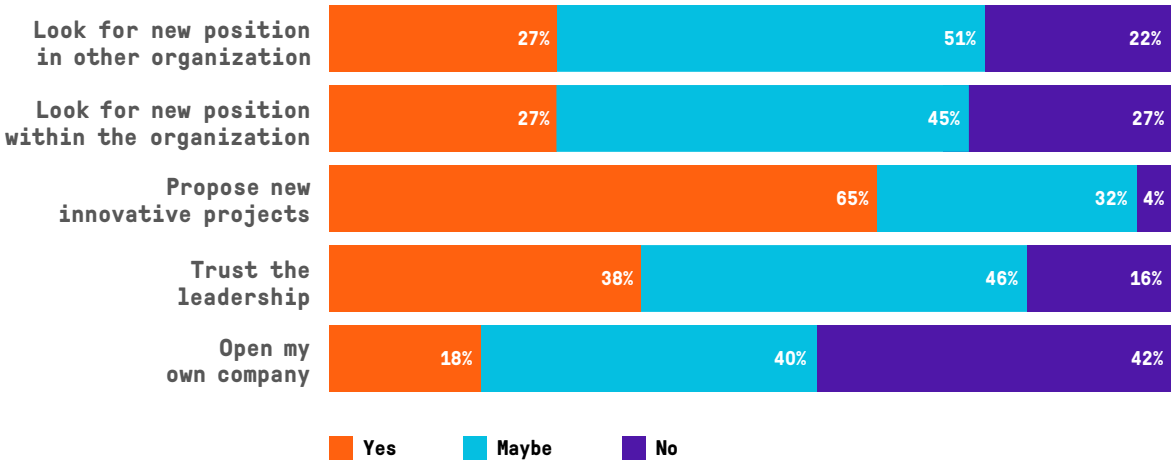
Organizational AI Status & Respondent Attitudes

In contrast to the predicted high impact of AI, 56% of participants rate their company's maturity level as 4 or less (on a scale of 1-10). Further, only 40% report efforts to recruit and/or develop AI competence; of these, AI resources are allocated locally in 48% and 38% have a dedicated Centre of Excellence. 35% of organizations are pressing ahead with AI projects, with 12% in production and 23% in the proof-of-concept or planning phases and another 30% discussing projects.

However, despite these plans, a striking 52% of respondents from these organizations report not having received any training at all.

65% of respondents would counter their company's lag in technology with new and innovative project proposals. However, 51% also chose 'Maybe' when asked about seeking roles outside the company as an alternative, elaborated further in the graph.

If your organization were lagging in product innovation and/or technology, what would you do?



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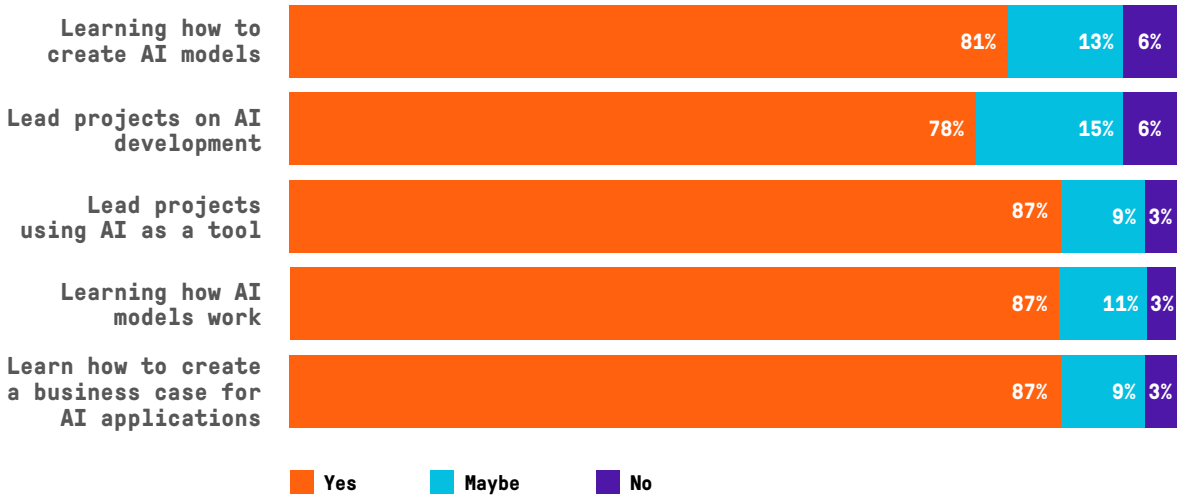
Becoming Future Ready

Project management skills are more important than technical AI-related skills for the future, with an innovative mindset (77%), the ability to make data-driven decisions (74%), and business acumen (62%) topping the list. A striking majority are eager to learn more applications of AI. Books (75%) and online videos (68%) are the main sources of learning.

Are you interested to learn more about how to use AI as tool in project management or run AI projects?



Conclusions and Recommendations

Based on the survey findings, organizations that wish to optimize project outcomes would benefit from formulating a clear AI strategy and policy, which prioritizes training employees in AI skills and promoting data literacy, innovation, and strategic business skills. Adopting AI tools for enhanced project efficiency and data analysis and establishing cross-functional teams combining AI experts and project managers could improve project delivery significantly. Organizations must pay heed to employee engagement and retention, by encouraging project managers to innovate and pitch new projects, offering clear career growth pathways and development programs, and enhancing trust in leadership by transparency and collaborative decision-making. Finally, organizations would do well to leverage government AI initiatives to promote company projects and stay informed of policy shifts to proactively adapt organizational strategies.

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Artificial Intelligence in Africa

AI IN PROJECT MANAGEMENT

Key Findings Africa

PARTICIPANTS

82% of participants are members of PMI global and/or PMI local chapters

70% are PMP® certified.

86% of participants hold Bachelor or Master of Science degree.

Millennials

Majority of respondents

38% are from the 35-44 age group.

4 in 5 of respondents are males.

32 industries represented. **IT Services** and **Construction** stand out as the most prevalent.

TOP 3 AREAS MOST IMPACTED BY AI

- Data Collection and Reporting
- Performance Monitoring
- Project Time Management & Scheduling

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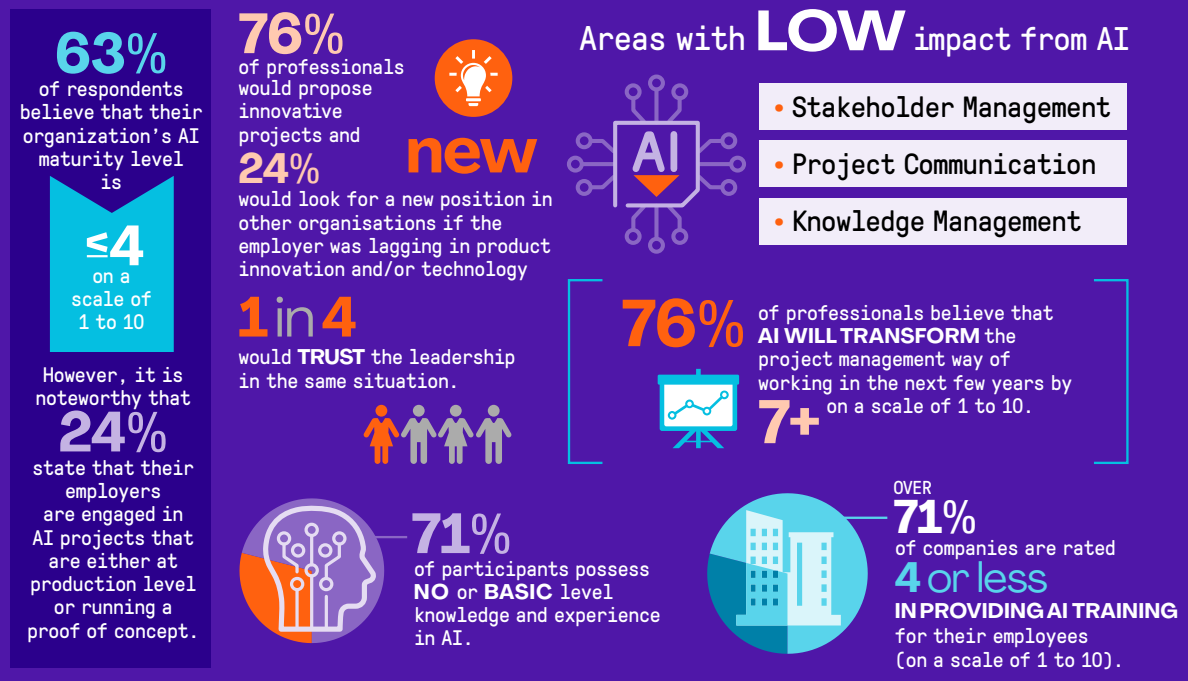
Africa Report



According to Statista, Africa is the 2nd largest continent with 54 countries with a population of more than 1.4 billion people.

PMI Africa joined this project in the middle of August 2023. Due to other commitments, they had no possibility to join the project team. At the time Africa joined, we only had an English version of the survey. With only 13% of the African population speaking English according to Business Insider Africa in September 2021, this has probably impacted the number of responses in addition to joining late. Despite this, Africa managed to supply 135 responses from 30 countries, the top three coming from Nigeria, South Africa, and Kenya.

The African continent's intent is on leveraging the digital transformation process to achieve sustainable growth and development, as evidenced by the SMART AFRICA initiative. One of the main elements of this digitalization thrust relates to the application of AI technology. The Smart Africa Alliance includes 39 African countries that represent over 1 billion people.

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AI Maturity in Africa

According to Business Consulting Group, November 2022, African countries scored between 1.8 and 5 on the Digital Skills Gap Index, far below the global average of 6. Only 11% of Africa's tertiary education graduates have formal digital training. To meet the demand for digital services on the continent, 650 million workers would need to be trained or retrained in digital skills by 2030. As mentioned in the 2022 Government AI readiness Index published by UK-based Oxford Insights, North Africa countries score relatively low in the infrastructure dimension, whereas Sub-Saharan African countries have particularly low scores in the technology sector pillar. Despite facing low scores, African nations are recognizing the potential of AI and actively formulating national AI strategies. In a June 2022 Quartz article, Mauritius emerged as the pioneer in the region to publish such a strategy, followed by Kenya.

The African Union Development Agency (AUDA-NEPAD) in South Africa initiated work on "The African Union Artificial Intelligence Continental Strategy for Africa." Egypt has taken steps by establishing a National Council for Artificial Intelligence and an African Working Group on AI, aiming to develop a unified AI strategy for the entire African continent. Nigeria, although lacking a standalone AI strategy, published the National Digital Economy Policy and Strategy 2020-2030 that prioritizes AI through the Digital Society and Emerging Technologies pillar, leading to the creation of The National Centre for Artificial Intelligence and Robotics.

Countries Leading AI in Africa

The Quartz article, June 2022, highlights that South Africa, Kenya, Egypt, and Nigeria are the countries that dominate in AI in the continent's cardinal regions. However, it is important to note that many African nations still lack the statistical capacity, infrastructure, and good governance necessary to see AI take off.

Employment Status

Among the survey participants, 80% are employed, 14% are self-employed, and the remaining individuals are either students or have other employment status.

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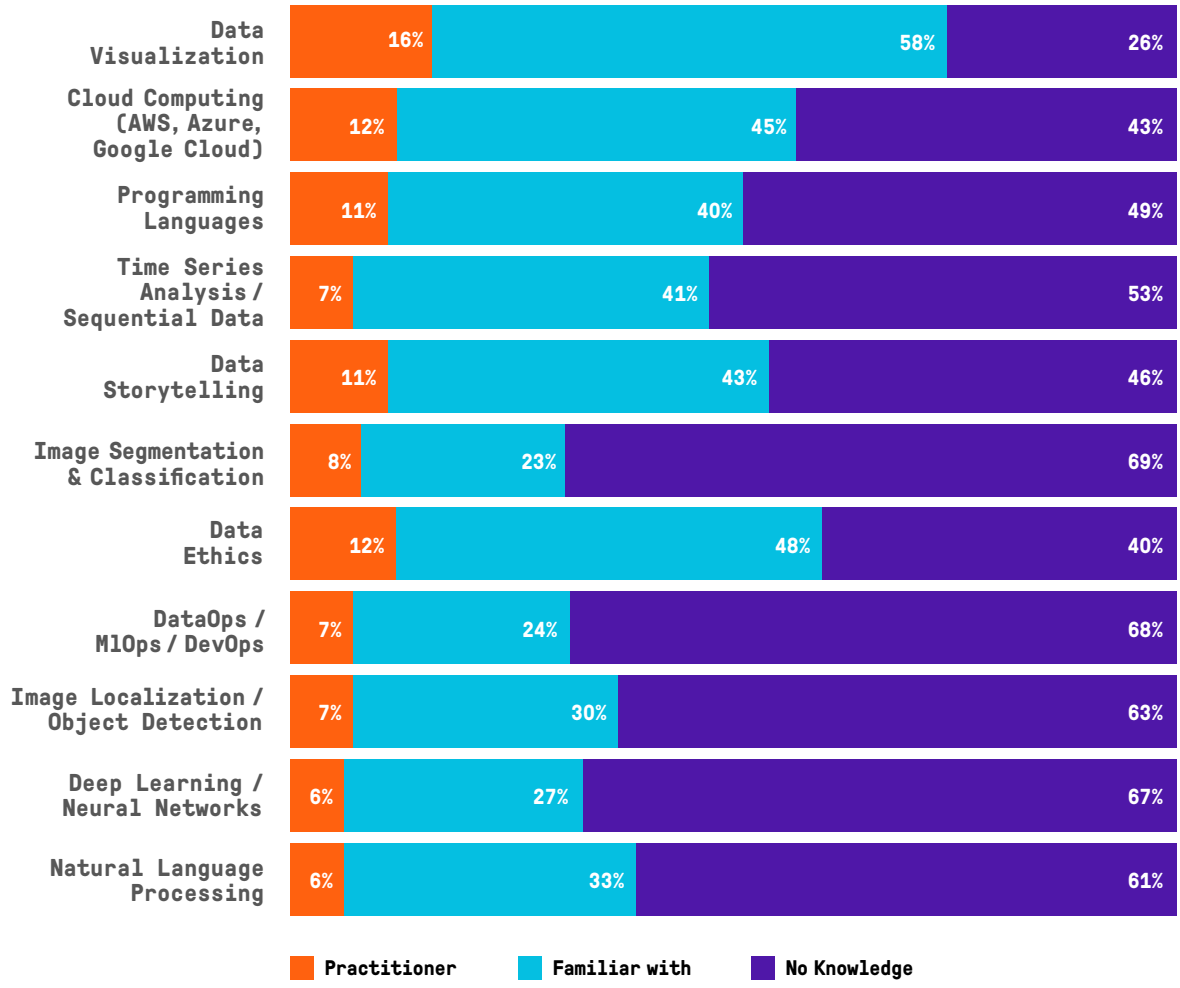
Knowledge, Experience and Participation in AI

Out of the survey respondents, around 55% reported possessing a basic knowledge and experience in AI, while 25% indicated an intermediate level of expertise. An advanced level of AI knowledge and experience was reported by only 4% of the participants. The remaining 16% of individuals had no prior exposure to AI, mostly represented by 35-44 and 45-54 age groups.

Moreover, participants were queried with a series of questions aimed at assessing their proficiency in Data Science-related skills. The results revealed that, on average, just over 50% of the respondents had no knowledge of the skills mentioned, almost 40% were only familiar with them, while fewer than 10% considered themselves practitioners in the field.

How are you acquainted or experienced with the following Data Science related skills?



