IPMA® international project management association

PUBLICATIONS

Research Evaluation Baseline

Version 1.0

IPMA Research Evaluation Baseline (IPMA REB)

Foreword

We are living in a special time when many changes affect our lives. Not all these changes are unexpected. But the impact is huge, and these changes have an enormous impact on our society and quality of life. They also have an impact on our profession of project management. Not only in the type of projects we are presented with, but also in the way we execute these projects. This calls for new leadership in how to lead projects and how we can ensure we have greater success in our projects.

We also need the scientific basis to guide our leadership, decisions and success, especially now, in these challenging circumstances with the complexity of projects, programs and portfolio management that is increasing enormously.

The conditions under which we can do our work now and, in the future, require thorough research in project management. It ensures that our profession grows in maturity and closes the gap between knowledge, research and practice. The challenges in the field of sustainability, bio-industry, climate, artificial intelligence are enormous and require research, studies and craftsmanship.

The IPMA Research Evaluation Baseline helps the various users in the field of Project, Portfolio and Program Management to guide the possibilities and results in research and is a systematic and transparent basis for the IPMA Research Awards, Best Paper Prizes and the IPMA Research conferences.

The Research Evaluation Model (REM) is the main component of the IPMA REB baseline. The REM will identify the best research in project management, to provide researchers with information how to lead research projects, practical approaches, and findings for their further research projects. The REM will also support IPMA to develop its standards such as the IPMA OCB, IPMA PEB and IPMA ICB CCT and to support the IPMA Member Associations and other stakeholders with valuable services.

This Research Evaluation Baseline has been written by a fantastic international team of experts and I would like to thank Constanta-Nicoleta Bodea, Yan Xue, Maria Koutintcheva, Maria Iuliana Dascălu, Qing Yang and Ronggui Ding, and all the experts for their great work together with all contributors such as the IPMA Research Group members and IPMA Research Awards judges and sounding people etc, who have reviewed and enriched this baseline with their knowledge, experience and value feedback.

Project success is our choice.

Joop Schefferlie
IPMA President

Executive summary

IPMA is contributing to the advancement of knowledge, theory and practice in project, programme and portfolio PPP management domains. By running annual Research Awards, IPMA evaluates and recognizes the research conducted at the highest global standards and promotes the theoretical and/or methodological innovation for supporting PPP management moving forward.

The IPMA Research Evaluation Baseline (REB) is one of the IPMA knowledge products which supports IPMA mission and strategy. Its main objectives are:

- to provide state-of-the-art and innovative research problems, approaches and findings for researchers' and organizations' further research,
- to support research managers who proactively promote the project management discipline,
- to support organizations and other user groups with leading theoretical foundations to develop their PPP knowledge, theories, methodologies, and systems,
- to reward and motivate the excellent researchers annually by recognizing their research achievements and contributions.

The main purpose of the IPMA Research Evaluation Model (REM) is to guide different user groups to evaluate the capability and achievements of their research conducted in the domain of PPP management.

The IPMA REM consists of four areas. Three of them are for evaluating the key components of research as Research Problem, Research Process and Research Result. The fourth area is Research People for evaluating the researchers (see Figure 0-1):

