

AI, Thinking Machines and Project Management and Welcome to the October 2016 PMWJ

David Pells, Managing Editor

Welcome to the October 2016 edition of the **PM World Journal** (PMWJ). This 51st edition again reflects the international nature of this publication; **26** original articles, papers and other works by **31** different authors in **13** different countries are included this month. News articles about projects and project management around the world are also included. Since the primary mission of this journal is to support the global sharing of knowledge, please share this month's edition with others in your network, wherever in the world they may be.

In July I wondered in this space whether my welcome article should contain more than simply a description of the current month's contents. Several readers then suggested that I use this opportunity to mention new trends or important issues that I see as journal editor. This month I discuss an issue that I think really is new for those in our field to consider, the impact of artificial intelligence and thinking machines on program/project management.

AI, Thinking Machines and Project Management

In August at the 10th UT Dallas Project Management Symposium, I attended a very interesting paper presentation by Schenita Floyd of the University of North Texas titled "Do Machines Hold a Key to Business Success?"¹ (*Her paper is republished in the PMWJ this month; don't miss it.*) In her presentation (and paper), Ms. Floyd described some history and recent developments in artificial intelligence (AI) and the rapid rise of robots and "thinking machines" in various industries. While her discussion was somewhat general, a light bulb came on for me with regards to the potential impact of this whole topic on the project management field (which I immediately shared with PMI founder Jim Snyder, who was sitting next to me.)

We have all recently seen numerous media stories, and technical and scientific reports, about new developments in AI, including the national commitment and investments occurring in the field of robotics (especially in Japan). This was highlighted during the closing ceremonies of the recently completed Rio Olympic Games during which the 2020 Tokyo Olympics were promoted along with the role that robotics and technology are expected to play there.

But as Ms. Floyd points out, there are many applications of AI already in use in such industries as automotive, defense, manufacturing, health and medical treatment, meteorology, mining, online services, personal services, security and other fields.

¹ Floyd, Schenita; Do Machines Hold a Key to Business Success? Proceedings of 10th Annual UT Dallas Project Management Symposium, University of Texas at Dallas, Richardson, Texas, USA, August 2016.

With regards to “thinking machines”, computer chips and “smart” applications are embedded in many new consumer and industrial products today, nearly all appliances, much equipment, most machinery, and many new materials used in construction and manufacturing. The “internet of things” is widely understood and discussed; it is already here and expanding rapidly. And just this week, the nobel prize in chemistry was awarded to “Frenchman Jean-Pierre Sauvage, Scottish-born Fraser Stoddart and Dutch scientist Bernard “Ben” Feringa for making devices (machines) the size of molecules, so tiny that a lineup of 1,000 would stretch about the width of a human hair.”² The miniaturization of technology has accelerated these developments.

As I sat listening to Ms. Floyd in August, I thought, “Wow, this is important! It could change the entire resource planning equation for many programs and projects around the world. And I have seen nothing in the project management profession or literature about this.”

In addition to the resource planning implications, as Ms. Floyd discusses in her paper, how do we deal with such topics as work planning, communications, leadership, team building and teamwork when teams consist of both humans and machines? How will teams of humans and machines avoid conflicts, maximize productivity, minimize risks (and costs), meet deadlines and accomplish complex tasks together? Maybe it’s not so complicated today but what about in 5,10 or 20 years? And if you look at programs and projects in locations that are dangerous or inhospitable to humans (radioactive conditions, natural disasters, under water, deep underground, in outer space, etc.), a majority of team members in the future will probably be robots or thinking machines.

New developments in micro-computing, smart materials and communications technologies are leading to some spectacular opportunities for smart buildings, smart roads, smarter systems and smarter solutions, especially related to energy efficiencies. I think it’s exciting.

These developments will have a dramatic impact on the world of projects and project management – in all industries where technology, equipment, machinery and materials are used. Project executives, managers and professionals will need to consider thinking machines as resources for performing things that machines are good at – physical labor requiring certain capabilities, remembering details, processing data, analyzing scenarios, and much more. They will need to consider AI, thinking machines, miniaturization and smart materials for both creating new products and for how those products will live, act and perform over their life cycles.