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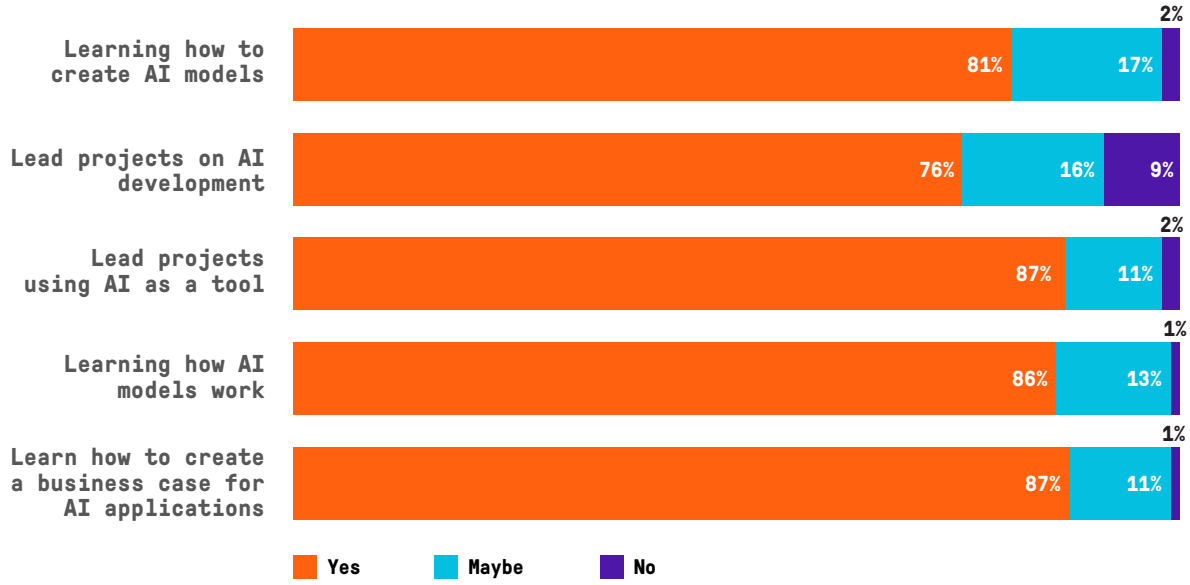
Interest in Learning about AI

Next, the survey assessed participants' interest in learning more about AI. The findings highlighted that over 80% expressed a keen interest in learning how to create AI models, more than 75% were enthusiastic about taking a leadership role in AI development projects, and over 85% of respondents showed interest in leading projects using AI as a tool, learning how AI models function, and learning how to create a business case for AI applications. In contrast, a minimal average of just over 3% of individuals showed no interest at all in learning about AI across the categories. These figures are more or less the same across all six continents.

When considering this aspect through the lens of different age groups, a noticeable trend emerges: a stronger interest is evident among the younger generations, while it gradually wanes as age increases.

Are you interested to learn more about how to use AI as tool in project management or run AI projects?



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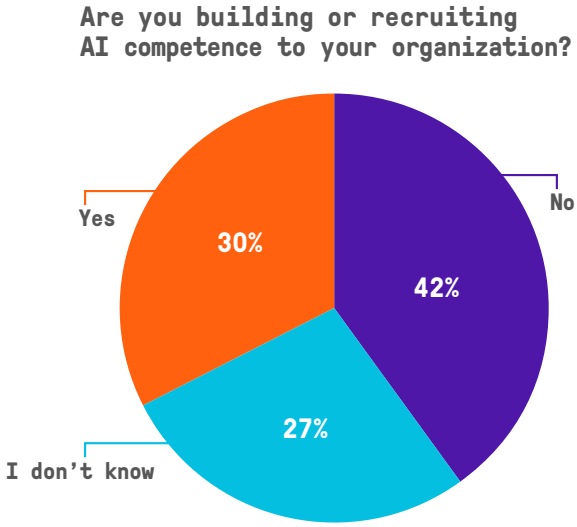
AI Maturity in Organizations

Based on the respondents' answers, the average AI maturity rate within their respective organizations was 3.66 out of 10, which is the second lowest rate among all six regions participating in the survey. Interestingly, the average effort that the same organizations invested in training to make their personnel AI ready was not so high as well - 3.2 of out 10. This rate is also the second lowest across the six regions.

Notably, only about 30% of participants firmly stated that their employers built or recruited AI competence, which is the lowest rate among all six continents. The remaining 70% were either uncertain or confirmed that their employers did not pursue the development or recruitment of AI competence.

Surprisingly, a mere 6% of respondents reported that their organizations had concrete plans to implement AI at a production/ deployed level, while 18% stated that such plans existed at the proof-of-concept stage and both percentages are the lowest across the continents participating in the survey. For the remaining 76% of respondents, their organizations either had no defined plans, they were uncertain, or there were ongoing discussions without firm commitments.



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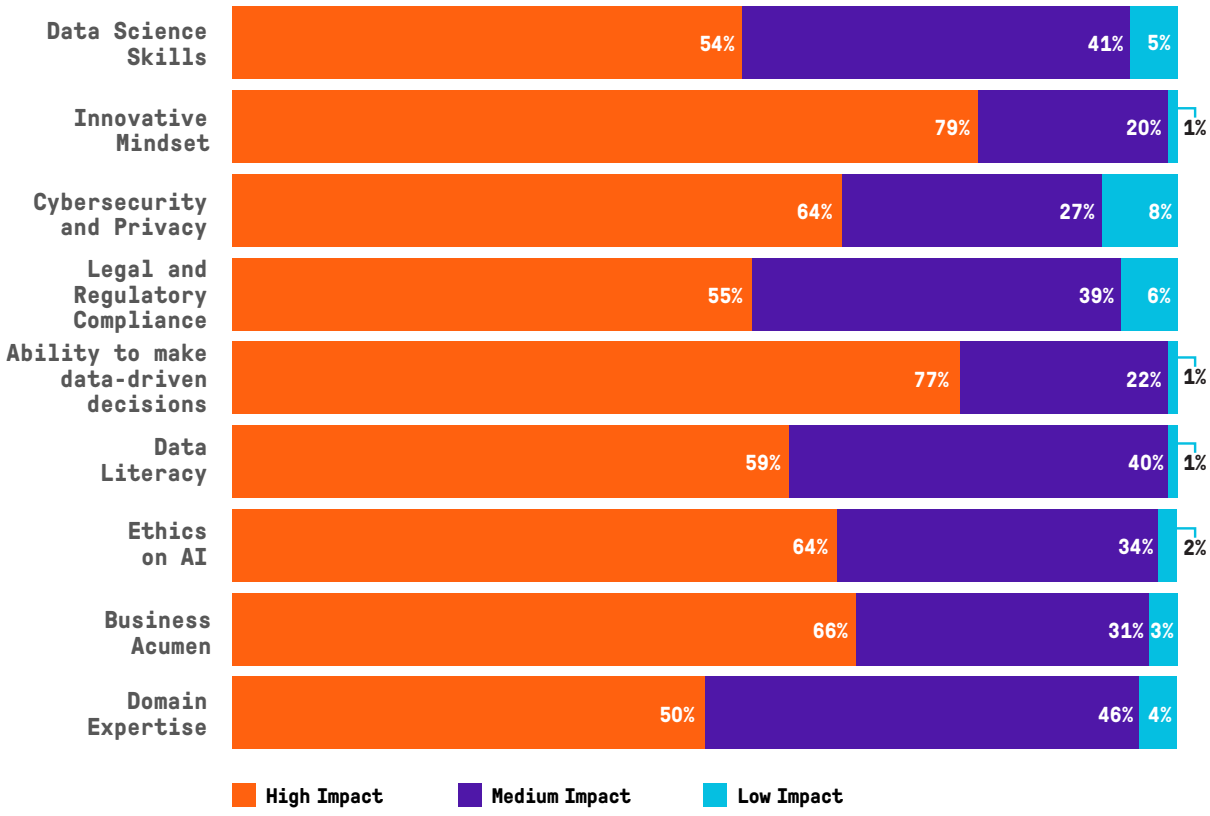
Becoming Future Ready

In order to be prepared for the challenges presented by AI in project management, the African respondents highlight the high importance of innovative mindset (79%), ability to make data-driven decisions (77%), business acumen (66%), ethics on AI (64%), and cybersecurity and privacy (64%).

Which skills do you think will be required in the future project management role?



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Conclusion

Artificial Intelligence can play a significant role in exploiting the potential of Africa's fast-growing population. Africa's commitment to digital transformation, evident in initiatives like SMART AFRICA, aligns with the growing importance of AI. However, Africa is lagging behind the rest of the world in AI utilization, which is also supported by the data analysis results presented above. The survey results and the market research highlight critical issues such as the significant digital skills gap and a need for enhanced infrastructure and governance to fully realize AI's potential.

The project management professionals from this region participating in the survey show strong interest in learning AI and applying this technology in project management which emphasizes the importance of focused education. The knowledge gap, especially in AI and Data Science-related skills, underscores the necessity for comprehensive training programs.

Organizational AI maturity in Africa, reflected in low average rates and minimal employer commitment, indicates room for growth and improvement.

In conclusion, AI has the potential to revolutionize various sectors in Africa and help address some of the challenges faced by African nations. However, there is a need for large amounts of investments in infrastructure and resources to fully exploit the potential of AI in Africa.

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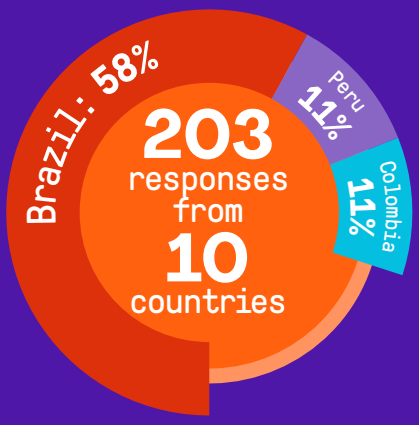
Artificial Intelligence in Latin America

AI IN PROJECT MANAGEMENT

Key Findings Latin America

PARTICIPANTS



76% of participants are members of PMI global and/or PMI local chapters

68% are PMP® certified.

82% of participants hold Bachelor or Master of Science degree.

Gen-Xers

Majority of the respondents

39% are from the 45-54 age group.

8 in 10 of respondents are males.

33 industries represented. However, **IT Services** stand out as the most prevalent

TOP 3 AREAS MOST IMPACTED BY AI

- Data Collection and Reporting
- Performance Monitoring
- Risk Management

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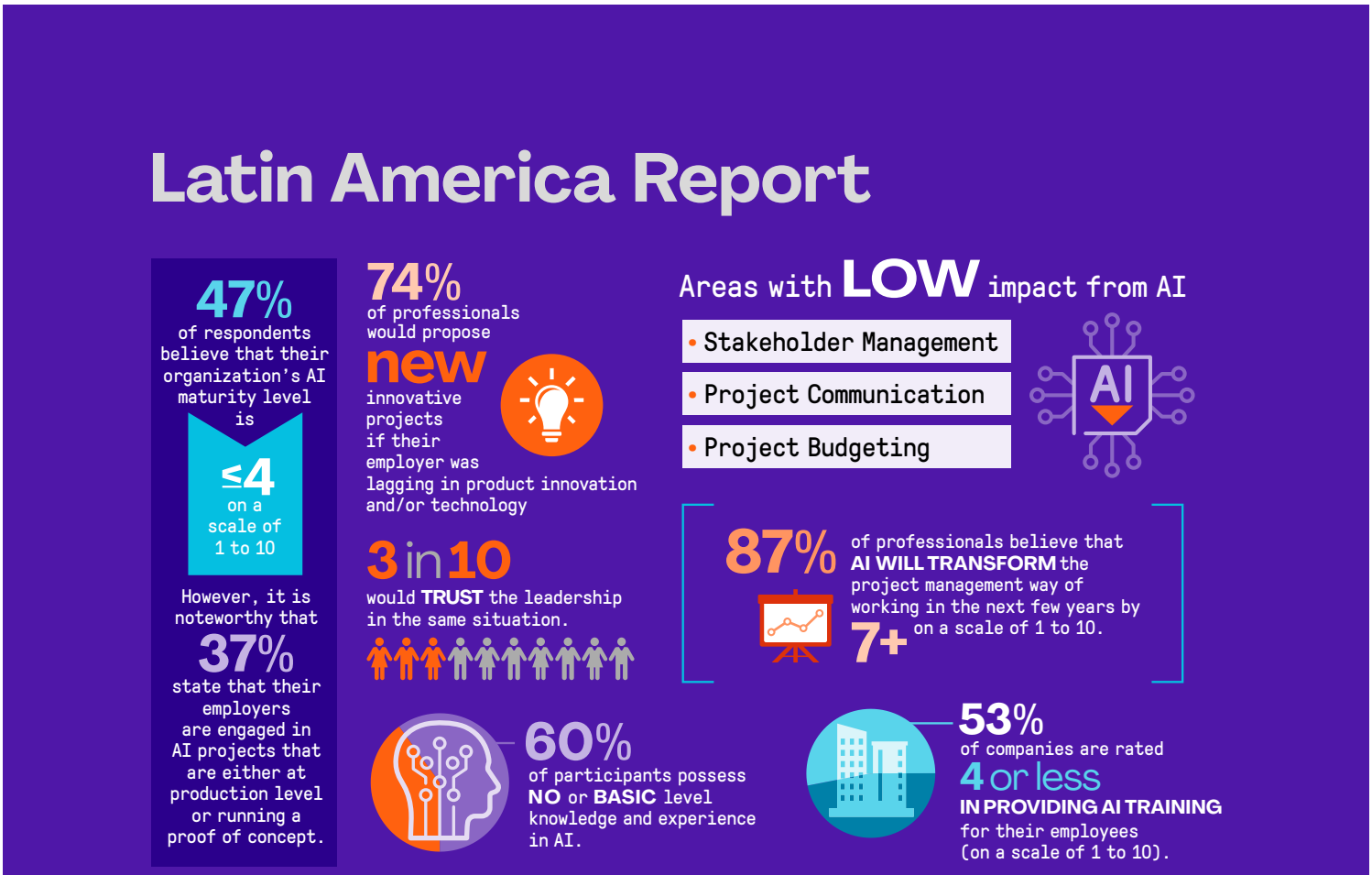
Latin America Report



A 2022 report from OECD demonstrates that governments around the world are adapting to the new possibilities offered by AI to transform government. Those in Latin America are no exception and are seeking to take advantage of the immense potential of AI by experimenting with it in the public sector for different uses, including improving government efficiency and decision making, increasing public safety and security, and enhancing education systems just to mention a few.

Seven countries have developed, or are developing, a national AI strategy (Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Uruguay), and seven have adhered to the OECD AI Principles (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, and Peru) adopted in 2019.

In the private sector, Latin America still has a timid embrace of the AI scenario, with less than 0.5% of private investment dedicated to AI development. The number of AI companies in 2018 was around 260. This number more than doubled in two years, reaching 490 in 2020. In this scenario, Brazil is currently the country holding the biggest number of AI companies with 42% of the total, followed by Mexico and Chile. The Brazilian government continues to push the private sector with initiatives such as the Brazilian Strategy on AI launched in 2021 and already in 2023 launched a new initiative to hire startups that develop AI solutions.

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AI Maturity in Latin America

Governments in the Latin America region that developed or are developing a national AI strategy have made tremendous progress in the strategizing for and experimenting with AI in the public sector. Still, almost 50% of the countries have no known complete or forthcoming strategy. This shows a two-speed region.

Countries Leading AI in Latin America

According to the first edition of ILIA (Indice Latinoamericano de Inteligência Artificial) published in 2023, Chile has demonstrated its leading position in AI due to its technological development. This report also highlights that although no country stands out in all the dimensions assessed, there is a group of countries (Chile, Brazil, Colombia, Uruguay and Argentina) that are consistently ranked in the higher positions. The 2022 Government AI Readiness Index already showed this trend in 2022.

ILIA also concludes that most of the countries have regulatory progress on issues that are fundamental to AI, but the region is still below the global average regarding technological skills related to AI.