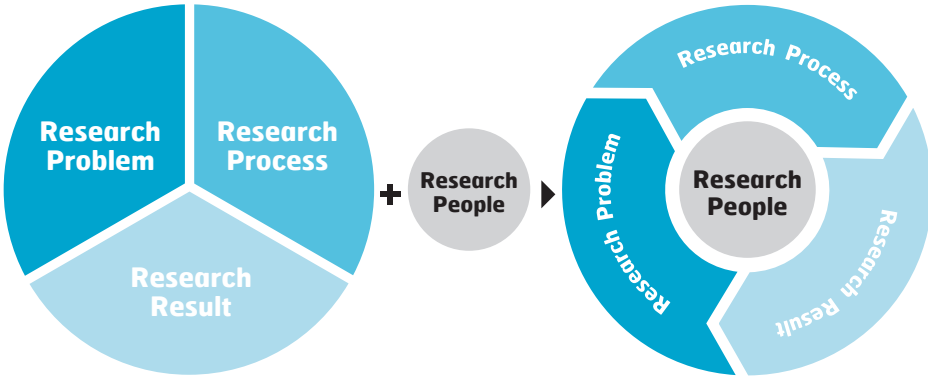

Figure 0-1: The structure of IPMA REM

- **Research Problem** – A well-defined research problem leads to clear research objectives and enables efficient communication with different stakeholders. Excellent research addresses an innovative and valuable research problem.

- **Research Process** – The appropriate research process is well designed and performed according to applied research approaches selected for solving the research problem. Excellent research is only conducted when using systematic, transparent, innovative, and effective research processes.

- **Research Result** – Research result is new knowledge or is relating to existing one (underpins or refutes previous accepted knowledge), theories and methodologies conceived, discovered, developed, or generated during the research. Excellent research leads to innovative and impactful research results when bringing clear research objectives, which are with evidence to prove their theoretical and/or practical value.

- **Research People** – Research People area describes the characteristics of excellent researchers. The characteristics are different for senior (/s) and young (/y) researchers. The IPMA Research Evaluation Baseline (REB) is based on the IPMA REM and designed to provide guidelines for evaluating research. It covers Introduction to the Research Evaluation Model, Evaluation of research, together with the application guidelines for the applicants and the evaluation processes etc.

The main user groups of IPMA REB are Funding agencies, Research performing organizations, Research customers, Researchers (scientists), Research evaluators, Research managers, and other related stakeholders.

The REB focuses on project, programme and/or portfolio management related research, complementing other IPMA standards:

- IPMA Individual Competence Baseline (ICB) – designed to assess individual competences of project / programme / portfolio leaders,
- IPMA Organizational Competence Baseline (OCB) – designed to assess competences of organisations that run projects,
- IPMA Project Excellent Baseline (PEB) – designed to assess excellence of projects, programme and/or portfolio management,
- IPMA Reference Guide ICB4 in an Agile World - designed to assess the major success factor of becoming agile, competent individuals,

- IPMA Individual Competence Baseline for Coaches, Consultants and Trainers (ICB4CCT) – designed to assess the competence for coaches, trainers, and consultants in the field of projects, programs and portfolios.

Used together, these standards provide a comprehensive way to assess/evaluate a project, a programme and/or portfolio from both academic and practical dimensions.

The IPMA REB can be used by these organizations and/or individuals for developing their internal research evaluation system, such as research funding agencies, research performing organizations, research customers, researchers (scientists), research evaluators, research managers, students/supervisors, and so on.

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Abbreviations and acronyms

Abbreviation or acronym	Explanation
IPMA	International Project Management Association
REB	Research Evaluation Baseline
REM	Research Evaluation Model
PPP	Project, Programme, and Portfolio
ICB	Individual Competence Baseline
PEB	Project Excellence Baseline
OCB	Organizational Competence Baseline
ICB4CCT	Individual Competence Baseline for Coach, Consultant and Trainers

Terms and definitions in the IPMA REB

Term	Definition
Research	Academic or scientific investigation and study of materials nd sources to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support hypotheses, or develop new theories.
Research project	A temporary academic or scientific endeavor to solve a research problem.
Research problem	The statement about an area of concern, a condition to be improved, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need. It gives the research a clear purpose and justification and a particular context that defines what is to be investigated.
Research process	The steps, ways and strategies used by researchers from research problem investigation to research objectives realization. A typical research process comprises the following stages: selecting the research area, formulating research objectives or developing hypotheses, conducting the literature review, selecting methods of data collection, collecting the primary data, data analysis, research conclusions.
Research result	Achievement of research objectives, such as knowledge set, procedures, methodologies, techniques, materials, and works of authorship, whether patentable or copyrightable, which are conceived, discovered, developed or generated during the research.
Researcher	A person who carries out academic or scientific research.
Research evaluation	A systematic determination of a research's merit, worth and significance, using criteria governed by a set of standards.
Research evaluator	A person with research and assessment-related competences who evaluates research by using a specific research evaluation baseline.
Excellence	Demonstrated performance which is exceptionally good and which exceeds ordinary contemporary standards.