I am not offering any great solutions here, just raising these topics as something that the PM profession now needs to consider. How will project planning, and resource planning in particular, be affected? What about supply chains and procurement processes? What is the impact on project teams? These are challenging and exciting Questions! They are also already here. Read Ms. Floyd’s paper in the journal this month; then let us both know what you think about this topic.

² <https://www.yahoo.com/news/3-awarded-nobel-chemistry-prize-molecular-machines-095550235.html>

This month in the Journal

Now for this month's journal which again contains some interesting and outstanding works. Eight featured papers are included this month, on some very important topics. The research papers from academic leaders in Nigeria this month are outstanding, related to PPP projects in developing countries, corruption in the construction industry and the use of BIM for engineering and design. The papers from Kenya and Zimbabwe discuss the application of PM in important social contexts, orphanages and general social work. Emils Pulmanis' paper discusses problems with the national eHealth rollout in Latvia. Joseph and Mario Kossman review game technology applications for validating the design of a healthcare project in Cameroon. And Alan Stretton offers some perspective on just how useful or useless much current research published by project management academic journals seems to be. These are the kinds of papers that we are looking for, those that share ideas, experience and knowledge that can help make the world a better place. Please check out these good papers this month.

Five series articles are included this month, all by program/project management experts with vast experience and knowledge. The same can be said for the authors of this month's advisory and commentary articles. Three second edition papers are also republished this month, all originally presented at the 10th UT Dallas PM Symposium in August. One deals with applying lean methods in real world projects, one describes "going agile with SAP" at a Dallas-area company, and the third describes the exciting new world of thinking machines. We are honored to publish these excellent and highly useful articles and papers.

Very interesting regional reports are also included from Cecilia Boggi in Buenos Aires and Jouko Vaskimo in Helsinki. Jouko has also provided a great report from the IPMA research conference in Reykjavik, Iceland in September. Four book reviews round out the original works. All of the articles, papers, reports and reviews this month contribute to the global project management body of knowledge. Find and read those of interest to you, then share them with others. Sharing knowledge multiplies the impact of good ideas, and some of these ideas (like projects) can change the world.

Invitation to Share Your Own Experience, Research and Knowledge

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I want to thank the authors who contributed to this edition of the PMWJ. Most have included an email address at the end of her or his author profile. If you find an article or paper useful or interesting, let the author know. Better yet, ask questions, start a discussion, share information and knowledge. We also want to thank our advisors, correspondents and contributing editors around the world. These teams include leaders from academic and professional organizations in around 50 countries.

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About the Author



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David L. Pells is Managing Editor of the ***PM World Journal*** (www.pmworldjournal.net) and Managing Director of the PM World Library (www.pmworldlibrary.net). David is an internationally recognized leader in the field of professional project management with more than 35 years of experience on a variety of programs and projects, including engineering, construction, energy, defense, transit, technology and nuclear security, and project sizes ranging from thousands to billions of dollars. He has been an active professional leader in the United States since the 1980s, serving on the board of directors of the Project Management Institute (PMI®) twice. He was founder and chair of the Global Project Management Forum (1995-2000), an annual meeting of leaders of PM associations from around the world.

David was awarded PMI's Person of the Year award in 1998 and Fellow Award, PMI's highest honor, in 1999. He is also an Honorary Fellow of the Association for Project Management (APM) in the UK; Project Management Associates (PMA - India); and Russian Project Management Association. Since 2010 he is an honorary member of the Project Management Association of Nepal. From June 2006 until March 2012, he was the managing editor of *PM World Today*. He occasionally provides high level advisory services for major programs, global organizations and the U.S. federal government. David has a BA in Business Administration from the University of Washington and a Master's degree in business from Idaho State University in the USA. He has published widely, spoken at conferences and events worldwide, and can be contacted at editor@pmworldjournal.net.