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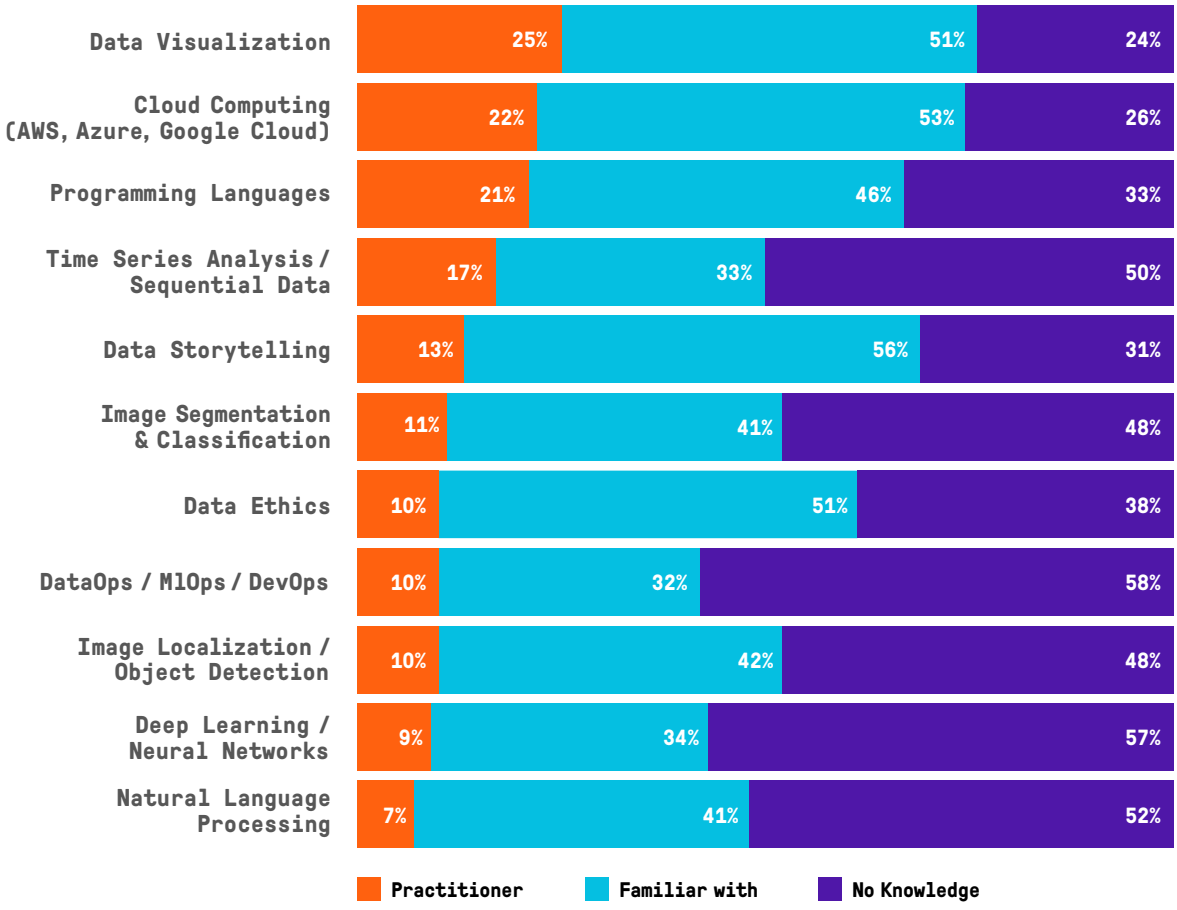
Key Findings and Trends

A long way to go for basic AI skills

When it comes to knowledge of the basic skills related to AI, Latin American participants acknowledge a lack of knowledge or experience in the field. Of the 11 dimensions measured, in three - DataOps, Deep Learning and NLP - more than 50% of the respondents claimed no knowledge whatsoever. On the other hand, we see experience in the more traditional technological related skills, Data Visualization, Cloud Computing and Programming Languages. These observations confirm the ILIA report that the region is still below the global average regarding skills related to AI.

The clear distinction between the experience in the technological and AI skills lead us to conclude that the Latin American participants have the necessary technological knowledge to focus their learning on the AI related skills. This is an advantage in order to speed up the shortening of the skill gap.

How are you acquainted or experienced with the following Data Science related skills?



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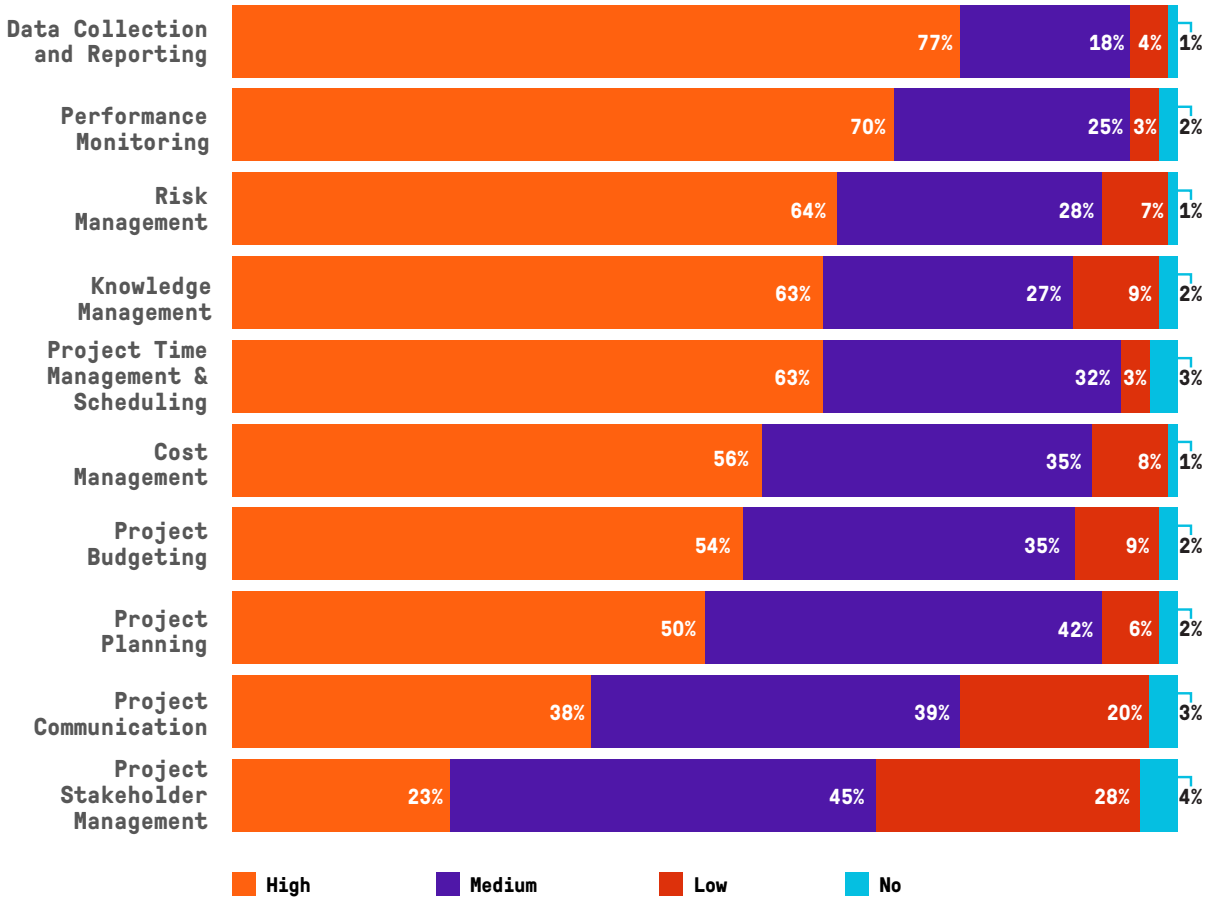
Huge impact of AI on Project Management

Latin American respondents express a great enthusiasm for AI's impact in all areas of project management. Data Collection and Reporting and Performance Monitoring are areas almost unanimous, with 70% or more, where AI will have a high impact. Eight of 10 measured dimensions have an above 85% of respondents saying that AI will have a high or medium impact. On the other hand, Project Communication and Stakeholder Management are considered to have the least impact. Interestingly, more than 65% of respondents still have a very positive view of the potential of AI in Stakeholder Management ('High' and 'Medium' percentages combined).

Management of the stakeholder environment and relationships is a highly complex management task so the positive view of the potential of AI in this area could indicate an over confidence in the current capabilities of AI.

How do you think AI will impact the following areas of Project Management?



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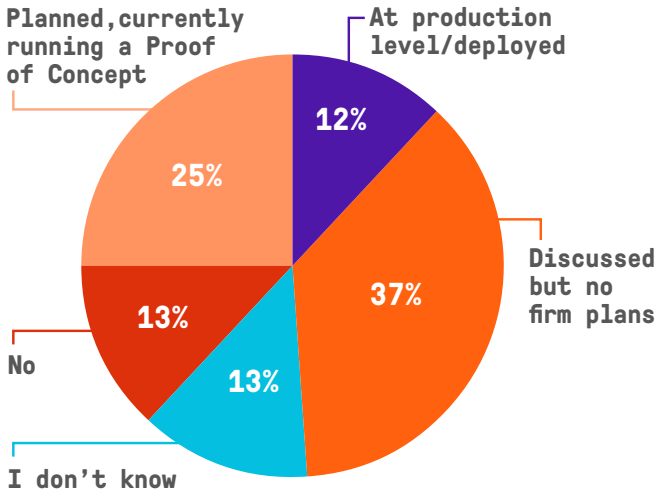
Organizations highly engaged with low investment

The Latin American region has a fair number of organizations, 37%, engaged in AI projects that are either in a production level or running a proof of concept. Still 36% of participants report that their organizations are engaged in ongoing discussions without concrete commitments.

This high level of engagement of the organizations in Latin America could be a sign that government initiatives to push the private sector with initiatives such as the Brazilian Strategy on AI are starting to show results.

Out of 37% of participants who confirm that their organizations have plans to implement AI, only 12% report receiving advanced AI training. A whopping 81% reported receiving basic or no training at all. It comes as no surprise that 53% of the participants consider that the efforts of their employers to invest in AI training are low (4 or less on a scale of 1-10).

Has the organization which you are currently working for (consultant / employee) any plans on implementing AI?



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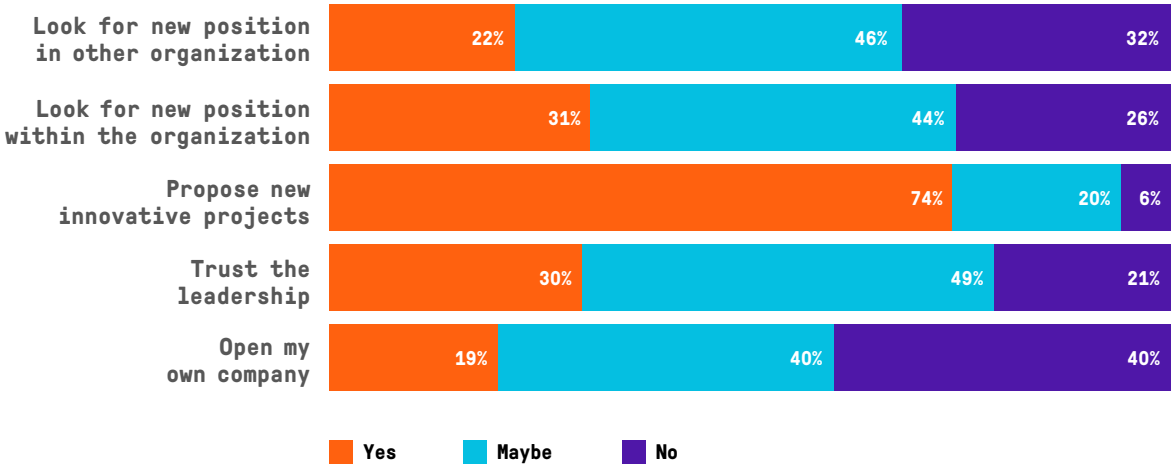
PM Community highly committed to driving the revolution

The project management community is vigilant on their organization's efforts in product innovation and technology and will propose new innovative projects if they realize the organization is lagging. We also see a clear indicator of the willingness of the community to change positions in the same organization or even move to a different one.

If your organization were lagging in product innovation and/or technology, what would you do?



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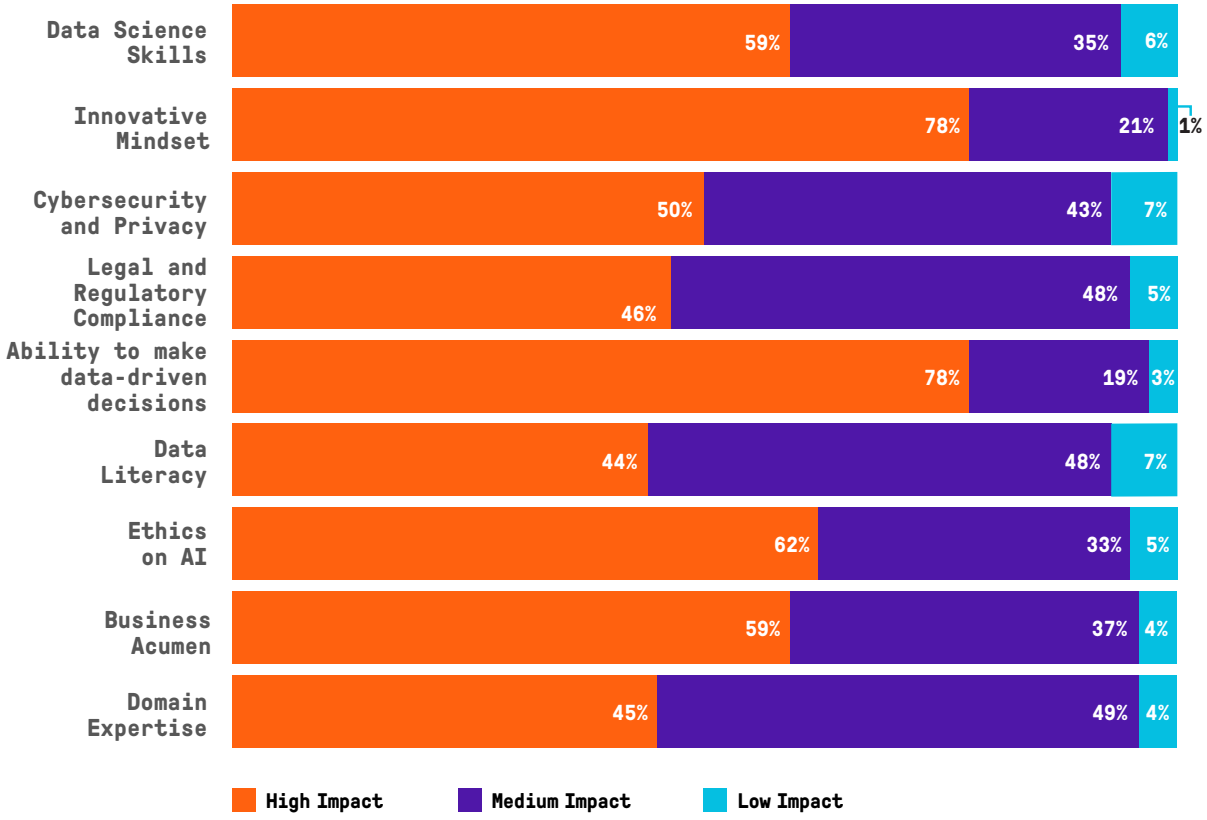
Becoming Future Ready

To be prepared for the challenges posed by AI in project management, Latin American respondents emphasize the high impact of Innovative Mindset (78%), Data-driven Decision Making (78%), and AI Ethics (62%). The fact that the project management community in this region recognizes the importance of AI Ethics shows their commitment in overcoming the challenges of using this technology in a responsible way.

Which skills do you think will be required in the future project management role?



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Conclusions and Recommendations

The AI revolution has arrived and although in the early stages, the project management community in Latin America is already enthusiastic and highly committed to proactively drive the changes that, for sure it will bring. With the vast majority of the community with basic knowledge and little or no AI project experience, it's still very interested in learning more about AI. Organizations, both public and private, have the challenge to create the conditions to provide AI related skills training for existing employees (upskilling and reskilling) - it's essential to shorten the gap to other regions. Developing AI skills related to making data-driven decisions, innovative mindset, and AI ethics should be the priority, since they are perceived by the community as essential for the success of the project management profession in the future.

In a region **where almost 50% of the countries have no known complete or forthcoming strategy**, exploring regional cooperation and collaboration in AI initiatives can be of most importance to the region to accelerate the necessary progress and fill in the gap to the other regions.

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Artificial Intelligence in Oceania

AI IN PROJECT MANAGEMENT

Key Findings Oceania

PARTICIPANTS

83% of participants are members of PMI global and/or PMI local chapters

67% are PMP® certified.

72% of participants hold Bachelor or Master of Science degree.

75% of participants are between 35 and 54 years old.

36% 35-44

39% 45-54

86% of respondents are males.

18 industries represented. **IT Services and Infastructure** and **Construction** being the most prominant.