1. Introduction

1. Introduction

The importance of research in the advancement of societies is well understood nowadays. Research allows humanity to go further unprecedented complexity and changes. The professional bodies consider research as a priority for moving the profession forward.

As an international network that thinks globally and acts locally, IPMA is serving project, program, and portfolio (PPP) management professional needs and it leads to the evolution of the profession and the maturity of its practice. IPMA is contributing to the advancement of knowledge, theory, and practice in PPP management domains, by:

- Identifying and promoting the research conducted at the highest global standards for achieving knowledgeably, theoretically and/or methodologically innovative benefits for PPP management profession by running annual IPMA Research Awards.
- Funding international research (projects) and studies/surveys in PPP management profession.
- Conducting research projects and studies in PPP management profession. IPMA is involved in knowledge creation that sustains the ongoing development of the project management profession with a state-of-the-art theoretical foundation.

IPMA leverages excellence in rapidly changing environments of research performing organization. IPMA also develops long-standing connections with different industries, in the private and public business for applying the project work transformation towards a high performance. IPMA Research Evaluation Baseline (IPMA REB) has been primarily developed based on the previous research evaluation experience which is considered as an advantage for the IPMA Research Awards. The IPMA Research Awards started in 2006 and since then they allow IPMA to honor the best researchers in the field of PPP management worldwide. The applied research evaluation criteria have been:

1. Achieved research results (including research papers and other theoretical and/or methodological knowledge products).
2. Originality.
3. Theoretical foundation.
4. Transparency, professionalism in research processes and methodologies.
5. Practical relevance (innovation potential including possible contributions to IPMA products, such as ICB, PEB and/or OCB, etc.).
6. Recognition and/or influential impact on further research on project management.

The actual IPMA REB intends to add more structure, consistency and transparency to the research evaluation process conducted by IPMA. To achieve this, an IPMA Research Evaluation Model (IPMA REM) has been defined.

The body of IPMA REB (chapter 2–5) describes the context of defining the IPMA REM and the research evaluation process.

Chapter 2 describes the purpose of the IPMA REB and its intended users, as well as the ways it can be used.

Chapter 3 describes and explains the IPMA REM: the principles, the model structure (research problem, processes, results, and researcher(s)/people), the connections between these areas and the value delivery using IPMA REM (performance, reliability, effectiveness, efficiency and continuous improvement).

Chapter 4 explains the criteria associated with each IPMA REM area.

Chapter 5 specifies the scope of the research evaluation as covered by IPMA REB, the research evaluator role and the applied scoring approach.

Annex presents the research evaluation process in IPMA Global Research Awards.

2. Purposes and intended users of IPMA Research Evaluation Baseline (IPMA REB)

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2.1. Purpose of IPMA REB

The main purpose of the IPMA REB is to guide different user groups to evaluate the ability and achievements of the research conducted in the domain of PPP management.

The core component of IPMA REB is the IPMA REM. The IPMA REM aims to identify the best research in the project management research world, to provide other researchers with information about leading and valuable research problems, practical and effective research approaches and innovative research findings for their further research. The REM assists IPMA to develop or improve its products such as ICB, OCB, PEB, ICB4CCT, etc. and to support IPMA to provide more valuable service for the IPMA Member Associations (MAs) and other stakeholders. The excellent research competence strongly generates the power for IPMA sustainability to be a leader in the project management world. Apart from IPMA REM, the IPMA REB includes the scoring approach and a defined evaluation process. IPMA REB represents a systematic and transparent basis for running the IPMA Research Awards and Best Paper Prizes at the IPMA Annual Research Conference and for selecting the research projects to be further financed. However, IPMA REB is not only an internal standard for research, but also intended to support the needs of other target groups as well.

