Research Guidelines



## **Introduction**

## **Quote from: Project management research--the challenge and opportunity a conceptual framework and guidelines for practice[[1]](#footnote-1)**

## Project management is one of the fastest-growing disciplines in organizations today. However, ironically, the statistics of project success suggest that most projects still fail and many projects do not accomplish their business results. This presents possibly a unique opportunity for substantial improvement. In this paper, the authors offer their perspective about the challenge that the project management research community is facing today. The authors propose several research directions that may evolve as central in the next few years in order to stimulate the discussion and debate about the future of the discipline. They first look at project management research from a problem-driven perspective and then offer three central views with which project management could be perceived: the *strategic/business view,* the *operational/process view,* and the *team/leadership view.* For each one, the governing thought pattern, the theories, and the related disciplines are presented. Although these views are certainly not unique, they may provide an integrated perspective of the discipline and a possible trigger for further discussion that may help attract scholars from other more established academic disciplines and improve the status of project management research.

The above paragraph defines the need for more research to address why projects continue to be challenged or outright failures and set the stage for some solid research that can identify the causes of these difficulties and potentially provide a solution to mitigate these challenges and/or failures. Research is not limited to academics – as they may not have current practical experiences to develop appropriate and relevant studies that need to be addressed to improve project success. Practitioners, with their unique and current experience level, might be better equipped to address the shortfalls and develop studies, whose outcomes provide more immediate results in increasing project success.

This begs the question as to why a project manager should consider doing research and have the results published in a journal. The most obvious answer relates to the potential for career enhancement as the result of being published could establish one as an expert in the field. In addition, being published also sets the stage for potential academic opportunities – teaching how to become more effective in achieving successful project outcomes. PMI also offers some incentives for research – see <https://www.pmi.org/learning/publications/project-management-journal> and look on the right-hand side for the section “Call for Papers”.

Developing a research proposal that meets the rigors of a scientifically valid study requires that we set aside any opinions, preconceived notions, personal experiences, biases, philosophical perspectives, etc. and deal only with facts.

## **Principles of Good Research**

The following factors are common to all studies involving people:

* There is a clear statement of a knowledge gap or problem as corroborated by evidence from the most current peer-reviewed journals associated with the discipline and topic (this evidence must be from multiple journal articles)
* The constructs/variables under study must be clearly and succinctly articulated
* The research question(s) must be unambiguous and directly address the knowledge gap or problem
* The methodological approach must be in alignment with the questions – for example, open-ended questions generally require a qualitative approach (case study, exploratory qualitative inquiry, or phenomenological study, etc.) Questions dealing with the extent a particular variable or variables explains or predicts the outcome or criterion may require experimental or non-experimental methods. It is incumbent upon the researcher to assure a solid understanding of the various methodological approaches and making sure that the correct approach is utilized to assure reliable and verifiable results that can be generalized (if appropriate) to the population under study.
* Informed consent is the process by which research participants decide if they will:
* Voluntarily agree to take part in the study
* Are provided with clear and accurate information concerning the study
* They understand the information and have opportunities to ask questions
* The research should be carried out in an unbiased fashion. As far as possible the researcher should not influence the results of the research in any way. If this is likely, it needs to be addressed explicitly and systematically.
* From the beginning, the research should have appropriate and sufficient resources in terms of people, time, transport, money, etc. allocated to it.
* All research should be ethical and not harmful in any way to the participants

## **Questions to address in preparing your research proposal**

1. The following questions are provided as examples only and are not all-inclusive. Why is this research important? What other studies have there been in this area? How will this research add to knowledge in this area? What do you want to find out? What is/are the main question(s) you wish to answer?

**How you will do your research**

* Will you be doing this research on your own or with others?
* What is the target population for this research?
* What is the sample frame (if applicable) and what are the inclusion/exclusion criteria?
* Where will the research take place?

**Timetable**

* When do you expect to start your research?
* How long do you anticipate the research to take?

**Methodology**

* What methodological approach is most appropriate to obtain the study results?
* Do you need to consider a field test? A pilot test?
* How will you recruit your sample?
* How will you collect your data?
* What analysis methods will be most appropriate?