TOP 3 AREAS MOST IMPACTED BY AI

- Data Collection and Reporting
- Performance Monitoring
- Knowledge Management

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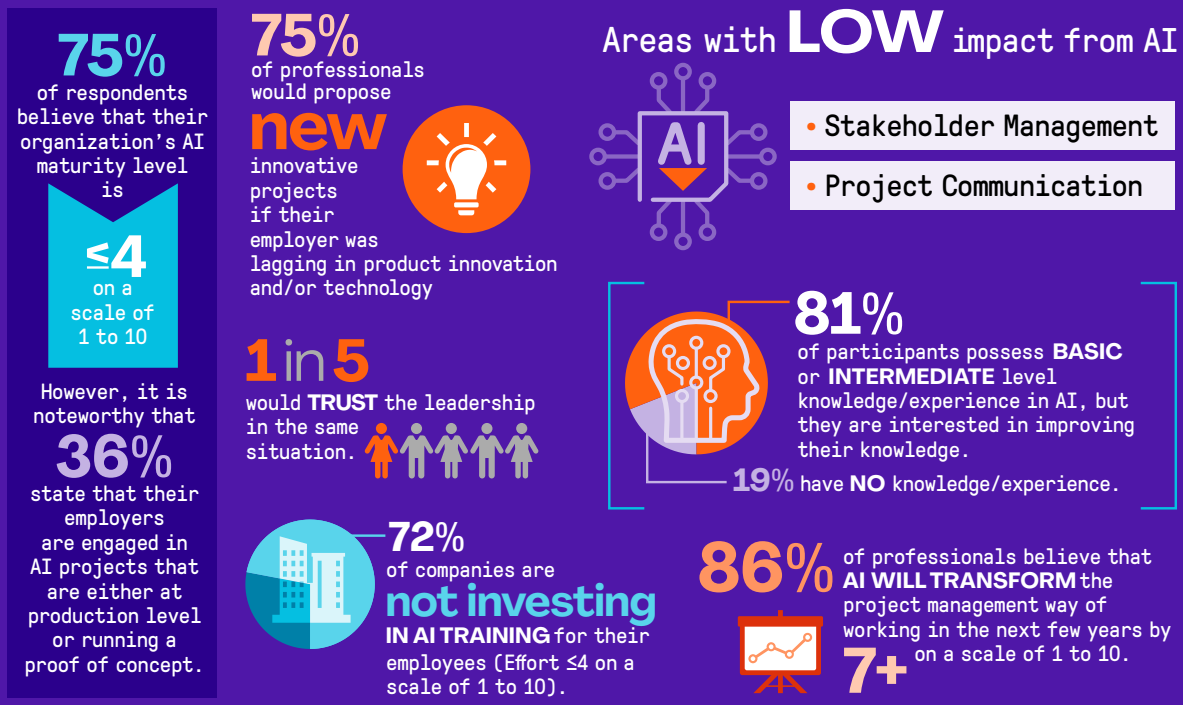
Oceania Report



In Oceania, efforts to promote AI are seen predominantly at the national levels. The Australian Government's well-defined AI strategy has allocated $101.2 million in the 2023-2024 budget for AI projects, and spending may grow to over $3.6 billion by 2025. Notable private initiatives include $1.4 million invested by Perennial Partners in Australian AI company Complexica. While New Zealand's effort is less extensive, the nation's Digital Strategy for Aotearoa and the non-governmental AI Forum are prominent initiatives. While AI is not a current priority in smaller island nations like Fiji, Solomon Islands, and nations in micronesia, establishing a strong digital infrastructure is expected to eventually facilitate its adoption.

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AI Maturity in Oceania

Australia leads Oceania in AI maturity, with 22% of 46,435 research publications between 2018-2022 in the top 10% worldwide (based on number of citations). Education and training are supported by the Next Generation Graduates Program and the Artificial Intelligence Skill Set, a training package for upskilling workers and improving workplace productivity. AI integration in Australian businesses is underway, with an average revenue benefit of $361,315, time savings of around 30%, and increased market demand for their AI solutions. However, the lack of sovereign computing solutions and reliance on global providers is seen as a significant challenge. Adoption of the Artificial Intelligence Ethics Framework in 2019 and allocation of $41.2 million to AI governance demonstrate Australia's dedication to ensuring ethical use of AI, as does New Zealand's Algorithm Charter for Aotearoa.

Countries Leading AI in Oceania

Australia not only leads in Oceania, but also has a global presence, ranking 8th of 181 countries, with a score of 75.29/100 on the Governmental AI Readiness Index in 2022. A year prior, Australia ranked 33rd of 134 economies on the Digital Skills Gap Index (DGSI), with a score of 6.1/10 on digital preparedness. New Zealand follows, with a readiness index of 67.82/100 (ranking 28th /183 countries) and a score of 6.2/10 (30th of 134 nations) on the DGSI

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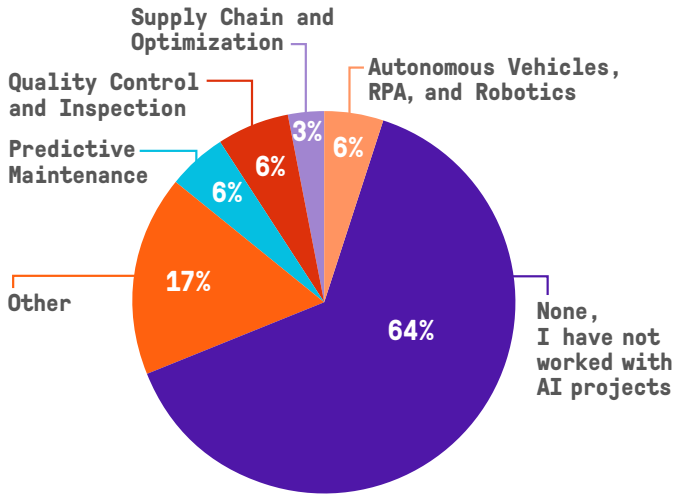
Key Findings and Trends

Although only 2% of participants (36) responded from Oceania, the findings for this region may be of interest, as our analyses and market research indicate that Australia has invested significantly in AI. To provide a context for the results, 67% of respondents are PMP certified, indicating a high level of technical as well as practical expertise in project management, supported by their self-assessment of project management skills as predominantly advanced (e.g., ensuring a project timely delivery) or intermediate (talent management).

Knowledge and Experience of Participants

81% of professionals reported a basic or intermediate level of knowledge about AI. However, 64% of the participants have indicated that they do not have experience in AI projects. AI skills that participants are familiar with include: Data Visualization (64%), Deep Learning and Neural Networks (56%), Cloud Computing (64%), and Programming Languages (58%). In contrast, they reported no knowledge in Image Segmentation and Classification (64%), Object Detection (64%), DataOps, MLOps and DevOps (61%). Participants are highly interested in learning more about leading artificial intelligence development projects (75%), tools (89%), applications (89%), and models (78%).

What type of AI projects have you worked with?



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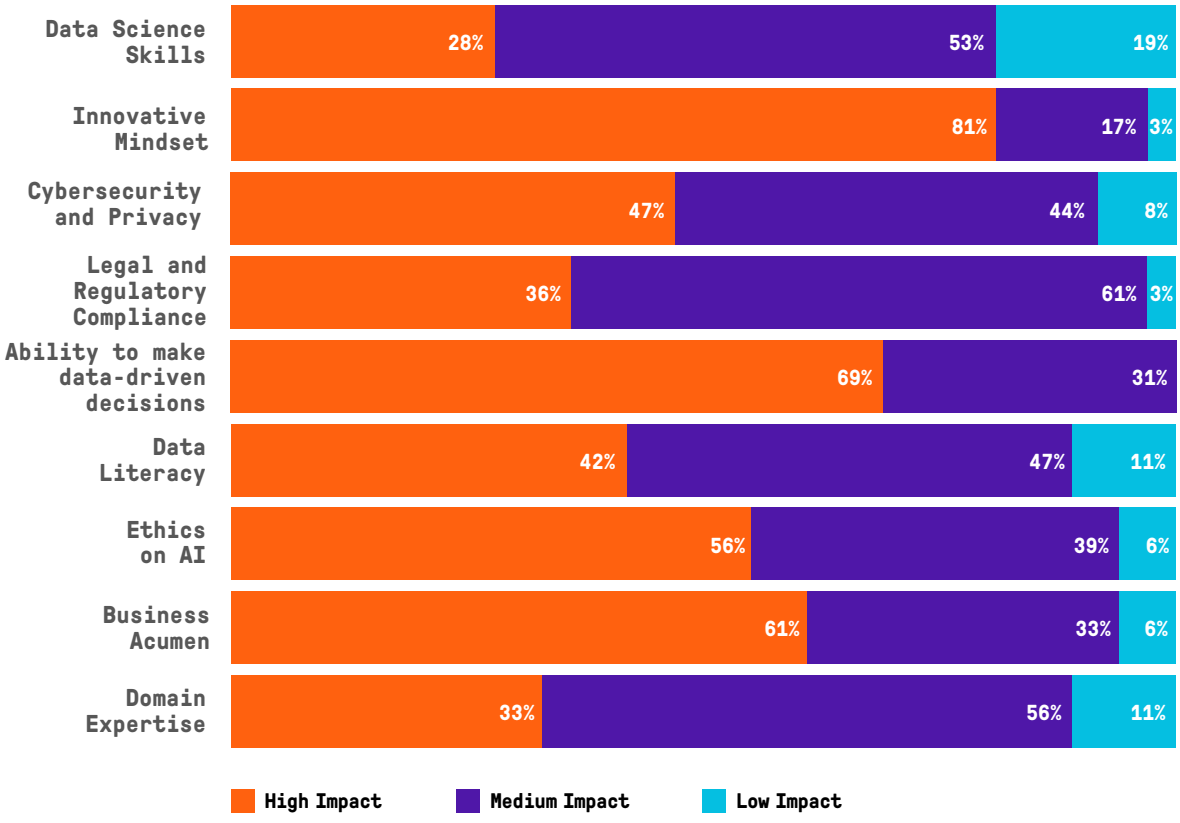
The Future of AI

Most participants, around 86%, consider that artificial intelligence will revolutionize the project management profession and they believe that this technology will highly impact the way we work today (by 7 and above on a scale of 1 to 10). Artificial intelligence is expected to highly impact data collection, reporting, performance monitoring and knowledge management; but have a minimal impact on stakeholder management. Moreover, participants consider having an innovative mindset, the ability to make data-driven decisions, to take into consideration ethics of artificial intelligence and to have business acumen, the key skills of project managers in the future.

Which skills do you think will be required in the future project management role?



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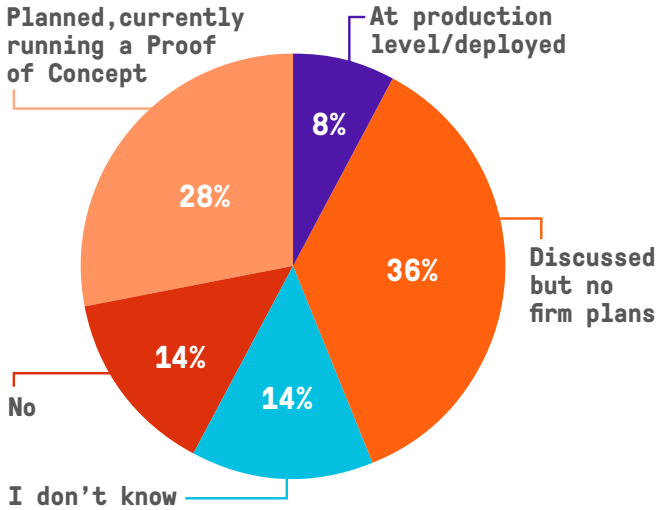
AI Maturity in Organizations

Artificial intelligence is still in the initial stages of its integration into projects and organizations. Only 36% of the participants indicated that their company is currently running a proof of concept or has deployed a project in this discipline. However, 58% of the participants have indicated that their companies are starting to hire talent in artificial intelligence and these resources are allocated mainly in centers of excellence or locally within a project.

Training plays a key role in successfully implementing artificial intelligence in organizations, as having a skilled team improves the project outcomes. Out of 36% of respondents who confirm that their organizations have plans to implement AI, only 23% report that they have received basic training from their employers. The other 77% have not yet received any AI training from their respective companies. In addition, 72% of the participants consider that the efforts of the companies that they work for to invest in AI training are low (4 or less on a scale of 1-10). Instead, most respondents have indicated that they will use other sources such as books, online videos or podcasts for self-improvement.

Has the organization which you are currently working for (consultant / employee) any plans on implementing AI?



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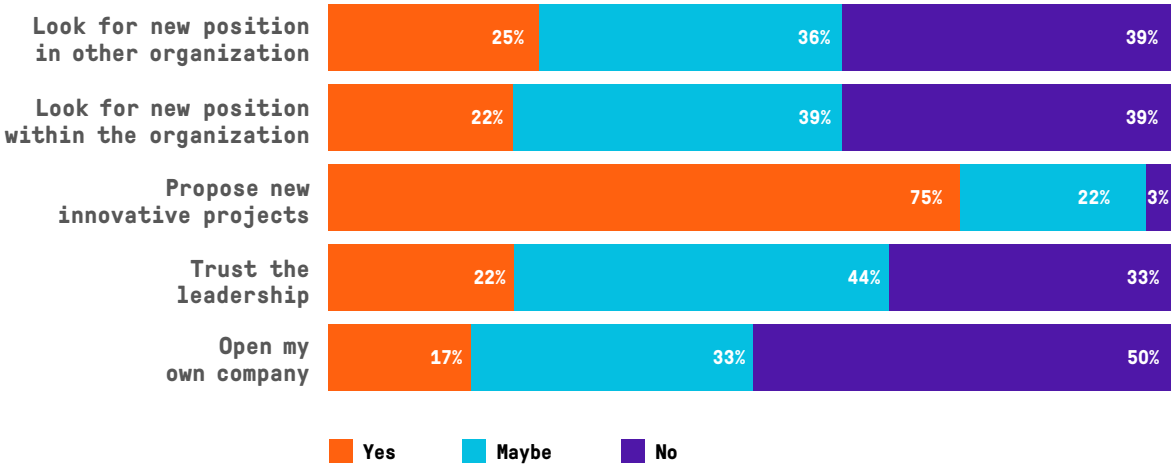
There is still much room for improvement for companies, as 75% of the contributors of this survey believe that organizations currently have a low level of maturity in this field (4 or less on a scale of 1 to 10). However, if a company was lagging in product innovation or technology, the majority of the professionals would support the business by proposing new innovative projects in order to help the company reach a competitive advantage.

If your organization were lagging in product innovation and/or technology, what would you do?



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Conclusions and Recommendations

Although the implementation of artificial intelligence in project management is just beginning, actions are being taken globally and specifically by governments, organizations and professionals to promote relevant development of artificial intelligence in project management to improve the efficiency of projects. Artificial intelligence will disrupt the area of project management, resulting in project managers having to reinvent themselves and adapt their skills to this new paradigm. Therefore, to make this transition as effective as possible, companies will have to offer good preparation and quality training to their teams beforehand.

Change management professionals will play a fundamental role in adapting the corporate culture to these new state-of-the-art technologies and avoid having generations of the organization's workforce being left behind in this transformation. Companies will increasingly need professionals with skills related to artificial intelligence and it will be essential for the organization to offer these new professionals an interesting career plan to ensure talent retention and employee welfare.

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Further Perspectives from AI Specialists

Embarking on a forward-looking journey, this section features insights from our AI visionaries discussing three key topics:

1. What specific challenges and opportunities do you see for the use of AI in project management in the coming years, how can AI be used to improve project management processes and outcomes?
2. What are the key ethical considerations in using AI in project management? How can we ensure that AI is applied in an ethical way and does not lead to unwanted consequences in projects?
3. Considering that cultural and political aspects potentially affect how projects are managed in different regions/countries, do AI Experts expect future GenAI to customize the AI-generated results of the prompts based on the region/country, if so, what problems or impediments could be associated with this?

Our specialists illuminate the path forward, offering expert perspectives on the evolving dynamics of artificial intelligence. Explore their responses to navigate the frontiers of AI's future.

Antonio Nieto-Rodriguez

Antonio Nieto-Rodriguez is the author of the Harvard Business Review Project Management Handbook, and the featured HBR article The Project Economy Has Arrived. He is the creator of concepts such as The Project Economy. His global impact on modern management has been recognized by Thinkers50. Antonio is co-founder of the Brightline Initiative, Projects&Company, and the Strategy Implementation Institute.

1. AI presents the most significant paradigm shift in project management since its inception. Challenges like data integrity and adoption curve exist, yet the opportunities are boundless, as described in our HBR article: How AI will disrupt Project Management. AI will automate routine project tasks, enhance risk management, and provide data-driven insights, elevating project efficiency and effectiveness, driving better outcomes, and propelling the Project Economy forward.
2. Ethical considerations in AI for project management are pivotal, encompassing bias prevention, data privacy, and decision transparency. For instance, AI in task allocation could inadvertently favor certain demographics. Ensuring ethical use requires robust governance, stakeholder education, and continuous oversight, mitigating unwanted biases and fostering responsible project execution.
3. Cultural and political nuances significantly influence project management across regions. AI experts anticipate GenAI to tailor AI-generated outputs to regional contexts. However, this could face hurdles like stereotyping or misinterpretation of localized practices. For instance, a task prioritization AI tool might misinterpret urgency cues differently between laid-back and high-urgency cultures, possibly leading to project delays or misalignments. Hence, project managers should actively engage in shaping AI tools to understand better and adapt to regional nuances.