2.2. Main user groups of IPMA REB

The main intended user groups of IPMA REB are:

Research funding agencies

The research funding agencies use the research evaluation models, procedures and tools mainly for deciding the allocation of financial resources to excellent researcher teams that can produce excellent results with a high impact of science on the society. The IPMA REB can support this by identifying the research quality and by assuring transparency in the communication with the agencies' stakeholders.

Research performing organizations

IPMA REB allows organizations to identify more efficient and robust approaches for conducting research, to become more accountable by spending public money and to demonstrate the scientific, economic, and social impact of their research. The IPMA REB can be used by these organizations for developing their internal research evaluation system. This system allows the Research performing organizations to 14 better position themselves on the global research landscape, to achieve harmonization needed for performing jointly research activities at an international level.

Research customers

Organizations need to keep their competitive advantages in the project economy. They are customers of IPMA REB, which can support their investment decisions in theoretical and/or practical project management related research, to provide value continuously for their project management strategy.

Researchers (scientists)

Researchers are not only the object of evaluation but also a beneficiary of the evaluation results. By experiencing the evaluation, as part of their working environment, they learn to act according to the rules of the excellent research.

Research evaluators

The funding organizations often commission professional evaluation services from experts with long experience in evaluation methodologies, and in the research activities. By using the IPMA REB, research evaluators can perform more structured evaluation services. The IPMA REB can be also perceived as a tool for developing the evaluation capacities of individuals involved in the research.

Research managers

By using the IPMA REB, the research managers have a powerful tool for implementing an internal research evaluation. With this system in place, the research managers can define a career path for their researchers, by following the requirements in the People area of the IPMA REB.

Students/supervisors

The IPMA REB is also referrable for the students, especially Master students and Pd.D. students in project management research fields. They can refer to the criteria and evaluation processes in preparing for their research proposals, degree dissertations or paper publications. The supervisors can use the IPMA REB to encourage their students to apply for the IPMA Research Awards, which will be much helpful for their research career development.

3. Introduction to the IPMA Research Evaluation Model (IPMA REM)

3. Introduction to the IPMA Research Evaluation Model (IPMA REM)

3.1 Principles behind the model design

The main purpose of the REM is to guide researchers to evaluate the ability and achievements of their research to achieve excellence. The REM focuses on research, which is to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support hypotheses, or develop new theories that are related to project management.

Research may also be an expansion of past work in the project management field or can be used to develop further knowledge on a specific topic. The research results can be academic papers, reports and other documentation to represent some discovery, or the research methods and approaches for the advancement of project management knowledge.

The IPMA REM aims to select the best research in the project management research world, to provide other researchers with leading and valuable research problems, practical and effective research approaches and innovative research findings for their further research. The REM assists IPMA to develop or improve its products such as ICB, OCB, and PEB, etc. and to support IPMA to provide more valuable services for IPMA MAs and other stakeholders. The state-of-the-art research generates strong capabilities for IPMA sustainability to be a leader in the project management world.

The research can be pure academic research (fundamental research) which is aimed at increasing theoretical project management knowledge or applied research in which effort is aimed at using pure academic research for solving practical project problems or developing new processes, products, or techniques for managing projects. The IPMA REM places emphasis on placing greater interest in or excelling at scholarly pursuits and activities.

The IPMA REM is structured on the key components of research. However, the research can be executed in a well-structured research project with a clearly defined scope, budget, team, schedule, etc. It can also be a semi-structured research activity which with some unclear components of a research project such as kick-off time, budget and milestones but is executed following fundamental principles of the project management. This means that there is an assumption in the design of the model that it might not be feasible or reasonable to meet all its criteria in full. The IPMA REM is designed to drive continuous improvement efforts regardless of the starting conditions of the research and the outcome achieved.

3.2 Structure of the model

The structure of the REM enables straightforward use and easy reporting of the whole research processes from the research problem definition to the research results and enough flexibility for different types of research.