**Ethical Issues**

* Is there any potential risk or harm to participants or yourself?
* What will you do if the focus of your research project shifts or changes substantially from the proposal?

**Data Protection**

* Will you be using recording or video equipment?
* How will the data be stored?
* For how long will the data be stored?
* How will it be disposed of?
* How will you ensure the confidentiality and anonymity of data?
* Who will have ultimate ownership of the data?
* Publication - In what form will your findings be presented - e.g. report, presentation, journal, etc.?

## **Institutional Review Board (IRB)**

The PMI Great Lakes Chapter will act as an Institutional Review Board (IRB) for all research proposals. IRB boards are common in universities and organizations that are engaged in research. The general requirements for an IRB are to ensure research complies with federal regulations and ethical practices for human protections.

**The IRB focuses on:**

* Protecting the privacy and confidentiality of participants
* Respecting the autonomy and dignity of participants
* Minimizing risks while maximizing benefits to participants
* Ensuring participants have adequate information to make informed decisions
* Weighing the benefits and risks of research
* Making sure the benefits and risks of research are fairly distributed

As you navigate the IRB process, you will need to provide detailed information on many components of your research plan. You must also develop a clear plan of action for how you will protect your participants. This includes attention to the following aspects of your study:

* Expert review, pilot studies, test runs
* Recruitment
* Informed consent
* Site permission
* Tests and Measurement Instruments
* Conflict of interest
* Data security & destruction

IRB approval must be obtained prior to collecting data or interacting with participants. The recruitment of participants, collection of data, implementation of any kind of intervention, and the analysis of private identifiable information constitute research activities that may only be undertaken after IRB approval has been obtained. A review of publicly available data is generally allowed. Informal, unrecorded conversations with key stakeholders that do not involve sensitive or personal information and are kept private are also generally allowed.

## **Field and Pilot Studies**

Researchers may need to engage in a number of different activities to ensure the integrity of their proposed research or validate that risks to participants have been appropriately addressed.

Field tests (expert reviews) support in establishing the reliability of the research instrument(s). Credible instruments are those that have been reviewed by experts, are published in peer-reviewed journals along with their reliability and validity coefficients. If there is no instrument available, then the researchers must develop an instrument assuring that Exploratory and Confirmatory Factor Analysis has been performed and validity and reliability coefficients have been obtained. An expert review generally includes the following:

* Three to five experts who have experience with the topic and appropriate professional credentials.
* Expert reviewers should not provide personal data; rather they should provide feedback on the research instrument itself.
* Once the experts complete and submit their feedback, review the feedback and make necessary changes to the research instrument.

A pilot study typically involves a small test of the instrument with several participants, who meet the inclusion/exclusion criteria, prior to the implementation of the full-scale study. A pilot study must be completed for any new instrument and may be necessary if you modify an existing instrument (as long as you have permission from the copyright holder). A pilot study may also be used to test whether adequate protections for research participants have been implemented prior to conducting the larger study. The results of the Pilot study data are not included as part of the larger study.

## **Recruitment**

Recruitment is the process of contacting potential participants to invite them to take part in the research study. In recruiting participants, you must:

* Protect the privacy of potential participants
* Provide accurate information about the study to allow potential participants to consider whether they are interested in participating
* Avoid exerting undue pressure or influence on potential participants

**Recruitment Materials**

Unless you are using a service such as Survey Monkey or Qulatrics.com, you will need to develop recruitment materials. These should provide the information that prospective participants need in order to determine their eligibility and interest, using a reading level appropriate for the target audience.