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Billy S. Mwape, PMP, DAC, DAVSC, PMI-ACP, DASM, DASSM

An ICT expert with 18+ years of experience in mining and banking sectors, excels in digital transformation, IT strategy, and security management. He's a certified project management consultant and educator, renowned for agile business strategy and leadership. Currently, FNB Zambia's Head of IT, he's a TED Speaker, keynote speaker, and actively involved in charitable events supporting causes like UNICEF and earthquake victims. Passionate about using technology to uplift Africa from poverty to global prominence.

1. Challenges in AI adoption for African project management include institutional unreadiness, lacking AI policies, and cybersecurity concerns. Skillset gaps are prevalent. Opportunities include task automation, AI-assisted risk assessment, and AI-centric projects, expanding job prospects for project managers ready to use AI.
2. Ethical AI use in project management demands data validation, fairness, transparency, and privacy. Project managers must validate AI-generated output with data sources, ensuring equitable results regardless of region or race. Transparent algorithms, accountability, and continuous monitoring are crucial to maintain ethical standards and minimize undesirable outcomes.
3. Future GenAI should tailor results to regions without bias. Factors like corruption index, culture, religion, and time zones should inform AI's project management strategies, promoting diversity, equity, and inclusion. Learning from project managers across regions will help refine AI intelligence.

Ernar Makishev

Ernar Makishev is the CEO of Iowa Solutions, holding certifications like PfMP, PMP, ACP, PSM-I, and PBA. He has a notable track record in professional development, having prepared over 60 Project Management Professionals (PMP) in Kazakhstan, showcasing his expertise and leadership in project management training.

1. AI emergence eliminates the need in "Lorem Ipsum" (placeholder) documents (like if there was a need for such document in the first place). You don't need to waste time on compiling a document for the sole purpose of having a nice set of documents, even if you don't need them. I think AI presence diminished the value of the documents without purpose. I used to tolerate useless documents, since at least they make people think, analyze and maybe they learn something. Not anymore.
2. The ethical question is shall we mark the usage if AI in the documents that we are drafting What if I just checked punctuation. Shall I mention it in the preamble? Shall I forbid the usage of AI in the future, or shall I embrace it?
3. In our country project management is at the early stages, so starting a green field will be easy. In the countries with mature established cultures of project management it will take more time.

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Federico Aguggini

Federico Aruggini is the Head of AI Transformation Office in Intesa Sanpaolo, the competence center for the development and management of Machine Learning & AI use cases. Federico has more than 20 years of experience in financial services, working both for global companies and significant startups, over the last years leading several Innovation Centers of Excellence and developing RPA, Advanced Analytics, Machine Learning & AI projects.

1. AI is transforming project management, offering opportunities to improve efficiency, productivity, and decision-making. However, challenges such as lack of expertise, data quality, and bias must be addressed. Project managers can adopt AI to improve processes and outcomes by leveraging its strengths in risk management, resource allocation, scheduling, and performance monitoring.
2. Fairness, explainability, transparency, privacy, and safety are key ethical considerations for using AI in project management. Identify and mitigate biases, make AI systems transparent and understandable, protect privacy, assess and mitigate risks, and consult with ethical AI experts are precious initiatives to ensure ethical AI use.
3. AI experts expect future GenAI to customize AI-generated results based on regions/country, offering benefits such as relevance and fairness. Although the advantages outweigh the possible difficulties, some challenges such as data availability, identification of bias, interpretability, transparency, and cost must be addressed.

Britta Duve Hansen, Mobile Heights

Britta Duve Hansen is a senior project manager in tech, innovation and digitalization and a curious problem solver with strong analytical skills. An open data advocate, Hansen is convinced that collaboration and co-creation are fundamental to foster innovation and create a sustainable digital future.

1. Opportunities lie in AI's potential to automate routine tasks, optimize resource allocation, and provide predictive analytics as well as real-time insights based on historical data. The main challenges I see are data security and data privacy concerns as well as integration with existing systems.
2. Ethical considerations include fairness, transparency, data privacy, and accountability. To ensure ethical AI use, establish clear guidelines, ensure transparent decision-making processes, protect sensitive data, and state clearly that individuals and organisations are accountable for AI-related decisions. Furthermore, implementation of audit algorithms and conduction of regular ethical reviews involving stakeholders are needed.
3. Future AI will most likely adapt to local contexts, but problems include sourcing diverse and unbiased training data, avoiding reinforcement of stereotypes, ensuring compliance with varying regulations, and the need for extensive localization efforts. Finding balance between customization and avoiding biases will be crucial for responsible AI development.

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Ricardo Vargas, Ph.D,

Ricardo is an experienced leader in global operations, project management, crisis management and artificial intelligence. He is former chairman of PMI (Project Management Institute) and has been director of Project Management at United Nations. He has written numerous books and delivered more than 250 keynotes on global conferences, many on AI and its impact. He holds a Ph.D. in Civil Engineering.

1. In my view, AI's journey into project management is a tale of transformative potential. AI's power to refine decision-making is a paradigm shift in what the project manager's role should be. Regarding challenges, I see that the main roadblock of AI is the extremely diverse nature of projects. Some of the insights and support cannot be tailored to different circumstances.
2. Using AI in project management the right way is really about being responsible and thinking ahead. It's key that AI is clear in how it makes decisions, is always fair, and keeps people's private information safe. AI makes us better at what we do, and using AI ethically means not just following rules but also makes us the best of ourselves.
3. I believe AI will become more than a tool – it has the potential to become a partner in understanding projects under different cultures. However, developing AI systems that respect and work well with different cultures is challenging. It's about making sure AI really gets the variety and depth, avoid bias and, at the same time, improve feedback using provided localized data and information.

Rinoo Rajesh

Rinoo Rajesh is a seasoned Industry Professional with 24+ years of experience across various geographies with the world's leading telecommunications and networking OEMs, Service Providers, System Integrators, Large BPM providers, ISVs and academia. He is an IIM-Bangalore Alumnus, Master's in Information Technology as well as Master's from the Prestigious Delhi School of Economics.

1. AI presents challenges like data security and job displacement but offers opportunities in automated tasks, predictive analytics, and real-time insights. AI can enhance project management by optimizing resource allocation, risk assessment, and decision-making, ultimately improving project efficiency and outcomes.
2. Ethical concerns in AI project management include bias, privacy, and accountability. To ensure ethical AI usage, employ diverse data sources, implement transparency and fairness measures, and establish clear accountability frameworks. Regular audits and ongoing ethical training can mitigate unintended consequences and promote responsible AI application.
3. We do anticipate region-specific customization by future AI models. However, challenges include data bias, limited cultural understanding, and potential reinforcement of stereotypes. Developing AI models that respect diverse cultural norms while avoiding discrimination is essential for responsible global AI adoption.

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Robert Kielerstajn

Robert Kielerstajn is the COO of NordAxon and has worked in the interplay between business technology and data for many years developing innovative digital solutions. For the last three years, his focus has been on helping organizations use the potential of AI.

1. Two areas with big potential are communication and risk management. AI can help draft communication, summarize, expand, and tailor it to channels and audiences. In risk management, AI can review software code, create test cases and tests, review plans, review work schedules, help evaluate risks and propose mitigations.
2. Maintaining trust and confidence among stakeholders is key – being transparent when AI is used to assist work processes is a useful consideration. Having a "human-in-the-loop" can mitigate AI automated decisions going awry.
3. In these cases, I personally think that people are the "operators of AI tools" and AI will not introduce entirely new problems, but there is a risk of amplifying existing ones if not used wisely. At balance, the positive potential outweighs the downside risk in my opinion.

Bernard Smith Jr.

Bernard Smith Jr., 28, is a Microsoft Cloud Solution Architect and tech intrapreneur from Fort Pierce, Florida. He has degrees in Computer Engineering and IT Management and leads Blacks at Microsoft in Dallas. Bernard co-founded Microsoft's Next Step Initiative and champions education and innovation.

1. Challenges in data privacy, security, and skill gaps, alongside AI interpretability, contrast with opportunities for project managers to improve decision-making and resource efficiency through AI. Upskilling in AI can transform project management into a more data-centric and successful practice.
2. Bias and fairness are critical ethical issues in AI. Project managers should conduct regular audits, implement bias mitigation, understand data usage, and ensure responsibility. Best practice involves education, stakeholder engagement, compliance awareness, and ongoing monitoring of AI projects.
3. Navigating cultural stereotypes and ethical dilemmas in AI customization is complex, with a risk of impacting functionality. Yet, there's a rise in tailored AI solutions, driven by developers adhering to strict ethical standards, using varied datasets, and incorporating user feedback for better customization.

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Jason Andrews

Jason Andrews, a Technical Specialist for Microsoft working in their Customer Solutions Area, with over 20 years of experience in the contact center. The opinions expressed below are his own thoughts and don't reflect the views of Microsoft.

1. AI in project management presents opportunities like automating tasks and providing real-time data analysis. Challenges include privacy concerns and potential bias in decision-making. AI can improve processes by streamlining manual tasks and offering valuable insights for better project outcomes.
2. The key ethical considerations in AI in project management involve privacy, fairness, transparency, and bias. To ensure ethical AI, we must prioritize data protection, regularly assess for fairness, maintain transparency, and educate stakeholders on ethical guidelines. This helps prevent unwanted consequences in projects.
3. AI experts are exploring the possibility of customizing AI-generated results based on regional differences. Challenges include cultural sensitivity, data bias, ethical concerns, maintenance, user experience, and technological complexity. Striking a balance between customization and ethical standards is essential for the success of such adaptations.

Linda Banh

Linda Banh is an AI Educator and Program Manager at Inspirit AI. She is a Stanford alumna, with special interest in AI/Health and gender/racial gaps in technological access and education.

1. AI can enhance project management with automated timelines, budgets, and layouts but faces challenges in accuracy. It helps PMs coordinate teams, budget, and improve communication speed.
2. When building projects, AI should consider inclusive language. PMs deal with a lot of documentation and email/messages; therefore, AI should consider hateful speech and other types of harmful language when used for text tools.
3. AI built on regional data risks offensive outputs and cultural stereotypes. Diverse engineering teams are crucial for inclusive, multicultural-friendly AI products.

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Michael McCullough

Michael is a seasoned AI-focused strategist with 20 years in change leadership and Citizen Development and is currently the Citizen Development Business Architect for Amtrak. He established Amtrak's CitDev program, with 375 developers creating 3,111 apps, saving $50 million. His contributions to PMI and innovations in Low-Code/No-Code are widely acknowledged.

1. AI adoption is hindered by a lack of understanding among leaders about its capabilities, risking missteps. b) AI transforms project management by automating tasks, freeing professionals to concentrate on essential project work.
2. Integrating AI into project management must reflect company ethics, mirroring the rigor applied to human-led tasks. b) Ensure AI use aligns with strict standards and clean data for accuracy, with oversight to maintain privacy and fairness.
3. Implementing AI globally brings challenges due to varying cultural norms. AI's ability to match local tones could ease cultural barriers. Privacy regulations and the emphasis on personal relations impact AI adoption.

Associate Professor Nikolay Netov, PhD

Assoc. Prof. Dr. Nikolay Netov heads the Department of Statistics and Econometrics in the Faculty of Economics and Business Administration of Sofia University. In the past fifteen years, he has worked on a variety of international educational, scientific and applied projects with colleagues from around the world. In 2014 his project "Career in IT" was awarded as the best project implementing business-NGO cooperation. In 2015 the project "Career in IT," was awarded in the category of "Investor in Knowledge," during the 13th annual Responsible Business Award of the Bulgarian Business Leaders Forum.

1. From my point of view, the main opportunities to use AI in project management are related to AI assisted task plan generation, risk assessments and project status reports. The main challenge will be related to the future training of domain-specific AI models reflecting the organizational culture of users.
2. Adherence to EU rules for safe and transparent AI is sufficient guarantee that AI is applied in an ethical way and does not lead to unwanted consequences in projects.
3. Prohibited AI practices include biometric categorization systems using sensitive characteristics (e.g., gender, race, ethnicity, citizenship status, religion, political orientation). AI models should reflect the organizational culture of users based only on objective data and past experience, ignoring human biases based on gender, race or geographic region.

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Closing Remarks

As we conclude this survey on AI in Project Management, we extend our heartfelt gratitude to all our esteemed members and the project management community who have actively participated in shaping the future of our profession. Your valuable insights are pivotal as we embark on a collective journey towards integrating AI into project management practices.

Our commitment is to support you on this transformative path. We understand that embracing AI technologies requires continuous learning and adaptation. As you navigate your AI in project management journey, remember that we are here to provide guidance, and a collaborative platform for knowledge exchange.

Looking ahead, we are excited to announce our next initiative: the collection and aggregation of case studies that showcase real-world applications of AI in project management. These case studies will serve as a wellspring of inspiration and insight, illustrating how AI can be effectively leveraged to enhance project outcomes, streamline processes, and foster innovation.

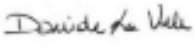
Your experiences and successes will be the foundation of this valuable resource, contributing to the broader understanding of AI's practical applications within our community. We invite you to share your stories and be part of this initiative, as together, we create a repository of knowledge that propels us all forward.

Thank you for being an integral part of PMI. We look forward to supporting you on your AI in Project Management transformation journey and to collectively shaping the future of project management.

Marly Nilsson
Global Project Manager

And the team who have contributed to the writing of this report:

Temisan Sagay
PMI Ottawa

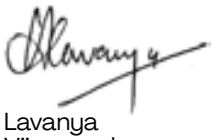


Davide La Valle
PMI Northern Italy

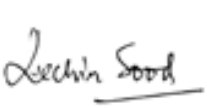
Madina Baizhanova
PMI Kazakhstan

Aneliya Chervenova
PMI Bulgaria

Olalla Garcia Peréz
PMI Galicia



Lavanya Vijayaraghavan
PMI Bangalore



Sachin Sood
PMI Bangalore

Riam Chazbeck
PMI Lebanon

Joel Cardenas
PMI Finland

Boris Piavskii
PMI Israel

André Correia
PMI Portugal

Kjetil Volle
PMI Norway

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Case Study Collection

The final phase of this project will begin in January 2024. Our goal is to explore and document the significant experience and knowledge about AI and project management held by PMI members and the project management community, thereby garnering valuable insights. The case studies will include following details:

Implementation Overview

AI Solution Overview: Highlighting key functionalities and the impact of the AI solution, showcasing its role in enhancing organizational processes and decision-making.

Project Timeline: Detailing the AI implementation project duration, from initial planning to full deployment, providing insights into the project's scale and scope.

Budget: Budget range allocated for the project, offering a comprehensive understanding of the resources invested to achieve AI goals.

Alignment with Strategy: Emphasizing the strategic importance of AI in achieving organizational objectives and its alignment with broader business strategy.

Challenges & Solutions

Challenges and Solutions: Narrating challenges prompting the AI implementation and insights into how these challenges were addressed, providing valuable experiences for companies facing similar hurdles.

Risk Management: Identifying potential risks with integrating AI, such as ethical concerns, gender equality, legal considerations, and outlining strategies used to manage and mitigate these risks.

Stakeholder Management: Describing stakeholder involvement in AI decision-making and addressing their expectations and concerns, fostering a comprehensive understanding of stakeholder engagement

Implementation Details:

Selection and Integration: Explaining the AI tool or solution selection process and detailing integration into existing systems or workflows, showcasing strategic decision-making.

Operational and Compliance Aspects: Providing details on AI solution scalability, considerations for future scalability, and potential regulatory challenges, along with navigational strategies.

Data Handling and Preparation: Outlining types of data used in AI implementation and specific measures taken to ensure compliance with data protection regulations.

User Adoption and Training: Detailing employee training for AI solution use, insights into potential resistance to change, and strategies deployed to address it.

Team and Impact

Project Team: Identifying roles in the project team, considerations for inclusivity, and strategies used to prepare teams for successful AI integration.

Key Performance Metrics: Showcasing key performance metrics used to measure AI implementation success, providing a quantitative assessment of its impact.

ROI and Business Impact: Offering insights into return on investment (ROI) and positive business impacts observed post-implementation, demonstrating tangible benefits.

Lessons Learned: Highlighting unexpected challenges during AI implementation, sharing mechanisms within the organization, and providing valuable lessons learned, along with advice for other companies.

Future Considerations:

Future of AI Solution: Plans for AI solution maintenance and further development, including considerations for ongoing improvements and adaptations based on evolving needs.The project will conclude on March 31st with a report containing the insights that have been shared with us by PMI members and the wider project management community. Our hope is that it will be educational, inspiring and an exciting start for those who are about to embark on their AI transformation journey.

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Comparison Table of Survey Results

The full regional details are given below on sucessive pages.