There are two tiers of the model:

- **Areas** – This tier shows the main components of a research (research problem, research process and research resuls) and the researcher(s) (people). The first three areas can also be considered as the essential phases for systematic research, and the fourth one the researcher(s) who represent the excellent leadership and management following the fundamental principles of the project management to initiate the research, to execute the research process and to present the research results.
- **Criteria** – This tier is primarily intended to detailed principles and standards about the levels of excellence on research that must be delivered in a structured way. It covers the key factors that build up the research areas and enables measurement for development and benchmarking purposes.

3.3 Interactions between the model areas

All four areas of the IPMA REM strongly interact with each other, none of them should be taken in isolation and each of these areas should be actively used to grow excellence in the remaining three areas. The interaction of the four areas in the IPMA REM is shown in the figure below (See Figure 3-1).

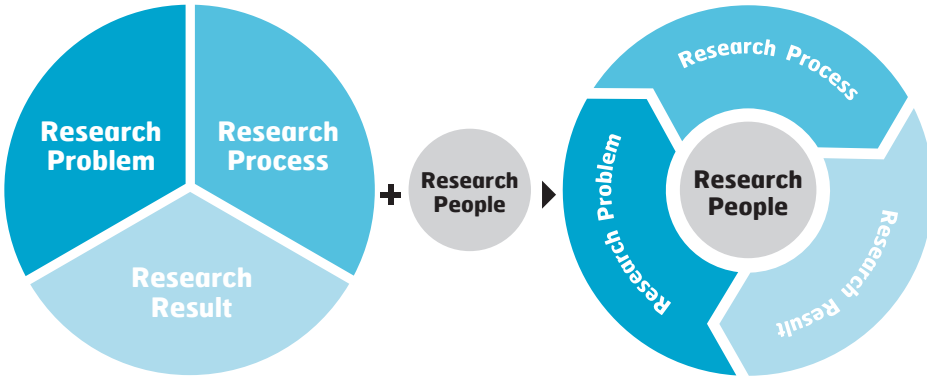

Figure 3-1: Interactions between the model areas

Excellent research is generated from discovering and defining one or some related research problems, which must be concluded as valuable and innovative through systematic research approaches following reasonable and transparent rules and processes. Research is based on logical reasoning and involves both inductive and deductive research approaches and the rules and processes in which there are an integral part of the processes that set the research problems and objectives. Research results will verify the solutions for research problems and will create a path for generating new research problems/questions. The research processes generate some conclusions, and the conclusions will help create more opportunities for further research.

The Research Problem area is the foundation of excellent research. Research Process area represents the necessary steps to reinforce excellent research through a logical, efficient and effective way, and they serve as a basis for securing the outcome of innovation. The research can only be excellent if it leads to outstanding and Research People 17 innovative research results. Any isolated area of the research problem, research process or result will not be able to prove that the research is excellent.

From finding and defining research problem to drawing research result, researcher(s)' knowledge, experience, and inspiration build a solid foundation. In team-based research, the lead researcher's leadership is extremely important. The insights, experiences and professional quality are important in investigating research problems, and research process etc. The lead researchers act as role models for the research team with respect to values, morals, focus on research objectives, commitment and cooperation, and create a high-trust, high-inspiration research environment. Researchers should demonstrate ethical practices and a code of conduct while making observations or drawing conclusions in the whole research process.

The four areas in the IPMA REM can be used to understand the overall philosophy of research and to make general conclusions on how excellent the research would perform. The research with balanced profession execution of the four criteria areas will be taken as excellent research. The four areas in IPMA REM play a role of balanced score card model for evaluating research, weakness in anyone of these areas will mean in short of proved value in research. Typical cases in research evaluation based on IPMA REM are shown in Figure 3-2. Case (a) is the research with weak Research Process, which means the Research Result is not proved by qualified data or rigorous research approach. Case (b) is the research with weak Research Problem definition, which means the value of the research is not proved enough and the value of Research Result is not elaborated enough correspondingly. Case (c) is the research without an excellent research team or team leader, which means the sustainability in such a research field is unreliable or there might be some ethics risk in the research.

