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New leadership is needed to make AI a project partner

Interview with Prof. Dr. Ronggui Ding[1]

Vice President for Research & Publications
International Project Management Association

Interviewed by Yasmina Khelifi
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Introduction to the interviewee

Dr. Ronggui Ding is the Vice-President for Research and Publications at the International Project Management Association (IPMA) and a professor at the School of Management of Shandong University. He holds a Bachelor of Science degree in Applied Mathematics, a Master of Engineering degree in Mining Engineering, and a Ph.D. degree in Systems Engineering. He has worked as a consultant in operation management or project management for a long time in IT enterprises, engineering construction, and other enterprises, and has also served as a government department, and participated in or managed many IT or engineering projects. In addition to undertaking project management-related courses for senior managers at several universities in China, he also holds lectures for project managers in universities in the United Kingdom, Italy, and

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other countries, and is one of the most popular trainers in the project management industry in China.

Since 1994, when he was studying in Japan, Professor Ding has been researching the interaction between artificial intelligence and management decision-making, and the project governance mechanism of human-computer interaction. He has undertaken a number of research projects such as the National Natural Science Foundation of China, published dozens of academic papers in top international academic journals, and his monographs such as "Taiji Logic - Chinese Wisdom in Project Governance" have been welcomed by a large number of readers from different countries, and in 2007 he was awarded the title of New Century Excellent Talent by the Ministry of Education of China.

Professor Ding is the deputy director of the Project Management Committee of the China Association of Engineering Consultants and the core expert on project management of the China Software Industry Association. Since 2005, he has been involved in a large number of IPMA project management excellence awards, successively as assessor, Team-Lead-Assessor, member of the award board, final judge, etc. He visited projects in Germany, Russia, Italy, Dubai, Mauritius, Bangladesh, and other countries. Since 2019 he has been the Research Coordinator of the IPMA and since 2022 he has been the IPMA Vice-President for Research.

Interview

Q1: First of all, thank you for accepting an interview request from PMWJ. How is AI going to transform the world of project management?

Prof. Dr. Ding Ronggui (Ding): Thank you, Yasmina. The changes that AI will make to the project management world are mainly in the following aspects:

AI will change the rules and ethics of project management. One of the characteristics of project management is the interaction between people from different cultural backgrounds and expertise, which means that the effectiveness of the cooperation between people will greatly affect the success of the project. The project management mechanism and project governance mechanism are based on the relationship between people. Unlike previous machines and information tools, AI will be involved in project management as a new partner rather than a tool, and the rules of future project management need to add two dimensions, not only to deal with the cooperative relationship between people, but also to deal with the cooperative relationship between people and AI, and the cooperative relationship between AI adopted by different stakeholders.

Data governance, intellectual property governance, etc., are all new rules brought about by these new relationships. In addition, not only does AI need to meet human needs, but

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also human needs to meet AI's needs, which inevitably raises moral and ethical issues. There used to be a well-known "Three Laws of Robotics", that is, robots must not harm humans, or sit idly by and watch humans be harmed; robots must obey human orders unless they violate the first law; and robots must protect themselves unless they violate the first or second law. The scope of AI is broader than that of robots, and what are the principles for the development of AI in project management, and what ethics need to be followed in using AI to carry out project management activities, etc., will become major issues in project management fields.

AI will transform the efficiency and reliability of project management. Due to its strong learning and construction capabilities, AI can greatly improve the efficiency of solving problems that can be solved by using scientific thinking in project management, such as generating project reports, optimizing scheduling, cost management, and quality control, etc..   AI can also allocate project resources more economically, agilely and effectively. Of course, these efficiency improvements require the support of a large amount of basic data, which means that it must first go through a highly mature digitization process. If the digital maturity level of all stakeholders in the project is not consistent, it will be difficult for AI to achieve the desired effect in improving efficiency, and even the inconsistencies of interfaces can bring side effects to the dynamic and complex system of project management.

AI will improve the creativity and value of project management. With the help of digital twin technology, people can enter the digital project world from the real project world, and these digital worlds can be reconstructed and imagined by changing parameters and assumptions, and then the reconstructed and imagined digital world can be de-twin into the real management world. The combination of AI's superior knowledge acquisition and knowledge deduction capabilities will improve the creativity of project managers, and the ability to build new systems with simulation can help project managers achieve controllable innovation and increase the value of projects.

Q2:   What skills will project managers need in the age of AI?