Regional Comparison

Europe

681 Respondents

Age Groups	45-54 - 32.5%	35-44 - 28.2%
Industries	24.8% - IT Services	
Level of Knowledge and Experience in AI	No Knowlege/Experience - 17.0% Basic Level - 47.3% Intermediate Level - 29.1% Advanced Level - 6.3%	
AI Change/Impact on PM	**How much do you think AI will change PM in the next 3 years - AVERAGE - 7.29** 8.4% of respondents think that the impact of AI on PM would be 4 and less (out of 10) 20.7% of respondents think that the impact of AI on PM would be 5-6 (out of 10) 70.9% of respondents think that the impact of AI on PM would be 7 and more (out of 10)	
Highest/ Lowest Impact (Top 3 Project Management Areas)	**Highest Impact (highest percent in the "High Impact" category):** Data Collection & Reporting - 77.2% Performance Monitoring - 61.8% Knowledge Management - 46.3% **Lowest Impact (highest percent in the "Low Impact" category):** Stakeholder Management - 43.8% Project Communication - 30.7% Project Budgeting - 17.8%	
Education	Bachelor's Degree - 26.9% Master's Degree - 54.6% Doctoral, Ph.D - 8.1% Technological Education/College - 7.6% Other - 2.8%	
PMI Membership/ Affiliation	PMI Global - 82.5% PMI Local - 71.2% (PMI Global only - 11.3%) Other or No Affiliation - 17.5% (in other words, PMI Global members are 82.5%, 71.2% out of which are also PMI Local Chapter members)	
Gender	Males - 66.7% Females - 31.6% Prefer not to answer - 1.6% Non-binary - 0.1%	
Familiarity with data terminology - Average **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	**On average,** respondents rated their skills as Practitioners - 10.2% Familiar With - 41.0% No Knowledge - 48.8% **Range of responses:** 28.2-61.5% had no knowlege 33.3-52.9% claimed basic familiarity 4.7-18.9% considered themselves practitioners	
Familiarity with data terminology - TOP 3 skills in Practitioners/ Familiar With/ Now Knowledge **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	Top 3 skills respondents considered themselves **Practitioners of:** Data Visualization - 18.9% Cloud Computing (AWS, Azure, Google Cloud) - 18.5% Programming Languages - 16.0% Top 3 skills respondents were **familiar with:** Data Visualization - 52.9% Cloud Computing (AWS, Azure, Google Cloud) - 50.2% Data Ethics - 46.7% Skills where respondents **had no knowledge:** Image Localization / Object Detection - 61.5% Deep Learning / Neural Networks - 59.6% Image Segmentation & Classification - 59.3%	

Interest in learning more about AI	Learn how to create AI models - 67.1% Lead projects on AI development - 65.0%		
	TOP 3:		
	Lead projects using AI as a tool **86.1%**	Learning how AI models work **78.2%**	Learn how to create a business case for AI applications **76.7%**
Actions in case of organizational lag in product innovation/ technologies	Look for new position in other organization:		
	Yes - 19.6%	Maybe - 54.6%	No - 25.8
	Look for new position within the organization:		
	Yes - 19.5%	Maybe - 47.9%	No - 32.6%
	Propose new innovative projects:		
	Yes - 62.2%	Maybe - 31.1%	No - 6.6%
	Trust the Leadership:		
	Yes - 20.9%	Maybe - 49.1%	No - 29.9%
Participation in AI projects. The following question was used for this analysis - "What type of AI projects have you worked with?	Did not participate in any AI projects - 63.0% Participated in diverse* AI Projects - 37.0% Diverse: Other Supply Chain and Optimization Predictive Maintenance Energy Management Autonomous Vehicles, RPA, and Robotics Quality Control and Inspection		
Average AI maturity in organisation	4.16/10		
Organisation investing in training to make personnel AI ready - Average effort	3.80/10		
Recruting or building AI competence	Yes 42.3%	No 34.9%	I don't know 22.8%
Plans on implementing AI in an organization	Plans at production/deployed level - 16.2% Plans at the Proof of Concept level - 23.6% Discussed, but no firm plans - 27.2% No - 11.0% I don't know - 22.0%		

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Regional Comparison

North America

717 Respondents

Age Groups	45–54 - 33.5%	55–64 - 27.5%	35–44 - 22.2%
Industries	15.8% - IT Services 7.4% - Technology 5.6% - Infrastructure & Construction		
Level of Knowledge and Experience in AI	No Experience/Experience - 13.8% Basic Level - 51.7% Intermediate Level - 28.9% Advanced Level - 5.6%		
AI Change/Impact on PM	**How much do you think AI will change PM in the next 3 years - AVERAGE - 7.56** 7.7% of respondents think that the impact of AI on PM would be 4 and less (out of 10) 16.5% of respondents think that the impact of AI on PM would be 5-6 (out of 10) 75.9% of respondents think that the impact of AI on PM would be 7 and more (out of 10)		
Highest/ Lowest Impact (Top 3 Project Management Areas)	**Highest Impact (highest percent in the "High Impact" category):** Data Collection & Reporting - 75.9% Performance Monitoring - 59.3% Time Management - 52.6% **Lowest Impact (highest percent in the "Low Impact" category):** Stakeholder Management - 38.6% Project Communication - 22.9% Project Budgeting - 17.9%		
Education	Bachelor's Degree - 37.5% Master of Sciences, M.Sc. - 46.9% Doctoral, Ph.D - 4.6% Technological Education/College - 7.3% Other - 3.8%		
PMI Membership/ Affiliation	PMI Global - 91.5% PMI Local - 61.8% (PMI Global only - 29.7%) Other or No Affiliation - 8.5% (in other words, PMI Global members are 91.5%, 61.8% out of which are also PMI Local Chapter members)		
Gender	Males - 61.1% Females - 35.8% Prefer not to answer - 2.5% Non-binary - 0.6%		
Familiarity with data terminology - Average **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	**On average,** respondents rated their skills as Practitioners - 10.2% Familiar With - 46.0% No Knowledge - 43.8% **Range of responses:** 23.2–61.2% had no knowlege 35.8–55.9% claimed basic familiarity 2.9–21.8% considered themselves practitioners		
Familiarity with data terminology - TOP 3 skills in Practitioners/ Familiar With/ Now Knowledge **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	Top 3 skills respondents considered themselves **Practitioners of:** Data Visualization - 21.8% Cloud Computing (AWS, Azure, Google Cloud) - 19.2% Programming Languages - 13.9% Top 3 skills respondents were **familiar with:** Data Storytelling - 55.9% Data Ethics - 55.8% Cloud Computing (AWS, Azure, Google Cloud) - 55.6% Skills where respondents **had no knowledge:** Image Localization / Object Detection - 61.2% Deep Learning / Neural Networks - 57.9% Image Segmentation & Classification - 57.9%		

Interest in learning more about AI	Learn how to create AI models - 74.6% Lead projects on AI development - 68.3%		
	TOP 3:		
	Lead projects using AI as a tool **83.3%**	Learning how AI models work **82.2%**	Learn how to create a business case for AI applications **78.0%**
Actions in case of organizational lag in product innovation/ technologies	Look for new position in other organization:		
	Yes - 19.0%	Maybe - 47.0%	No - 34.0
	Look for new position within the organization:		
	Yes - 19.1%	Maybe - 42.8%	No - 38.1%
	Propose new innovative projects:		
	Yes - 67.4%	Maybe - 27.2%	No - 5.4%
	Trust the Leadership:		
	Yes - 21.5%	Maybe - 54.1%	No - 24.4%
Participation in AI projects. The following question was used for this analysis - "What type of AI projects have you worked with?	Did not participate in any AI projects - 67.1% Participated in diverse* AI Projects - 32.9% Diverse: Other Supply Chain and Optimization Predictive Maintenance Energy Management Autonomous Vehicles, RPA, and Robotics Quality Control and Inspection		
Average AI maturity in organisation	3.69/10		
Organisation investing in training to make personnel AI ready - Average effort	3.44/10		
Recruting or building AI competence	Yes 38.2%	No 38.6%	I don't know 23.2%
Plans on implementing AI in an organization	Plans at production/deployed level - 11.7% Plans at the Proof of Concept level - 20.8% Discussed, but no firm plans - 32.2% No - 16.3% I don't know - 19.0%		

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Regional Comparison

Asia

542 Respondents

Age Groups	35-44 - 45.0%	45-54 - 24.7%
Industries	24.5% - IT Services 10.7% - Infrastructure & Construction	
Level of Knowledge and Experience in AI	No Knowledge/Experience: 14.9% (80/536) Basic Level: 48.5%, 260/536 Intermediate Level: 31.2% (167/536) Advanced Level: 5.4% (29/536)	
AI Change/Impact on PM	**How much do you think AI will change PM in the next 3 years - AVERAGE - 7.69** 5.9% of respondents think that the impact of AI on PM would be 4 and less (out of 10) 14.8% of respondents think that the impact of AI on PM would be 5-6 (out of 10) 79.3% of respondents think that the impact of AI on PM would be 7 and more (out of 10)	
Highest/ Lowest Impact (Top 3 Project Management Areas)	**Highest Impact (highest percent in the "High Impact" category):** Data Collection & Reporting - 72.3% Performance Monitoring - 62.2% Knowledge Management - 57.4% **Lowest Impact (highest percent in the "Low Impact" category):** Stakeholder Management - 31.7% Project Communication - 19.4% Project Budgeting - 14.2%	
Education	Bachelor's Degree - 44.1% (239/542) Master of Sciences, M.Sc. - 37.1% (201/542) Doctoral, Ph.D - 4.4% Technological Education/College - 9.2% Other - 5.2%	
PMI Membership/ Affiliation	PMI Global - 78.8% PMI Local - 58.5% (PMI Global only - 20.3%) Other or No Affiliation - 21.2% (in other words, PMI Global members are 78.8%, 58.5% out of which are also PMI Local Chapter members)	
Gender	Males - 61.1% Females - 35.8% Prefer not to answer - 2.5% Non-binary - 0.6%	
Familiarity with data terminology - Average **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	**On average,** respondents rated their skills as Practitioners - 10.2% Familiar With - 46.0% No Knowledge - 43.8% **Range of responses:** 23.2-61.2% had no knowlege 35.8-55.9% claimed basic familiarity 2.9-21.8% considered themselves practitioners	
Familiarity with data terminology - TOP 3 skills in Practitioners/ Familiar With/ Now Knowledge **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	Top 3 skills respondents considered themselves **Practitioners of:** Data Visualization - 21.8% Cloud Computing (AWS, Azure, Google Cloud) - 19.2% Programming Languages - 13.9% Top 3 skills respondents were **familiar with:** Data Storytelling - 55.9% Data Ethics - 55.8% Cloud Computing (AWS, Azure, Google Cloud) - 55.6% Skills where respondents **had no knowledge:** Image Localization / Object Detection - 61.2% Deep Learning / Neural Networks - 57.9% Image Segmentation & Classification - 57.9%	

Interest in learning more about AI	Learn how to create AI models - 74.6% Lead projects on AI development - 68.3%		
	TOP 3:		
	Lead projects using AI as a tool **83.3%**	Learning how AI models work **88.2%**	Learn how to create a business case for AI applications **78.0%**
Actions in case of organizational lag in product innovation/ technologies	Look for new position in other organization:		
	Yes - 19.0%	Maybe - 47.0%	No - 34.0
	Look for new position within the organization:		
	Yes - 19.1%	Maybe - 42.8%	No - 38.1%
	Propose new innovative projects:		
	Yes - 67.4%	Maybe -27.2%	No - 5.4%
	Trust the Leadership:		
	Yes - 21.5%	Maybe - 4.1%	No - 24.4%
Participation in AI projects. The following question was used for this analysis - "What type of AI projects have you worked with?	Did not participate in any AI projects - 67.1% Participated in diverse* AI Projects - 32.9% Diverse: Other Supply Chain and Optimization Predictive Maintenance Energy Management Autonomous Vehicles, RPA, and Robotics Quality Control and Inspection		
Average AI maturity in organisation	3.69/10		
Organisation investing in training to make personnel AI ready - Average effort	3.44/10		
Recruting or building AI competence	Yes 38.2%	No 38.6%	I don't know 23.2%
Plans on implementing AI in an organization	Plans at production/deployed level - 11.7% Plans at the Proof of Concept level - 20.8% Discussed, but no firm plans - 32.2% No - 16.3% I don't know - 19.0%		

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Regional Comparison

Africa

135 Respondents

Age Groups	35-44 - 37.8%	45-54 - 30.4%
Industries	11.9% - IT Services 10.4% - Infrastructure & Construction	
Level of Knowledge and Experience in AI	No Knowledge/Experience - 16.3% Basic Level - 54.8% Intermediate Level - 25.2% Advanced Level - 3.7%	
AI Change/Impact on PM	**How much do you think AI will change PM in the next 3 years - AVERAGE - 7.6** 7.4% of respondents think that the impact of AI on PM would be 4 and less (out of 10) 16.3% of respondents think that the impact of AI on PM would be 5-6 (out of 10) 76.3% of respondents think that the impact of AI on PM would be 7 and more (out of 10)	
Highest/ Lowest Impact (Top 3 Project Management Areas)	**Highest Impact (highest percent in the "High Impact" category):** Data collection & Reporting - 77.0% Performance Monitoring - 65.2% Project Time Management & Scheduling - 62.2% **Lowest Impact (highest percent in the "Low Impact" category):** Stakeholder Management - 23.0% Project Communication - 14.8% Knowledge Management - 13.3%	
Education	Bachelor's Degree - 43.0% Master's Degree - 43.0% Doctoral, Ph.D - 8.1% Technological Education/College - 3.0% Other - 3.0%	
PMI Membership/ Affiliation	PMI Global - 82.2% PMI Local - 60.0% (PMI Global only - 22.2%) Other or No Affiliation - 17.8% (in other words, PMI Global members are 82.2%, 60.0% out of which are also PMI Local Chapter members)	
Gender	Males - 80.7% Females - 18.5% Prefer not to answer - 0.8%	
Familiarity with data terminology - Average **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	**On average,** respondents rated their skills as Practitioners - 9.3% Familiar With - 37.5% No Knowledge - 53.2% **Range of responses:** 25.9-68.9% had no knowlege 23.0-58.5% claimed basic familiarity 5.9-15.6% considered themselves practitioners	
Familiarity with data terminology - TOP 3 skills in Practitioners/ Familiar With/ Now Knowledge **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	Top 3 skills respondents considered themselves **Practitioners of:** Data Visualization - 15.6% Data Ethics - 11.9% Cloud Computing (AWS, Azure, Google Cloud) - 11.9% Top 3 skills respondents were **familiar with:** Data Visualization - 58.5% Data Ethics - 48.1% Cloud Computing (AWS, Azure, Google Cloud) - 45.2% Skills where respondents **had no knowledge:** Image Segmentation & Classification - 68.9% DataOps / MlOps / DevOps - 68.1% Deep Learning / Neural Networks - 67.4%	

Interest in learning more about AI	Learn how to create AI models - 81.5% Lead projects on AI development - 75.6%		
	TOP 3:		
	Lead projects using AI as a tool **86.7%**	Learning how AI models work **85.9%**	Learn how to create a business case for AI applications **87.4%**
Actions in case of organizational lag in product innovation/ technologies	Look for new position in other organization:		
	Yes - 24.4%	Maybe - 43.0%	No - 32.6%
	Look for new position within the organization:		
	Yes - 18.5%	Maybe - 41.5%	No - 40.0%
	Propose new innovative projects:		
	Yes - 75.6%	Maybe -20.0%	No - 4.4%
	Trust the Leadership:		
	Yes - 23.7%	Maybe - 55.6%	No - 20.7%
Participation in AI projects. The following question was used for this analysis - "What type of AI projects have you worked with?	Did not participate in any AI projects - 67.4% Participated in diverse* AI Projects - 32.6% Diverse: Other Supply Chain and Optimization Predictive Maintenance Energy Management Autonomous Vehicles, RPA, and Robotics Quality Control and Inspection		
Average AI maturity in organisation	3.66/10		
Organisation investing in training to make personnel AI ready - Average effort	3.22/10		
Recruting or building AI competence	Yes 75.6%	No 42.2%	I don't know 27.4%
Plans on implementing AI in an organization	Plans at production/deployed level - 5.9% Plans at the Proof of Concept level - 17.8% Discussed, but no firm plans - 30.4% No - 24.4% I don't know - 21.5%		