Recruitment materials must include:

* Name of the researcher
* The researcher's affiliation with any organization (e.g. PMI)
* Purpose of the research
* Inclusion/exclusion criteria used to determine eligibility for the study
* Contact (phone/email) for additional information
* Details on how to enroll

Recruitment materials might also include:

* A brief explanation of study procedures
* The time or other commitment required of the participants
* The location where research will be conducted
* Sponsorship information if applicable

Recruitment materials should not include:

* Misleading statements
* Over-emphasis of the participant incentive (bold and large print should be avoided)
* Phrases such as "limited enrollment", "study ends soon", "don't miss your chance", "enroll today!"
* An understatement of the time commitment necessary for the study

## **Conflict of Interest**

A conflict of interest in research and scholarship occurs whenever you have competing interests that may impact your judgments and decisions, personal bias, or investment in obtaining particular findings. You may also have a conflict of interest if you stand to benefit financially from your research. Conflicts of interest are often the result of dual roles, for example conducting research within your own workplace or with your own clients or employees. If unaddressed, conflicts of interest may lead to an increased risk of harm to research participants and can undermine the validity of your research findings.

**Managing Conflicts of Interest**

There are two strategies for addressing conflicts of interest in research:

* Eliminate the conflict of interest. Whenever possible, the best course of action is to eliminate the conflict of interest. For instance, conducting research in your own workplace creates a conflict of interest. The most effective way to handle such a conflict is to eliminate it by conducting research at a site where you do not have an affiliation.
* Reduce & manage the conflict of interest. When you cannot completely eliminate the conflict of interest, you should take appropriate measures to reduce and manage it. For instance, if you do plan to conduct research at your own workplace, recruit participants from a department in which you have no relationship or interactions with the employees. Conflict management plans may include disclosure of the potential conflict to participants through the informed consent process, changes in the recruitment or sampling process, review of data or secondary data analysis by a qualified independent researcher.
* Whether a strategy is appropriate depends on the nature of the conflict and the risks it presents. The greater the level of risk, the more important it is to eliminate potential conflicts of interest.

## **Data Security & Destruction**

Research participants share private information with the expectation that it will not be disclosed except as described in the informed consent process. If you collect private information from human participants, you must ensure that data is managed transported, stored, and destroyed appropriately and that identifiers, if collected, are protected.

**Data Requiring Protection**

Researchers often inform participants that no identifying information will be collected or that identifiers will be stored separately from other forms of collected data. It is important, in this case, to consider what constitutes identifiable data. Two major categories of identifiers are associated with human data: Protected Health Information (PHI) and Personal Identifying Information (PII). In addition, there is a set of "Sensitive Data" for which access or modification is limited by law.

An individual's first name or first initial and last name in combination with any of the following:

* Date of Birth
* Social Security Number
* Driver's License Number or California ID card number
* Financial account information such as a credit card number
* Medical Information

**Protecting Participant Confidentiality**

Best practices for protecting data vary depending on the sensitivity of the data. Data that is more sensitive requires a greater degree of protection. The following are recommended as best practices for data security:

* Collect only the minimum identifiable information needed. Describe exactly what personally identifiable data elements will be collected. If you engage in studies involving very small targeted populations, you must be cautious, as participants are sometimes identifiable even if no truly identifiable information is collected.
* Remove/destroy identifiers as soon as they are no longer needed. If identifiers must be retained because of the specific needs of the research study, researchers should provide a justification.
* Encrypt electronic data during storage and transport.
* Remove identifiers from data files and encrypt them if stored electronically.
* Store identifiers in a physically separate and secure location from the data files and the key to the code.
* Don't store identifiers on laptops, PDA's flash drives or other portable devices. If necessary to use portable devices for the initial collection of identifiers, data files should be encrypted and identifiers moved to a secure system as soon as possible. Additionally, the portable device should be locked in a secure location when it is not in use. The Office for Human Research Protection (OHRP) explains that the most frequently reported research violation involves a breach of confidentiality when a portable device is stolen.
* House data on a server managed by experienced system administrators, when practical.
* Limit physical and electronic access to identifiers to authorized research personnel.
* Encrypt identifiers that are transmitted over public networks.
* Report security breaches immediately, to the IRB.

**Data Encryption**

Encryption is the conversion of clear text data, through an algorithm, to an unreadable format. Decryption is the process of converting encrypted data back into a readable format, using the same algorithm. Sensitive data transported on a laptop, USB drive, CD, DVD or over the network should be encrypted. If the data is kept in a physically secure location, and not transported, sensitive data may not require encryption. Encryption is generally not necessary if the data is not sensitive.