Ding: I prefer to use the word competence or ability over skill. IPMA has a set of competency definitions for project managers, including perspective, people and practice, and PMI and other project management professional groups also have their own definitions of project manager competencies. In the era of AI, the importance of project managers' knowledge and experience in project management will decrease, and the need for new capabilities will arise. In addition to these existing competencies required of project managers, there are three basic competencies that project managers need:

The first is the competence to capture and adapt to the value of AI for management. Project managers generally have project-related expertise and competences but are not necessarily familiar with AI. In the future, understanding the development trends of AI and lead or influence AI to do right things to contribute its value will become a necessary competence for project managers in different industries and professional fields. A considerable number of AI-related technical terms will become basic management terms,

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and AI technologies or tools will be like basic project management techniques and tools such as network planning technology and earned value analysis.

The second is the ability to think critically, or dialectically in philosophy. AI will greatly compensate for the lack of knowledge and experience of project managers, so the thinking ability of project managers becomes more important. Among these thinking abilities, logical thinking, systematic thinking ability and AI have a lot in common. AI itself is also built on the basis of logical thinking and system thinking, and these thinking skills can help to efficiently go from 1 to 99. However, one of the main features of the project is the creation of new value, which means that to achieve a breakthrough from 0 to 1, only critical thinking can do this. For project managers, critical thinking ability will become one of the core competencies, and this kind of thinking ability is also a rare ability for AI to have.

The third competence is to empathize and influence. With the increase in the involvement of AI in project management, people will need to feel more humanistic care and warmth in the project team, and project managers need to have such capabilities. Empathy is about making project stakeholders feel that they are working with, interacting with, and creating with real people, rather than connecting with each other through AI. With the development of AI technology, people's sense of self-existence will be more needed, and project managers should have the ability to make the project a public welfare cooperation rather than a utilitarian cooperation. The former is people-centric, the latter performance-centric, the former focuses on impact, and the latter focuses on leadership. Leadership is about leading or motivating people toward the same goal, while impact is about guiding, encouraging, and supporting everyone toward their desired goals.

Q3: Project management is evolving right now, with larger planning processes, and more complex outcomes. How does AI/ML inform project investments and portfolio management?

Ding: In the era of change, the trajectory of enterprise development will be more non-linear and unpredictable, the development strategy of enterprises will become more flexible and volatile, and the interlacing between projects and operations in the enterprise will become more frequent. In other words, enterprises can only be agile to adapt to an uncertain business environment through projects and operational activities that are constantly staggered and iterative. AI or machine learning will play an important role in enhancing the enterprise's agility to learn and adapt. Machine learning based on large language models can increase the sharing of knowledge across industries and professional fields, the increase of computing power can make it easier for people to build various simulations to deduce the value of projects and make project investment and other decision-making more effective. Augmented reality and other technologies will also help people improve the security and efficiency of project execution, and optimization

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algorithms based on big data and blockchain technology make it easier to collect and dissolve various project resources. These are the advantages that AI brings to project investment and portfolio management.

However, according to the Chinese parlance of Yin and Yang, AI brings advantages as well as disadvantages. For example, large language models are based on various network knowledge, due to differences in geopolitics, values, and culture. There are biases, opacity or even cheating in network knowledge, and the inferences obtained by the large model may enhance these biases or AI could be a difficult-to-identify liar. AI relies heavily on statistics, and being packaged by AI makes it easier for people to fall into statistical traps. When people are relying on the conclusions provided by these AIs, conflicts between people are exacerbated. Over-reliance on AI can lead to serious errors in decision-making such as in project investment. How to solve these problems requires project managers to develop new leadership by effectively mastering and applying the three new capabilities we just talked about.

Q4: What will projects look like in five years - how will project managers operate in an AI-enabled world?

Ding: The development of AI is very fast, and it is very likely that the following situations will occur in the field of project management in the next five years:

AI-based project management tools are coming out on a massive scale. These tools include not only the well-known BIM, Microsoft Project, Primavera P6 and other software; there will be a large number of virtual reality simulation tools and equipment, the project will be agile in the digital world and the real world, AI tools based on human work behavior and psychological behavior analysis of will also emerge in large numbers. People born after 2000 will become the main force of the project manager team; they will use these AI tools to carry out innovative management work, the definition of management will change dramatically.

AI-based intelligent project management platforms will become the basic configuration for a large number of enterprises to manage projects, programs and portfolios. Flexible working hours, agile and optimized resource allocation, a project value-sharing mechanism based on blockchain technology, and a project investment decision-making and risk control system based on various hypothetical scenario analyses will run on these platforms. The boundary between enterprise projects and operations is becoming more and more blurred, and the social effects of project economy are more obvious.

The project and data industry are gradually formed. The lessons learned from the digital transformation of numerous enterprises will be refined and summarized, and the norms, standards and tools for digital project management will be formed. The service industry

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based on project big data will be formed, and the shared cloud and private cloud service for projects in different fields will be gradually industrialized.