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Regional Comparison

Latin America

203 Respondents

Age Groups	45-54 - 38.9%	35-44 - 24.6%
Industries	20.2%- IT Services 8.4% - Infrstructiure & Construction	
Level of Knowledge and Experience in AI	No Knowledge/Experience - 8.4% Basic Level - 52.0% Intermediate Level - 35.1% Advanced Level - 4.5%	
AI Change/Impact on PM	**How much do you think AI will change PM in the next 3 years - AVERAGE - 8.04** 6.4% of respondents think that the impact of AI on PM would be 4 and less (out of 10) 6.9% of respondents think that the impact of AI on PM would be 5-6 (out of 10) 86.7% of respondents think that the impact of AI on PM would be 7 and more (out of 10)	
Highest/ Lowest Impact (Top 3 Project Management Areas)	**Highest Impact (highest percent in the "High Impact" category):** Data Collection & Reporting - 76.8% Performance Monitoring - 70.0% Risk Management - 63.5% **Lowest Impact (highest percent in the "Low Impact" category):** Stakeholder Management - 27.6% Project Communication - 19.7% Project Budgeting - 8.9%	
Education	Bachelor's Degree - 34.0% Master's Degree - 47.8% Doctoral, Ph.D - 7.4% Technological Education/College - 3.9% Other - 6.9%	
PMI Membership/ Affiliation	PMI Global - 75.9% PMI Local - 54.7% (PMI Global only - 21.2%) Other or No Affiliation - 24.1% (in other words, PMI Global members are 75.9%, 54.7% out of which are also PMI Local Chapter members)	
Gender	Males - 81.8% Females - 18.2%	
Familiarity with data terminology - Average **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	**On average,** respondents rated their skills as Practicioners - 14.2% Familiar with - 43.7% No knowledge - 42.2% **Range of responses:** 24.1-58.1% had no knowledge 31.5-55.7% claimed basic familiarity 6.9-25.1% considered themselves practitioners	
Familiarity with data terminology - TOP 3 skills in Practitioners/ Familiar With/ Now Knowledge **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	Top 3 skills respondents considered themselves **Practitioners of:** Data Visualization - 25.1% Cloud Computing (AWS, Azure, Google Cloud) - 21.7% Programming Languages - 21.2% Top 3 skills respondents were **familiar with:** Data Storytelling - 55.7% Cloud Computing (AWS, Azure, Google Cloud) - 52.7% Data Ethics - 51.2% Skills where respondents **had no knowledge:** DataOps / MlOps / DevOps - 58.1% Deep Learning / Neural Networks - 57.1% Natural Language Processing - 51.7%	

Interest in learning more about AI	Learn how to create AI models - 74.9% Lead projects on AI development - 73.4%		
	TOP 3:		
	Lead projects using AI as a tool **90.1%**	Learning how AI models work **83.3%**	Learn how to create a business case for AI applications **82.8%**
Actions in case of organizational lag in product innovation/ technologies	Look for new position in other organization:		
	Yes - 22.2%	Maybe - 45.8%	No - 32.0
	Look for new position within the organization:		
	Yes - 30.5%	Maybe - 43.8%	No - 25.6%
	Propose new innovative projects:		
	Yes - 74.4%	Maybe -19.7%	No - 5.9%
	Trust the Leadership:		
	Yes - 30.0%	Maybe - 49.3%	No - 20.7%
Participation in AI projects. The following question was used for this analysis - "What type of AI projects have you worked with?	Did not participate in any AI projects - 61.6% Participated in diverse* AI Projects - 38.4% Diverse: Other Supply Chain and Optimization Predictive Maintenance Energy Management Autonomous Vehicles, RPA, and Robotics Quality Control and Inspection		
Average AI maturity in organisation	4.61/10		
Organisation investing in training to make personnel AI ready - Average effort	4.31/10		
Recruting or building AI competence	Yes 38.9%	No 45.8%	I don't know 15.3%
Plans on implementing AI in an organization	Plans at production/deployed level - 12.3% Plans at the Proof of Concept level - 24.6% Discussed, but no firm plans - 36.5% No - 13.3% I don't know - 13.3%		

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Regional Comparison

Oceania

36 Respondents

Age Groups	35-44 - 36.1%	45-54 - 38.9%
Industries	16.7% - IT Services 13.9% - Infrstructiure & Construction	
Level of Knowledge and Experience in AI	No Experience/Experience - 19.1% Basic Level - 44.4% Intermediate Level - 36.1% Advanced Level - 0.0%	
AI Change/Impact on PM	**How much do you think AI will change PM in the next 3 years - AVERAGE - 7.64** 8.3% of respondents think that the impact of AI on PM would be 4 and less (out of 10) 5.6% of respondents think that the impact of AI on PM would be 5-6 (out of 10) 86.1% of respondents think that the impact of AI on PM would be 7 and more (out of 10)	
Highest/ Lowest Impact (Top 3 Project Management Areas)	**Highest Impact (highest percent in the "High Impact" category):** Data Collection & Reporting - 66.7% Performance Monitoring - 61.1% Knowledge Management - 52.8% **Lowest Impact (highest percent in the "Low Impact" category):** Stakeholder Management - 47.2% Project Communication - 22.2% Project Time Management / Scheduling - 19.4%	
Education	Bachelor's Degree - 33.3% Master's Degree - 39.0% Doctoral, Ph.D - 8.3% Technological Education/College - 19.4% Other - 0.0%	
PMI Membership/ Affiliation	PMI Global - 83.3% PMI Local - 44.4% (PMI Global only - 38.9%) Other or No Affiliation - 16.7% (in other words, PMI Global members are 83.3%, 44.4% out of which are also PMI Local Chapter members)	
Gender	Males - 86.1% Females - 13.9%	
Familiarity with data terminology - Average **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	**On average,** respondents rated their skills as Practictioners - 4.0% Familiar with - 49.0% No knowledge - 47.0% **Range of responses:** 25-64% had no knowledge 33-64% claimed basic familiarity 0-11% considered themselves practitioners	
Familiarity with data terminology - TOP 3 skills in Practitioners/ Familiar With/ Now Knowledge **How are you acquainted or experienced with the following Data Science related skills (11 skills)**	Top 3 skills respondents considered themselves **Practitioners of:** Cloud Computing (AWS, Azure, Google Cloud) - 11.1% Data Visualization - 8.3% DataOps / MlOps / DevOps - 5.6% Top 3 skills respondents were **familiar with:** Cloud Computing (AWS, Azure, Google Cloud) - 63.9% Data Visualization - 63.9% Programming Languages - 58.3% Skills where respondents **had no knowledge:** Image Segmentation & Classification - 63.9% Image Localization / Object Detection - 63.9% DataOps / MlOps / DevOps - 61.1%	

Interest in learning more about AI	Learn how to create AI models - 77.8% Lead projects on AI development - 75.0%		
	TOP 3:		
	Lead projects using AI as a tool **88.9%**	Learning how AI models work **91.7%**	Learn how to create a business case for AI applications **88.9%**
Actions in case of organizational lag in product innovation/ technologies	Look for new position in other organization:		
	Yes - 25.0%	Maybe - 36.1%	No - 38.9
	Look for new position within the organization:		
	Yes - 22.2%	Maybe - 38.9%	No - 38.9%
	Propose new innovative projects:		
	Yes - 75.0%	Maybe -22.2%	No - 2.8%
	Trust the Leadership:		
	Yes - 22.2%	Maybe - 44.4%	No - 33.3%
Participation in AI projects. The following question was used for this analysis - "What type of AI projects have you worked with?	Did not participate in any AI projects - 63.9% Participated in diverse* AI Projects - 36.1% Diverse: Other Supply Chain and Optimization Predictive Maintenance Energy Management Autonomous Vehicles, RPA, and Robotics Quality Control and Inspection		
Average AI maturity in organisation	3.28/10		
Organisation investing in training to make personnel AI ready - Average effort	3.08/10		
Recruting or building AI competence	Yes 58.3%	No 33.3%	I don't know 8.4%
Plans on implementing AI in an organization	Plans at production/deployed level - 8.3% Plans at the Proof of Concept level - 27.8% Discussed, but no firm plans - 36.1% No - 13.9% I don't know - 13.9%		

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Appendix

23.a Questionnaire

SURVEY QUESTIONS
E-mail
How did you hear about the Survey?
What country are you operating from?
Age
Gender Identity
Ethnicity
How are you affiliated to PMI?
Are you a certified project manager? Several alternatives given
Which are your main industries?
What is your employment status?
Which is your higher education level?
What skills level do you possess in your project management role in the areas below? Several alternatives given
How much do you think that AI will change project management way of working in the next three years?
What is the AI maturity within your organization?
Are you building or recruiting AI competence to your organization?
If yes, how are the AI resources allocated/organized?
Has the organization which you are currently working for (consultant / employee) any plans on implementing AI?
If yes to plans implementing AI - Have you received any AI training from your employer?
How much effort is your organization investing in training to make personnel AI ready?
What type of solution will they go for? An internally developed AI solution or an off-the-shelf solution? (Multiple response possible)
Which skills do you think will be required in the future project management role? Several alternatives given
What level of knowledge and experience do you have in AI?
How are you acquainted or experienced with the following Data Science related skills? Several alternatives given
How many AI projects have you participated in? (leave blank for None)
Are you interested in learning more about how to use AI as a tool in project management or to run AI projects? Several alternatives given
How do you think AI will impact the following areas of Project Management? Several alternatives given
If your organization were lagging in product innovation and/or technology, what would you do? Several alternatives given
Which sources do you use for self-improvement and qualification? Several alternatives given
What type of AI projects have you worked with? Several alternatives given
What roles were represented in the project? Several alternatives given
Did you achieve the expected result?
If you did the same project again, would you have handled it differently?
Have you collected lessons learned that can improve the next project?
What type of experience can you share with us? Several alternatives given
Can you describe your project case in a few lines?
Please, share your email contact for us to come in touch later.
If you would like to share this survey with someone else, please add their email below:

To see the full survey, please contact ai@pmi-se.org.

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23.b Glossary

Statistics: is the science that deals with data collection, analysis and summary. Formally it is a division of mathematics that deals with uncertainty.

Multivariate Statistics: Generally, the statistics we learn and use daily are uni-variate, only one variable is in focus. More advanced applications use multiple variables simultaneously which is mathematically complicated.

Data Science: It is a multidisciplinary area that combines a strong foundation in statistics with elements of programming (software), visualization (graphics) and other areas of mathematics such as Numerical Analysis (approximations), Calculus (optimizations), etcetera to extract intelligence from data. A suitable synonym would be Data Mining (Dastyar et al., 2017), which is a term that had lot of traction in the 2000s.

Big Data: It is synonymous with Data Mining but focused on big data (the 3 Vs of Big Data). Big Data is to Data Science what High-Performance Computing is to Scientific Computing (Kuster, 2021).

Machine Learning / Statistical Learning: It is a data science tool that tries to automate the process of creating a stochastic model from a dataset instead of deeply analyzing the relationships between variables. (Abdalla, 2021).

Deep Learning: It's basically the same thing as machine learning, but the field specializes in using neural networks. The area differed from Machine Learning as it was considered more advanced and closer to Artificial Intelligence (Abdalla, 2021; Ko et Cheng, 2007; Kahlil et al., 2022).

Artificial Intelligence: An area of mathematics that seeks to model the decision-making, learning and reasoning process of the human mind. It is one of the fringes of science and is best known for Fuzzy Logic and other decision-making techniques. Roughly speaking, Machine Learning and Deep Learning are subareas of artificial intelligence, but neither is AI by itself (Abdalla, 2021; Kahlil et al., 2022; Fehling et al., 2022).

Operations Research: An area of mathematics closer to optimization and numerical analysis than to statistics. Operations research solves planning problems and depends on predefined deterministic or stochastic models and therefore can be the next step after Machine Learning, can be used by it or can be replaced by it (Fehling et al., 2022).

Model: "a simplification of reality" is the textbook definition. The purpose of a model is to be a practical approximation of what it seeks to model. In data science, models are the approximation that will be used for the problem.

NLP: Natural Language Processing It is one of the most complex areas of Machine Learning, one that has only recently advanced thanks to Deep Learning. NLP consists of extracting information from human voice and text, both from documents and social networks (Nuhn et al., 2022; Abdalla, 2021).

Structured and Unstructured Data: Structured data, or Rectangular Data, is the data we are used to, such as numerical data in spreadsheets or discrete data in the same format. Unstructured data is anything else such as images, sound, (written) text, simulation data, and so on.

Pipeline: Literally a production line. When an organization has mature data science processes, a pipeline would be the entire sequence of the data life cycle, from capturing data in situ to issuing the opinion or dashboard at the end of the pipeline.

Unconstrained Optimization: This is a class of optimization problems. The very process of generating the ML/DL model, also known as "training," is an Unconstrained Optimization problem.

Web-scrapping: Very common before the popularization of APIs. It consists of loading a web page via scripts and trying to extract some information (usually text) from there in an automated way. It's very effective on open social networks (like Twitter, although the API supports the same) and sites with an obvious structure (like stores).

Premise: Premises are those facts that we assume to be true, but could be wrong. Assumptions in projects imply risks, but in mathematical models, assumptions indicate under what conditions a model works. If the premises are disregarded, the model behaves unpredictably.

Supervised Models: These are those in which for each data set a known answer is given in advance. In a nutshell: "Follow the Lead."

Unsupervised Models: In this case, models are used to find and expose patterns in the data structure that can be exploited by other models.

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Linear Models: They are the simplest type of model to make, explain and use, but they rely on linear correlations which is quite unusual in the real world.

Logistic Model: It gets its name from the Logistic Equation that is known to those who work with differential equations. It is one of the first classification models learned in machine learning and is used in deep learning as well.

Nonlinear Models: These are models that cannot be described as a linear combination. Resolution and visualization techniques change, but the basic principles remain the same.

SVM / **Support Vector Machines:** It is an alternative model to multivariate linear models, but it can be extended to non-linear cases with the help of data transformations (kernels). They are very popular because they result in a minimally explainable equation and are almost as versatile as a neural network (Chandanshive et Kambekar, 2021; Cheng et al., 2010; Kahlil et al., 2022).

Cluster: Clusters are groupings that are made in various ways, but mainly by distance and density. Cluster analyses are performed as part of exploratory analysis, a way of trying to identify patterns and structures in the data when they still have an unknown structure. They are one of the unsupervised analysis techniques (Cheng et al., 2012).

Explainability: It is the possibility of explaining how a model works. When the model is an algebraic equation, the explanation is obvious when it is a cluster or a tree it complicates, but it can be explained, when it is a neural network there is no way to explain it. The neural network is a tangle of equations interconnected by tensors, even mathematically it is difficult to explain. So, when a neural network does something inexplicable, it's extremely difficult to interpret why a decision was made. When the decision was incorrect, the correction often costs as much as creating the network.

Overfit: When creating a model, if it is a poor approximation of the data it is said to be under-fitted; if it excessively approximates the correct result it is said to be over-fitted. An under-fitted model is useless, an over-fitted model too, but you only discover that too late. Over-fit models are perfect approximations of the data set used to create them and are unpredictable outside of this context. They may also be biased because the data has a representation problem.