**Destruction of Data**

Data should be permanently and irreversibly destroyed or "sanitized" after the required 7-year period. A device that has been sanitized has no usable residual data. Physical destruction is considered the most secure method of destroying data. Other means of destroying data include reformatting the media or using special software to scrub the media. The National Institutes of Standards and Technology has issued guidance on data sanitation.

## **Data Collection & Compliance**

Attention to ethical concerns and the protection of research participants does not end with the Institutional Review Board (IRB) approval. As you collect and analyze your data, you must follow your IRB-approved protocol. Failure to do so is considered non-compliance and can result in required remediation or sanction, which could include revocation of IRB approval or an inability to use the data you've collected. Review important considerations for protecting your participants and ensuring compliance.

**Study Modifications**

While conducting the study, you may need to make revisions to your recruitment plan, research site, study procedures, or data management plan. Such changes must be reviewed and approved before implementation.

## **Assistance with Methodological Approaches**

The PMI Great Lakes Chapter will, upon request, endeavor to provide guidance and identify potential mentors that may provide assistance to the researcher or research team in developing an appropriate approach for conducting the study. In addition, assistance may be provided for the instrument development if a valid and reliable instrument does not exist. Assistance may also be provided for the data collection and analysis components/processes that align with the study topic and assure scientific validity.

Contact Dr. W. Don Gottwald or Dr. William Moylan for more information.

### Appendix A

##### **INFORMED CONSENT FORM**

**Study Title:**

**Researcher:**

**Email Address and Telephone Number:**

Add additional information if more than one researcher will be involved in the study.

You are invited to be part of a research study. The researcher is associated with {insert name of the institution/professional association/etc.} The information in this form is provided to help you decide if you want to participate. The form describes what you will do during the study and the risks and benefits of the study.

If you have any questions or do not understand something in this form, you should ask the researcher. Do not sign this form unless the researcher has answered your questions and you decide that you want to be part of this study.

**WHAT IS THIS STUDY ABOUT?**

The researcher wants to learn about [**RESEARCH TOPIC SUMMARY HERE**].

The researcher also wants to know how people [**INSERT BRIEF DESCRIPTION HERE**].

**Why am i being asked to be in the study?**

You are invited to be in the study because you are:

* **[INSERT INCLUSION CRITERIA]**
* **[INSERT INCLUSION CRITERIA]**

All participants will be between [**INSERT AGE RANGE HERE**].

If you do not meet the description above, you are not able to be in the study.

**How many People WILL BE IN THIS STUDY?**

About [**INSERT NUMBER OF PARTICIPANTS**] participants will be in this study.

**Who is paying for this study?**

The researcher is not receiving funds to conduct this study.

OR

The researcher is employed at [**INSERT NAME OF RESEARCH SITE**] but is not receiving funds to conduct this study. The researcher will not be paid for conducting the study. [**Use this space to disclose other potential conflicts of interest**]

**WILL IT COST ANYTHING TO BE IN THIS STUDY?**

You do not have to pay to be in the study.

**How long will I be in the study?**

If you decide to be in this study, your participation will last about **[INSERT NUMBER HERE]** hours. You will have to come to [**INSERT LOCATION OF STUDY ACTIVITIES**] [**NUMBER OF TIMES**] time(s) during the study.

**WHAT WILL HAPPEN DURING THIS STUDY?**

If you decide to be in this study and if you sign this form, you will do the following things:

**[SELECT ONE OR MORE OF THE FOLLOWING ACTIVITIES. OMIT ACTIVITIES WHICH WILL NOT BE PART OF THE STUDY]**

* give personal information about yourself, such as **[INSERT STUDY INFORMATION HERE]**.
* answer questions during an interview about **[INSERT STUDY INFORMATION HERE].**
* answer questions during a focus group about **[INSERT STUDY INFORMATION HERE].**
* complete a survey about **[INSERT STUDY INFORMATION HERE].**
* allow a researcher to observe you while you **[DESCRIBE ACTIVITY HERE].**
* allow a researcher to look at your records **[DESCRIBE RECORDS]**.

