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## Project Management Research – What?

What do we mean when we talk about Project Management “Research”? What is involved in the process? What PM topics are researched today, and what subjects deserve more attention from project management researchers? Who conducts or sponsors (or finances) PM research? What are current trends and directions in project management research? How are the results of PM research presented to the world, or made available to the world of PM? These are some of the topics that I want to explore this month. I believe that the role of PM research in developing PM as a profession deserves more attention, more investment, more respect and more support. I believe it is more important than many realize.

### Where to start?

Last month I presented a “model” for the “World of Project Management.” During September some valuable feedback on this model came from some of the leading authorities on the subject, including Russ Archibald, Eric Jenett and Max Wideman (see letters to the editor this month). They all suggested ways to improve the model, additional issues to consider, or different perspectives. Nevertheless, that model offers a useful set of topic areas for this paper.

The first major element in my World of PM model is what I termed PM “R&D”. I defined it as follows: R&D of various PM applications, concepts, methods, models, processes and theories, carried out by both individuals and organizations; the source of new ideas, information and knowledge, as in any field of science or industry; conducted by individuals for academic or professional reasons, and by organizations to develop new information, products or services, or for other commercial purposes. Now I want to explore this topic in more detail.

### What is Research?

So what is research anyway? A general definition of research might be: A systematic study or investigation to develop or contribute to knowledge. I have long considered research in the context of either “basic” research or “applied” research. Although there are a number of other important “types” of research, it is interesting to note that research is also defined in terms of “basic research” and “applied research” in the online Wikipedia (<http://en.wikipedia.org/wiki/research>) as well.

According to Wikipedia, Basic research is related to “advancing knowledge and theoretical understanding...”. Basic research studies fundamental issues; new theories are proposed, developed, analyzed and tested on paper, or sometimes in controlled laboratory settings, through the extension of existing or new logical, mathematical and/or scientific ideas. Basic research is often defined as “pure” research, aimed at advancing the fundamental knowledge or theoretical understanding of a subject, and may not be aimed at any practical use.

According to Wikipedia, "Applied Research is done to solve specific, practical questions." Applied research consists of studies related to the application of basic theories to real world issues and problems, and frequently involves testing in the field or marketplace, statistical surveys and other research "projects". Applied research should result in new applications, products, systems, technologies or tools as "solutions".

Other types of "research" include "quantitative research", "qualitative research", "operations research", "market research", and "research and development". "Development", in the context of "R&D", commonly refers to projects launched to "apply" the results of Applied Research to the development of new commercial or otherwise useful applications, products, systems, technologies or tools. In my opinion, these other types of research generally fall under "applied research", and are conducted for specific aims rather than to expand fundamental knowledge. All of these types and definitions, however, can be considered when thinking about PM research.

### **What is involved in a research project?**

Research involves applying systematic methodology to a clearly defined research process. The "scientific method" that we all learned in middle school is really a process, and involves topic selection, development of hypotheses, definition of terms and conditions, data gathering and analysis, and reaching conclusions. Research methodologies today, however, involve a wide range of activities, including action plans, experiments, statistical analyses, surveys, literature searches, interviews, mapping, mathematical simulations, semiotics and other techniques. It is up to the researcher to clearly define the process and methodologies used on his or her project.

### **What are the potential topics for PM research?**

Now I would like to suggest that each of the elements of the World of PM (the model presented in my September 2006 PM World Today editorial) provides an area ripe for research. Those areas are briefly addressed below. Perhaps this does not capture everything important on the subject, but it might provide some interesting perspective on where we are today and where opportunities for additional developments remain.

**Research related to PM Research & Development** - In my opinion, the very issue of PM research needs to be studied. What research is underway, and to what extent? Where is that research leading the profession? What additional areas of study are needed? Who is involved? How is PM research being sponsored or financed? What are some potential benefits from PM research?

**Research related to the PM Body of Knowledge** - This is an area that has received a great deal of attention over the last 25 years, especially by the Project Management Institute (PMI®), Association of Project Management (APM) in the UK, the Australian Institute of PM (AIPM), and a few other professional bodies. Generally speaking, a great deal of PM research is oriented around these PM BoKs. Through the efforts of AIPM, APM and PMI, more research is continuing, with continuous improvements now likely in the formal PMBOK documents published by them. Nevertheless, there are still areas where additional research and developments are needed, related to certain points in the project life cycle, ethics in PM, project finance and close-out, and perhaps

other topics. In addition, it is possible that entirely new "theories" of PM might emerge in the future.

**Research related to PM Education & Training** - This is a growing and robust segment of the PM world. Surveys and studies have been conducted recently on what PM education is available, how widely the academic community is embracing PM in graduate and undergraduate programs, etc. PMI's Accreditation process offers some good perspective on what is happening in various countries and regions. It seems to me, however, that there is more to learn about delivery methodologies, technologies and activities related to PM education and training. This should increase as online multimedia delivery options increase in the future. Do we really know what PM topics are being taught, how, where and by whom?

**Research related to PM Experience & Practice** - This is the area where opportunities exist for much more PM research. Based on efforts by Russ Archibald, Max Wideman and others in recent years (see <http://www.pmforum.org/library/cases/globalslides.pdf>), structured categorization models for defining projects and PM are now becoming available. Now we can begin to identify types of projects, industries and organizations where little research has been conducted, where the PMBOK may be weak, or where additional research is needed to improve our understanding of PM under certain conditions or circumstances. For example, what is the state of the art of PM in such application areas as PM on Emergency Response projects, PM in warlike conditions or nation building (consider the problems in Afghanistan and Iraq today), projects to recover deep sea oil, PM on mega-projects, PM in political arenas, PM in Nano Technology, and other "new" industries? How many people and organizations in "old" industries continue to do things the old way, without embracing modern PM? Why do aerospace or construction projects still fail? If NASA is financing research related to improving PM on NASA-financed programs and projects, why haven't other industries followed suit? I would argue that the PM research community is responding extremely well to PM needs in some industries and application areas, but others are being overlooked. There should be a comprehensive assessment of what is needed. Russ Archibald's categorization model provides a good starting point for such as assessment, but it should be expanded into sub-categories.