Case (d) is the research with a good balance of the four areas in IPMA REM, and combination of a balanced combination of the four areas ensures high level of research motivation and innovation, and ability to deliver great research results consistently.

Figure 3-2: Typical cases in research evaluation based on IPMA REB

4. IPMA REM and the research evaluation criteria

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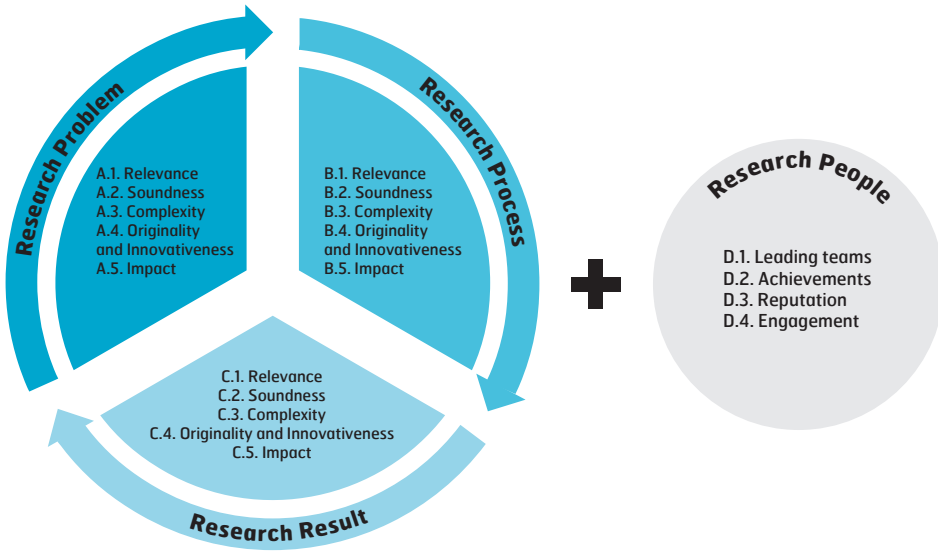


Figure 4-1: Evaluation criteria for the IPMA REM areas

A. Criteria for the area Research Problem

Excellent research addresses a relevant, sound, complex, original, innovative and influential research problem. A good statement of the research problem enables efficient communication with different stakeholders of the research.

(A1) Research Problem Relevance

A relevant research problem has associated a literature/data supported background which demonstrates a high interest of the researchers in addressing the problem. Stakeholders with interests in solving the problem should be identified and involved. In IPMA Global Research Awards, the research problems should be relevant for the advancement of the project, programme and portfolio management disciplines.

(A2) Research Problem Soundness

The soundness of the research problem means that the research scope is well defined, the theoretical foundation is clearly identified, and the research feasibility is proved.

(A3) Research Problem Complexity

The research problem complexity is defined by the significance and the degree of difficulty and interaction of the addressed issues. In this regard, the research problem can be a multi-discipline or single discipline which leads to a different degree of complexity. The research problem is considered as being complex when it leads to multiple conflicting or ambiguous research objectives, multiple level of mandate for change/adaptations, and/or multiple level of academic/practical acceptability of research objectives/outcome(s). The research problem complexity depends on the number of research stakeholders from different organizations as well.

(A4) Research Problem Originality and Innovativeness

The research problem is considered original and innovative when different perspectives can be attached. To characterize different research problem perspectives, a comparative analysis must be performed.

(A5) Research Problem Impact

The research problem impact is defined by taking into consideration the significance and the magnitude of theoretical and/or practical changes occurring due to successfully research problem solving. The impact of the research problem expresses its potential to move forward the theory and practice of the domain.