While you are in the study, you will be expected to:

* Follow the instructions you are given.
* Tell the researcher if you want to stop being in the study at any time.

**WILL I BE RECORDED?**

The researcher will audiotape your [**describe what will be recorded – i.e. interview, focus group, XXX activity**]. The researcher will use the audiotape in order to [**INSERT DESCRIPTION HERE**]

The researcher will only use the recordings of you for the purposes you read about in this form. They will not use the recordings for any other reasons without your permission unless you sign another consent form. The recordings will be kept for seven years and they will be kept confidential. The recordings will be destroyed after seven years.

**WILL BEING IN THIS STUDY HELP ME?**

Being in this study will not help you. Information from this study might help researchers help others in the future.

**ARE THERE RISKS TO ME IF I AM IN THIS STUDY?**

No study is completely risk-free. However, we don’t anticipate that you will be harmed or distressed during this study. You may stop being in the study at any time if you become uncomfortable.

OR:

As part of the study, you may [**describe risks, including the likelihood and magnitude of risk. Disclose all risks (social, financial, psychological, or possible physical risks) and they must be told under what conditions their participation in the study can be terminated by the researcher**.]

**WILL I GET PAID?**

If you participate, you will be paid [**ENTER AMOUNT HERE**]

 OR:

If you participate, you will receive a [**ENTER AMOUNT HERE**] gift card to [**ENTER NAME** **HERE**]

OR:

You will not receive anything for being in the study.

**DO I HAVE TO BE IN THIS STUDY?**

Your participation in this study is voluntary. You can decide not to be in the study and you can change your mind about being in the study at any time. There will be no penalty to you. If you want to stop being in the study, tell the researcher.

The researcher can remove you from the study at any time. This could happen if:

* The researcher believes it is best for you to stop being in the study.
* You do not follow directions about the study.
* You no longer meet the inclusion criteria to participate.

**WHO WILL USE AND SHARE INFORMATION ABOUT MY BEING IN THIS STUDY?**

Any information you provide in this study that could identify you such as your name, age, or other personal information will be kept confidential. [**EXPLAIN HERE HOW INFORMATION WILL BE KEPT CONFIDENTIAL**]. In any written reports or publications, no one will be able to identify you.

The researcher will keep the information you provide in a [**EXPLAIN WHERE THE RESEARCH DOCUMENTS WILL BE STORED]** in [**LOCATION**] and only the researcher(s) will have access to your study data.

[**IF TAPE RECORDINGS ARE MADE, EXPLAIN WHO WILL HAVE ACCESS TO THEM**]

Even if you leave the study early, the researcher may still be able to use your data. **[DESCRIBE UNDER WHICH CIRCUMSTANCES THEIR DATA COULD STILL BE USED]**

**Limits of Privacy (Confidentiality)**

 Generally speaking, the researcher can assure you that she/he will keep everything you tell him/her or do for the study private. Yet there are times where the researcher cannot keep things private (confidential).  The researcher cannot keep things private (confidential) when:

* The researcher finds out that a child or vulnerable adult has been abused
* The researcher finds out that a person plans to hurt him or herself, such as commit suicide,
* The researcher finds out that a person plans to hurt someone else,

 There are laws that require many professionals to take action if they think a person is at risk for self-harm or are self-harming, harming another or if a child or adult is being abused. In addition, there are guidelines that researchers must follow to make sure all people are treated with respect and kept safe.  In most states, there is a government agency that must be told if someone is being abused or plans to self-harm or harm another person.  Please ask any questions you may have about this issue before agreeing to be in the study. It is important that you do not feel betrayed if it turns out that the researcher cannot keep some things private.

**WHO CAN I TALK TO ABOUT THIS STUDY?**

You can ask questions about the study at any time. You can call the researcher if you have any concerns or complaints. You should call the researcher at the phone number listed on page 1 of this form if you have questions about the study procedures, study costs (if any), study payment (if any), or if you get hurt or sick during the study.