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23.d Team Contact Details

NAME	EMAIL	LINKEDIN	WEBPAGE	CHAPTER LINKEDIN	COUNTRY
Marly Nilsson	marly.nilsson@pmi-se.org	https://www.linkedin.com/in/marly-nilsson/	https://www.pmi-se.org	https://www.linkedin.com/groups/2020236/	Sweden
Imran Khursid	imran.khurshid@pmi-se.org	https://www.linkedin.com/in/marly-nilsson/	https://www.pmi-se.org	https://www.linkedin.com/groups/2020236/	Sweden
Bruno Rafael Santos	bruno.rafael@gmx.com	https://www.linkedin.com/in/santosbrc	https://www.pmirio.org.br	https://www.linkedin.com/company/pmi-rio-de-janeiro-chapter/	Brasil
Iryna Udovenko	iryna.udovenko@pmiukraine.org	https://www.linkedin.com/in/irenudovenko/	https://www.pmiukraine.org	https://www.linkedin.com/company/pmi-ukraine-chapter/	Ukraine
Liza Moroz	morozeliz2019@gmail.com	https://www.linkedin.com/in/yelyzaveta-moroz-5b238218a/	https://www.pmiukraine.org	https://www.linkedin.com/company/pmi-ukraine-chapter/	Ukraine
Olalla García Peréz	info@pmi-galiciachapter.org	https://www.linkedin.com/in/olallagarciaperez	https://www.pmi-galiciachapter.org/	https://www.linkedin.com/company/pmigalicia	Galicia - Spain
Ricardo Naciff	ricardo.naciff@pmi-france.org	https://www.linkedin.com/in/ricardonaciff/ https://www.pmi-france.org/		https://www.linkedin.com/company/pmi-france	France
Boris Piiavskii	bpiyavsky@yahoo.com	https://www.linkedin.com/in/borispiyavsky/	https://www.pmi.org.il	https://www.linkedin.com/company/pmi-israel-chapter	Israel
Kjetil H. Volle	vicepresident@pmi-no.org	http://linkedin.com/in/kjetil-hatlestad-volle-a781443	https://www.pmi-no.org	https://www.linkedin.com/company/pmi-nc/	Norway
Annesha Ahmed	president@pmibdchapter.org	https://www.linkedin.com/in/annesha84/	https://www.pmibdchapter.org	https://www.linkedin.com/company/pmi-bangladesh-chapter/	Bangladesh
Sachin Sood	president@pmibangalore.org	https://www.linkedin.com/in/sachinsood/	https://www.pmibangalore.org	https://www.linkedin.com/company/pmi-bangalore-chapter/	India
Estelle Detrembleur	Estelle.Detrembleur@pmi.org.uk	https://linkedin.com/in/estelledetrembleur	https://www.pmi.org.uk	https://www.linkedin.com/company/pmiuk/	UK
Laura Samso	laura.samso@pmi-gc.de	https://www.linkedin.com/in/laurasamso	https://www.pmi-gc.de	https://www.linkedin.com/company/pmi-germany-chapter/	Germany
Enrico Toselli	enricot1989@gmail.com	www.linkedin.com/in/tosellienrico	https://www.pmi-dk.org	https://www.linkedin.com/company/pmi-dk/	Denmark
André Correia	andre.correia@pmi-portugal.org	https://www.linkedin.com/in/andrecorreia/	https://pmi-portugal.org/	https://www.linkedin.com/company/pmi-portugal-chapter/	Portugal
Adi Muslic	sponsoring@pmi-switzerland.ch	https://www.linkedin.com/in/adimuslic	https://www.pmi-switzerland.ch	https://www.linkedin.com/company/pmi-switzerland/	Switzerland
Ala Lutz	ala.lutz@pmi-switzerland.ch	https://www.linkedin.com/in/ala-lutz-4a33344a/	https://www.pmi-switzerland.ch	https://www.linkedin.com/company/pmi-switzerland/	Switzerland
Davide La Valle	ai_pm@pmi-nic.org	https://www.linkedin.com/in/davidelavalle/	https://www.pmi.org/chapters/northern-italy	https://www.linkedin.com/company/pmi-northern-italy-chapter/	Italy-NIC
Giuseppe Di Maria	giuseppe.dimaria@pmi-belgium.be	https://www.linkedin.com/in/giuseppe-dmx/?locale=en_US	https://pmi-belgium.be/	https://www.linkedin.com/company/226581/admin/feed/posts/	Belgium
Michelle Caicedo Garcia	michelle.caicedo@pmi-centralitaly.org	https://www.linkedin.com/in/michellecaicedo/	https://www.pmi-centralitaly.org/	https://www.linkedin.com/company/pmi-rome-italy-chapter/	Italy-CIC
Vincenzo Corvello	vincenzo.corvello@pmi-sic.org	https://www.linkedin.com/in/vincenzocorvello/	https://www.pmi-sic.org/	https://www.linkedin.com/company/pmi-sic/	Italy-SIC
Yuliya Zhevno	yuliya.zhevno@gmail.com	https://www.linkedin.com/in/yuliyazhevno/	https://pmiqaz.org/	https://www.linkedin.com/company/pmiqaz/	Kazakhstan
Temisan Sagay	t.sagay@protonmail.com	https://www.linkedin.com/in/temisansagay/		https://www.linkedin.com/company/pmiovoc/	Canada
Mei Lin	mei.lin.pmp@gmail.com	https://www.linkedin.com/company/pmidallas/	https://pmidallas.org/	https://www.linkedin.com/in/mei767/	Dallas-USA
Kellie Brits	development@pmi-nl.nl	https://www.linkedin.com/in/kelliebrits/		https://www.linkedin.com/company/pmi-netherlands-chapter/	Netherlands
Joel Cardenas	joel.cardenas@pmi-fi.org	https://www.linkedin.com/in/joel-cardenas88/		https://fi.linkedin.com/company/pmi-finland-chapter Phase 2	Finland
Peter Glynne	pglynne@pmi-ireland.org	https://www.linkedin.com/in/peterglynne/	https://pmi-ireland.org/	https://www.linkedin.com/company/ireland-chapter-of-pmi/	Ireland
Lavanya Vijayaraghavan	lavanyavraghavan@outlook.com	https://www.linkedin.com/in/lavanya-vijayaraghavan/			Bangalore-India
Madina Baizhanova	m.a.baizhanova@gmail.com	https://www.linkedin.com/in/mbaizhanova/		https://www.linkedin.com/company/pmiqaz/	Kazakhstan
Riam Chazbeck	president@pmilebanonchapter.org	https://www.linkedin.com/in/riam-chabeck-pmp-47a8bb46/	https://www.pmi.org/chapters/lebanon	https://www.linkedin.com/company/pmi-lebanon-chapter/mycompany/?viewAsMember=true	Lebanon
Aneliya Chervenova	aneliya.chervenova@pmi.bg	https://bg.linkedin.com/in/aneliya-chervenova-84898416	https://pmi.bg/	https://bg.linkedin.com/company/pmi-bulgaria-chapter	Bulgaria

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23.e Countries and Responses per Region

EUROPE	681 RESPONSES
Albania	3
Belgium	13
Bulgaria	11
Croatia	3
Czechia	8
Denmark	42
Estonia	3
Finland	19
France	17
Germany	31
Greece	2
Hungary	7
Ireland	11
Isle of Man	1
Italy	175
Lithuania	4
Luxembourg	1
Netherlands (the)	35
Norway	15
Poland	8
Portugal	77
Romania	6
Russian Federation (the)	5
Serbia	1
Slovakia	1
Spain	24
Sweden	86
Switzerland	17
United Kingdom of Great Britain and Northern Ireland (the)	36
Ukraine	19

NORTH AMERICA	717 RESPONSES
Antigua and Barbuda	1
Bahamas (the)	1
Belize	2
Bermuda	2
Canada	168
Costa Rica	7
Dominican Republic (the)	10
El Salvador	8
Guatemala	3
Haiti	1
Honduras	2
Jamaica	3
Mexico	40
Panama	4
Puerto Rico	4
Saint Vincent and the Grenadines	1
Trinidad and Tobago	7
United States of America (the)	453

ASIA	542 RESPONSES
Afghanistan	1
Bahrain	2
Bangladesh	66
Cambodia	2
China	4
Cyprus	1
Georgia	3
Hong Kong	6
India	160
Indonesia	2
Iran (Islamic Republic of)	2
Iraq	3
Israel	11
Japan	17
Jordan	2
Kazakhstan	55
Korea (the Republic of)	3
Kuwait	6
Lebanon	23
Malaysia	26
Maldives	1
Nepal	1
Oman	5
Pakistan	17
Philippines (the)	6
Qatar	5
Saudi Arabia	33
Singapore	15
Sri Lanka	1
Taiwan (Province of China)	5
Thailand	2
Timor-Leste	1
Turkey	14
Turkmenistan	1
United Arab Emirates (the)	28
Uzbekistan	4
Viet Nam	8

AFRICA	135 RESPONSES
Angola	8
Botswana	1
Burkina Faso	1
Cameroon	2
Côte d'Ivoire	4
Egypt	10
Ethiopia	8
Ghana	8
Guinea	2
Kenya	11
Libya	2
Mauritius	2
Morocco	6
Mozambique	2
Namibia	1
Nigeria	22
Rwanda	4
Saint Helena, Ascension and Tristan da Cunha	1
Senegal	3
Somalia	1
South Africa	12
South Sudan	2
Sudan	2
The Central African Republic	1
The Niger	1
Tunisia	4
Uganda	6
United Republic of Tanzania	2
Zambia	3
Zimbabwe	3

LATIN AMERICA	203 RESPONSES
Argentina	9
Bolivia (Plurinational State of)	3
Brazil	117
Chile	8
Colombia	22
Ecuador	13
Paraguay	1
Peru	22
Uruguay	3
Venezuela (Bolivarian Republic of)	5

OCEANIA	36 RESPONSES
Australia	25
Cook Islands (the)	1
Fiji	1
New Zealand	9

23.f Data Cleaning Report

Project: AI in PM Survey 2023

Prepared by: Temisan Sagay

Date: October 25th, 2023

Executive Summary

This data cleaning report delineates the meticulous procedures undertaken to enhance the integrity, consistency, and analytical aptitude of raw survey data. Leveraging Microsoft Excel, our objective was to refine the dataset by addressing data anomalies, standardizing formats, and preserving data privacy.

Data Overview

- Software/Application: Microsoft Excel
- Raw Data: 2,319 rows
  - High-Quality Data: 2,314 rows
  - Incomplete/Bad Data: 5 rows

Data Cleaning Steps

1. Duplicate Check
   Status: No duplicate entries found, all records are unique.

2. Removal of PII (Email Information)
   Status: Email-related data was expunged and column headers were concealed as follows:
   - Columns Affected:
     - *"Email"*
     - *"Please, share your email contact for us to come in touch later"*
     - *"If you would like to share this survey with someone else, please add their email below."*

   Excel Formula (for email column data removal):
   =REPT("*", LEN([cell]))

   Reason: Complying with data protection standards, personal email information was removed to safeguard respondents' privacy.

3. Hide "How did you hear about the Survey?" Column
   Status: The column "How did you hear about the Survey?" was hidden.
   Reason: Presently, no immediate utility is apparent for this column in the context of the analysis; however, it may prove beneficial in future examinations.

4. Formatting Standardization
   Status: Formatted the dataset as follows:
   - Renamed "TidstÃ¤mpel" column header to "Date."
   - Corrected "1 BolÃvia" to "Bolivia (Plurinational State of)."
   - Corrected "1 ItÃ¡lia" to "Italy."
   - Corrected "66 BraSIL" to "Brazil."
   - Corrected "4 CÃ´te d'Ivoire" to "Côte d'Ivoire."

   Excel Formula (for text replacement):
   =SUBSTITUTE([cell], "Incorrect Text", "Corrected Text")

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5. Removed White Spaces
   Status: Employed the TRIM function to eliminate extraneous white spaces.
   Excel Formula (for trimming white spaces):
   =TRIM([cell])
   Reason: Eliminating white spaces is imperative to ensure data consistency and maintain data integrity for analytical purposes.
6. Mapped Countries to Continents
   Status: Country-to-continent mappings were established through reference to the United Nations Statistics Division dataset.
   Source: United Nations Statistics Division: Countries or areas and their continents
   Reason: Enabling geospatial analysis, the mapping of countries to continents equips us with insights that are pivotal in comprehensive data analysis.

Conclusion

This rigorous data refinement process within Microsoft Excel has resulted in an augmented dataset, primed for sophisticated statistical analyses and exploratory data ventures. The outcomes encompass heightened data quality and consistency, facilitating superior analytical outcomes.

Recommendations

- As a matter of best practice, thorough documentation of data cleaning procedures should be upheld to ensure transparency and facilitate future referencing.
- In adherence to data privacy principles, the handling of personally identifiable information (PII) necessitates continued vigilance to ensure compliance with relevant data protection regulations.
- It is advisable to validate data against the survey tool to ascertain the preservation of data fidelity and consistency throughout the data cleansing process.

Next Steps

With the purified dataset now in hand, it is poised for in-depth scrutiny, advanced data visualization, and insightful reporting. The ensuing data analysis and interpretation will yield valuable insights, guiding informed decisions based on the survey findings.

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Background, Approach and Methodology

The survey started 1st June 2023 and ended on 30th September 2023. The survey was targeting PMI members, people working on projects and the project management community. Roles that will be impacted by the implementation of AI in project management.

The survey was initiated by PMI Sweden. The decision to support a follow-up to the 2022 survey was made by PMI Sweden's board in April 2023. A month later, in May, an agreement was reached in the PMI European Leadership Team to support the project and encourage European chapters to join this initiative. In the beginning, only PMI Sweden ran the survey, later a total of 27 Chapters from 25 countries joined and a project team of 32 project managers participated in the work to get answers from their respective countries.

From the start, the survey was offered in English only, but in August it was also made available in Portuguese and French. Considering the limited number of English speakers in some countries and regions, this has potentially impacted positively the number of respondents we achieved.

Survey Questionnaire and Structure

It was decided that the survey should take no more than 5-10 minutes to complete. The questionnaire was tested by AI experts and was built on the questions from the 2022 survey. Furthermore, we tested the survey by a knowledge management team in Rio de Janeiro and a handful of PMI Sweden members with exams from the KTH University in Stockholm. All these reviews ensured that the survey questions and answers would consider:

- Inclusion and diversity globally
- Mutually exclusive and collectively exhaustive options
- The themes and interpretations being clear across cultures

The survey was divided in five sections, each one aimed at a different type of data:

1. **Demographic and Geographic Information:** we would like to understand who our audience is.
2. **AI Maturity:** We would like to understand how our audience is acquainted with AI tools and techniques.
3. **AI Deployment:** We want to know how our fellow practitioners are dealing with AI advancement in their organizations.
4. **Experience in AI Projects:** Tell us about your experience in working on or leading AI projects.
5. **Case Study:** If you have hands-on experience in implementing AI or using AI tools in project management implementation, please submit a case study proposal, and we will take care of the rest.

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The survey was designed to capture a diverse range of data, featuring multiple-choice questions, ratings on a scale of 1-10, and categorical ratings such as basic, intermediate, and advanced, alongside options yes/no/maybe. This diversity in response formats enabled us to gather a broad spectrum of insights.

The respondents could be anonymous if they wanted to. Most people did not, probably due to the incentive to get the report and an invitation to the presentation of the results.

The survey was conducted online and promoted via newsletters and webinars to PMI members and on social media. It was promoted to the wider project management community in posts and articles, primarily on LinkedIn. For the survey, PMI Sweden built a web page on which the project and teams were presented, including the project's goal and a link to the survey.

In response to "How did you hear about the survey?" the top source in the English version was email, with 43%, which shows that the death of email may be exaggerated. This was followed by LinkedIn, with 11% and on par with websites.

In communication from PMI, email leads with 46%, followed by websites with 20% and newsletters with 9%. This clearly shows the importance of direct communications with members and although social media is important, it seems difficult to reach through in the vast number of posts there.

PMI was the main source for finding the survey, either in general, by Chapter communications, on the web at projectmanagement.com or via other members. Considering the number of responses, PMI has a strong and collaborative community.

Methodology, Data Analysis and Cleaning

In total, we received 2319 answers obtained via Google Forms, which were downloaded in Excel format and underwent rigorous data cleaning processes. This involved addressing anomalies, standardizing formats, and ensuring the privacy of respondents' data. After the cleaning, 2314 responses remained. Further details are available in the Data Cleaning Report under Appendix section 23.g.

We used the United Nations Statistics Division dataset to map the countries of operation reported by the respondents to their respective continents, enabling a region-wise analysis across Africa, Asia, Europe, North America, Latin America, and Oceania. Each region was analyzed by dedicated teams of volunteers, ensuring focused and detailed examination.

Even though we had tested the questionnaire before the launch, we noticed that some regions had a problem interpreting how to answer the question about the number of AI projects they had participated in. The answer to that question did not feel reliable in some regions. We found higher reliability in an associated question about the type of projects the respondents had participated in. Since we felt more confident with the answers to this question, we used this instead. This was particularly the case for responses in Asia.

Questions that yielded unreliable data were excluded from our analysis. This included an instance with a high number of missing responses, unintelligible or garbled text, and answers that did not pertain to the question asked.

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Detailed Responses on Demographics

The global and regional reports are detailing the numbers of participants, distribution of gender, age, academic background, and the affiliation to PMI on regional and global level.

Methodology Used for Data Analysis

Our primary tool for data analysis was Excel. Excel was used to conduct descriptive statistical analysis, focusing on calculating percentages to interpret the data. Graphical representations were created using Excel and Power BI.

Using a 10-point scale, responses of 7 or more are considered high. Responses of 4 or less are considered low.

Chart data is approximate and rounded to nearest tenth, which may result in some chart sections not totaling 100 exactly.

Market Research

For the market research, we have mainly used ChatGPT and then looked for details in links to the sources.

Quality Review and Control

A stringent quality control process was put in place, reviewing all reported analyses across regions to ensure consistency and accuracy.

In the quality review phase, we had a dedicated data analyst checking all the numbers to ensure that they were calculated and rounded up according to common procedures and rules. The content itself was reviewed by two people in the market analysis team and when both had given their approval - including the numbers - the material/report was given final approval.

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