**Research related to the PM Supplier Marketplace** - PM suppliers include the individuals and organizations that develop and sell commercial PM products, services and technologies. This is a subject area that is beginning to receive attention, but not nearly enough. How big is the PM "industry" now, by the way? Surveys have appeared recently by Gartner and others related to the Portfolio PM market, PM in Information Technology industries, and PM in construction. But how many suppliers of PM software and technology solutions are there now? How large is that marketplace? What technologies are missing? What trends are appearing? Consolidation is beginning in the PM software industry? What about other sub-sectors, like PM training, consulting, publishing? What purpose does the PM supplier marketplace serve? This is a question that has begged an answer for years, as the role and activities of PM consultants and suppliers remain undervalued and under appreciated, in my opinion. What new PM technologies are needed? More surveys, statistical research and applied research are needed in this area.

**Research related to the PM Profession** - The PM profession itself should be subjected to more study. Professional societies such as AIPM, AACE, APM, ISEC, IPMA,

PMA, and PMI sponsor various studies and analysis of trends in the PM profession. But what independent entity studies them? What are the benefits of professional bodies and activities? What are trends in the PM profession? Is PM even a profession yet? Some of these questions have been the subject of recent debate and research. But more research and understanding is needed in this area.

**Research related to PM Communities** - What are PM communities of interest? PM communities are growing in size, number and importance throughout the world and now include chapters of professional associations, industry groups, software tool communities of interest, members of on-line groups and others. They are often sponsored by professional organizations such as PMI or global corporations such as Bechtel, EDS, Exxon, IBM, NCR, Microsoft and many others. What is the size, nature, role, importance or influence of such communities? Some research and analysis seems needed in this area too.

**Research related to the overall World of Project Management** - What is the size, role, importance or potential of the overall world of project management itself? This is an interesting and potentially exciting issue, in my opinion. Can more of the World of PM be captured or even "harnessed" for some global good? Can the World of PM come together in some way or in some part of the geopolitical world to solve problems or address common needs? For example, to respond to disasters? To help build a country or economy? To rid the world of AIDs or TB? When looking at "the big picture", is something missing? How can these issues be studied?

### **What PM Research is actually being conducted today?**

Good PM research has been conducted by individuals for the last 35 years, as reflected in papers presented at IPMA and PMI conferences and congresses each year. In recent years, the major PM professional associations have increase PM research initiatives; PMI introduced PM Research Conferences several years ago, and has a robust PM Research Program underway, with global participation. IPMA has a solid research program underway, and the International Research Network on Organizing by Projects (IRNOP) will conduct an international PM Research conference in Xi'an, China in October. Various American, Asian and European universities have PM research activities underway, with some such as Stanford University and the University of Vienna sponsoring long standing programs related to research in certain fields of application. Research collaborations have been established between and among academic institutions to research specific PM topics, such as the management of major construction projects, IT project management, etc.

Professor Peter Morris at the University College London's Bartlett School of Construction and Project Management Research, winner of PMI's 2005 researcher of the year award, should be mentioned, along with professor Christophe Bedillet as ESC Lille. Professor Lynn Crawford of ESC Lille and the University of Technology Sydney has also published important research related to PM research and education. They and others have sponsored, conducted and published significant PM research in recent years. Sifnificant PM research has been conducted in Austria, Australia, Canada, Finland, the UK and USA in recent years. A Google search brings many of these efforts into visibility. PM research programs at the University of Management & Technology (UMT) in Virginia and at the new Asia Pacific International College (APIC) in Sydney should also be mentioned.

## **Where is more PM Research needed?**

Yet it seems to me that a majority of PM professionals and organizations are not very aware of most of the current PM research underway. I believe more PM research journals are needed; more visibility is needed of PM research projects and conferences; and more sponsorship is needed. In addition, I would now like to suggest that more research is needed in the following areas:

- Measurement and assessment of PM research itself – what is being done and by whom?
- Additions and improvements to the PM Body of Knowledge, especially related to professional ethics, program management, project portfolio management and strategic project management.
- PM Education, especially in Africa and Latin America, and related to delivery technologies.
- PM Profession – related to the activities, nature and role of professional organizations; life cycle and status of PM as a profession; role of the PM profession in society; and future projections.
- PM in certain applications & industries, especially including business change projects such as new business formation, mergers & acquisitions, downsizing and outsourcing; PM in international development, including agriculture, education, health, nutrition and political development; media and entertainment projects; PM on R&D programs; PM on mega-projects (US\$1B+); cross-border and multi-lateral programs and projects; and PM on emergency response, aid and disaster recovery projects.
- PM Marketplace and Industry analysis, statistical research and reporting; and research into the state of the art of commercial PM solutions and technologies currently in the marketplace.
- PM Communities and human networks.

I am sure that I have forgotten or missed some important areas, but there is my personal checklist.

## **Why should we care?**

Modern PM has only existed for approximately 40 years or so. The importance and role of PM continues to grow worldwide, in all economies and societies. But the potential is enormous. PM is maturing as a professional discipline, but still not widely recognized as either a profession or success factor in many organizations. Like any industry or technology, research is the key to new developments, new ideas, new solutions. I believe the future of PM is exciting, and important for the continued development of human civilization on our planet. In my opinion, PM research is critical to that future.

Best regards,  
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