**DO YOU WANT TO BE IN THIS STUDY?**

I have read this form, and I have been able to ask questions about this study. The researcher has talked with me about this study. The researcher has answered all my questions. I voluntarily agree to be in this study. I agree to allow the use and sharing of my study-related records as described above.

By signing this form, I have not given up any of my legal rights as a research participant. I will get a signed copy of this consent form for my records.

Printed Name of Participant

Signature of Participant Date

I attest that the participant named above had enough time to consider this information, had an opportunity to ask questions, and voluntarily agreed to be in this study.

Printed Name of Researcher

Signature of Researcher Date

IMPORTANT – ALL researchers must sign this form

**DO YOU WISH TO BE AUDIOTAPED IN THIS STUDY?**

I voluntarily agree to let the researcher audiotapeme for this study. I agree to allow the use of my recordings as described in this form.

Printed Name of Participant

Signature of Participant Date

NOTE: Before submitting this form to potential participants, make sure that ALL sections are appropriately worded and relevant to this study. Remove any content that is not relevant or needed.

### Appendix B

## **Project Management Journal Guidelines [[2]](#footnote-2)**

Papers published in *Project Management Journal®* must relate to research and provide new contributions to project management theory and/or project management practices. Each paper should contain clear research questions, which the author should be able to state in one paragraph. Authors are expected to describe the knowledge and foundations underlying their research approach, and theoretical concepts that give meaning to data or to proposed decision support methods, and to demonstrate how they are relevant to organizations in the realm of project management. Papers that speculate beyond current thinking are more desirable than papers that use tried-and-true methods to study routine problems, or papers motivated strictly by data collection and analysis.

Authors should strive to be original, insightful, and theoretically bold; demonstration of a significant value-added advance to the understanding of an issue or topic is crucial to acceptance for publication. Multiple-study papers that feature diverse methodological approaches may be more likely to make such contributions.

Authors should make contributions of specialized research to project, program, and portfolio management theory and to the theory of the project-oriented organization or project network. They should define any specialized terms and analytic techniques used. Papers should be well-argued and well written, avoiding jargon at all times. *Project Management Journal®* does not prefer subjects of study, as long as they are in the project, program, or portfolio management field, or in the field of the project-oriented organization or project network, nor do we attach a greater significance to one methodological style than another does.

## **Links to Additional Information that might be helpful:**

<https://www.pmi.org/learning/library/supporting-project-management-research-update-5298>

<https://www.pmi.org/learning/library/knowledge-generation-sharing-5302>

<https://www.pmi.org/learning/academic-research>

<https://www.pmi.org/learning/academic-research/published>

<https://www.pmi.org/learning/academic-research/sponsored>

### Appendix C

Here are some links that will provide additional information related to federal regulations and guidelines that researchers need to be familiar with.

## 45 CFR 46

**Code of Federal Regulations**
TITLE 45 PUBLIC WELFARE DEPARTMENT OF HEALTH AND HUMAN SERVICES
**PART 46**
PROTECTION OF HUMAN SUBJECTS

<https://www.hhs.gov/ohrp>

<https://www.hhs.gov/ohrp/regulations-and-policy/regulations/45-cfr-46/index.html#subparta>

Statutes

<https://www.hhs.gov/ohrp/regulations-and-policy/statutes/index.html>

The Belmont Report

<https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html>

Regulations

<https://www.hhs.gov/ohrp/regulations-and-policy/regulations/index.html>

Guidance

<https://www.hhs.gov/ohrp/regulations-and-policy/guidance/index.html>

Human Subject Regulations Decision Charts

<https://www.hhs.gov/ohrp/regulations-and-policy/decision-charts/index.html>

Regulations & Policy Archived Materials

<https://www.hhs.gov/ohrp/regulations-and-policy/archived-materials/index.html>

1. <https://www.pmi.org/learning/library/project-management-research-challenge-opportunity-5565>

*Shenhar, A. & Dvir, D. (2007). Project management research—the challenge and opportunity: a conceptual framework and guidelines for practice. Project Management Journal, 38(2), 93–99.* [↑](#footnote-ref-1)
2. <https://www.pmi.org/learning/publications/project-management-journal/guidelines> [↑](#footnote-ref-2)