New types of jobs, such as AI project management engineers, will emerge. With the help of AI technology, the boundaries between science and art in management are broken, and the roles of people involved in projects are more dynamic and diverse. The decentralized, ultra-flat dynamic network will become the common governance structure of the project. The concept of human resources will be redefined, and everyone will be a dynamic project manager and project partner. The credit mechanism of the project stakeholders will be gradually established and adopted through big data technology.

Theoretical research on project management will focus more on project management oriented to innovation, creativity and entrepreneurship in an uncertain environment. The concept of management is more focused on the exploration of the needs of project stakeholders and the acquisition of partners to meet the needs and the establishment of cooperative relations. The study of culture, including technical culture and human-machine ethical conflict, will raise concern. Research involving the digital twin of a project will become popular.

Q5: How does the role of the project manager change as autonomous planning and scheduling become more ubiquitous and more accurate than human-generated estimation?

Ding: The essence of the project is the process of changing from the current way of working to the way of working in the future, the process of changing from the way of making money now to the way of making money in the future, and the process of changing from the current ability to the future ability. In the process of these transformations, when AI can increasingly replace project managers to complete management work, the role of project managers should change from professional managers to entrepreneurs. The value of project managers is to work with stakeholders to create project value rather than completing pre-defined project deliverables, and their work will focus more on the following three aspects:

First, pay more attention to the value appeal of project stakeholders. Project managers should pay attention to distinguishing between project performance and project value. AI will help improve project performance, but it is difficult for AI to understand the value of the project, because the value of the project comes from the inner desire of the project stakeholders and the perception of the desire to achieve it. These desires and perceptions are difficult to fully express in a quantifiable way, and they need to be discovered and displayed by relying on the empathy of the project manager rather than the scientific or technical ability. IPMA has a Project Excellence Model, which specifically mentions that an excellent project comes from the understanding and pursuit of excellence by the project leader (including the project initiator, project manager, etc.), and

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the project cannot be given value without ideals. The difference between a professional manager and an entrepreneur is that the former believes because he sees, while the latter sees because he believes. AI cannot replace people's ideals, and the value appeal of project stakeholders can only be explored by project managers themselves.

Second, pay more attention to the interaction between the project and the environment. The value of a project can only be realized if it is placed in organizational, social, and resource contexts. AI will gradually free the project manager from tedious but well-defined work, and the project manager's time will be more focused on establishing the interaction between the project and the environment, that is, establishing the governance relationship of the project. The establishment of these relationships requires an understanding of the strategic policies of each project stakeholder and the unique value position of the project, and it is difficult for AI based on statistical laws to meet these needs.

Third, pay more attention to the humanistic care of the project team members. In the field of hard knowledge and technology, AI is highly competent, but in the field of soft influence and leadership, the personality charm and art of project managers are still the key project success factors that AI cannot replace. With the development of AI applications, the importance of direct communication between people will become more prominent, and how to stimulate the enthusiasm of project teams to pursue success and create value will become a major topic that project managers need to pay attention to.

Q6: Do you have a last message to PWJ readers, please?

Ding: Collaboration to create value is the basic principle of project management, and we need to cooperate not only with partners, but also with nature, technology, and AI. I hope that PMWJ and our readers will contribute their respective values to these collaborations and that they will be able to reap the rewards of these collaborations.

As the world's best and most widely distributed project management professional federation, IPMA will be the best partner for PMWJ and its readers. I would like to take this opportunity to recommend to our readers the 12th International Conference on Project Management Research, which we will be hosting by IPMA-USA at the University of Maryland on April 19-21 this year. The theme of this conference is Project Management in the Era of Artificial Intelligence, and many industry experts and top researchers will gather to discuss the impact of artificial intelligence on project management. The web address for the meeting is https://www.ipma-research-conference.world.

I look forward to meeting with your readers at the University of Maryland to dive deeper into the topic of AI and project management.

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About the Interviewer

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Yasmina Khelifi, PMP, PMI- ACP, PMI-PBA is an experienced project manager in the telecom industry. Along with her 20-year career at Orange S.A. (the large French multinational telecommunications corporation), she sharpened her global leadership skills, delivering projects with major manufacturers and SIM makers. Yasmina strives for building collaborative bridges between people to make international projects successful. She relies on three pillars: project management skills, the languages she speaks, and a passion for sharing knowledge.

She is a PMP certification holder since 2013, a PMI- ACP and PMI-PBA certification holder since 2020. She is an active volunteer member at PMI France and PMI UAE, and a member of PMI Germany Chapter. French-native, she can speak German, English, Spanish, Italian, Japanese and she is learning Arabic. Yasmina loves sharing her knowledge and experiences at work, in her volunteers' activities at PMI, and in projectmanagement.com as a regular blogger. She is also the host and co-founder of the podcast Global Leaders Talk with Yasmina Khelifi to help people in becoming better international leaders.

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