B. Criteria for the area Research Process

For solving the research problem, a research methodology is decided. The research methodology describes the research process that must be followed and research methods which will be applied. The research process is performed according to the applied research approaches selected for solving the research problem. The assessment of the effectiveness and efficiency of adopted research approaches is mandatory for assuring the research results accuracy, Excellent research is conducted using relevant, sound, innovative and influential research processes.

(B1) Research Process Relevance

The research methodology must be adequate and relevant to the research problem and to the corresponding research objectives and research questions.

The research process must lead to a complete investigation from the research problem to the research results. The research process must be comprehensively described.

(B2) Research Process Soundness

The research process is considered sound, if they are feasible in the context of the available research infrastructure and the standards and rules of good scientific practices are followed. Alternative investigation approaches must be explained and compared before selecting those to be applied. A well-defined research approach must be selected to address the research problem. Data collection and data analysis must be transparent. All research findings must be completely tested and validated. Excellent research processes are usually managed as research projects, programmes or portfolios.

(B3) Research Process Complexity

The complexity of research process depends on several factors such as: research multi-disciplinarity, non-standard and comprehensive research methodology, long-time period for conducting the research, sophisticated research methods and tools etc.

(B4) Research Process Originality and Innovativeness

Originality and innovativeness of the research process are present when: new approaches are applied for solving well-known problems, old approaches are undertaken for solving new problems, new approaches are adopted for addressing new problems or new approaches, or new data collection methods and new analysis and testing processes are developed. The methodological innovation should be carefully demonstrated by comparing the proposed methods, tools or processes with the existing ones.

(B5) Research Process Impact

Research approaches and methodologies are influential when they are adopted and followed by another research. The impact of the research process expresses their potential to move forward the research methodological approaches in the research domain.

C. Criteria for the area Research Result

The research result is proved conclusions and outputs, such as: knowledge, procedures, methodologies, techniques, materials, and works of authorship, whether patentable or copyrightable, which are conceived, discovered, developed or generated during the research. Excellent research leads to relevant, sound, innovative and influential research results.

(C1) Research Result Relevance

The achievement of the research result means that the research problem is solved, the research objectives are realized, valuable discussions and suggestions are carried out. The research results are relevant when contributions to the domain theory, the terminology, methods and tools are assured and/or new standards and practices are developed. Through result dissemination the visibility is assured, and the result relevance is confirmed.

(C2) Research Result Soundness

The research result is sound when the results are validated and evidence and/or suggestions are provided for the results discussion. The research project was carried out in the agreed budget and timeframe constraints. To get sound result, potential issues must be identified and properly treated, e.g., acknowledging with honesty the contributions of partners, competitors and predecessors.

(C3) Research Result Complexity

N/A

(C4) Research Result Originality and Innovativeness

The originality of the research results is assessed by taking into consideration the state-of-the-art and the actual and/or potential application of the research results, such as the development of new theories, research methods and/or new applications, testing new assumptions, parameters, and so on.

(C5) Research Result Impact

The research result impact means the recognition of the potential contributions to the further research in project, programme and portfolio management or to the development or the improvement of the IPMA products. These contributions can lead to new directions of thinking and new research practices. The impact is usually acknowledged by the Awards committees and customer/foundation organizations. To achieve this impact, relevant peer-

reviewed publications (journal or conference papers) or monographs as output of the research must be provided. When the findings are issued, researchers must completely and comprehensibly describe and discuss these findings together with the applied methods. The impact factors of the journals and papers themselves represent a good indication of the impact of the research results.

D. Criteria for the area Research

People The research is conducted by the researchers. The Research People area of IPMA REM includes the characteristics of the excellent researchers. Some of the characteristics are different for the senior researchers and for the young researchers. The area D in the IPMA REM is not applied for Graduate Research Awards.

(D1/s) Leading teams (Senior researcher)

In excellent research, the researcher is the leader of the research activities performed by the research team. The researcher needs to have scientific authority in the team, assured by the leader's visibility and prestige at the international level. The senior researchers must demonstrate project and programme management competences, considering that the research activities are often performed in research projects and programmes.

(D1/y) Leading teams (Young researcher)

N/A

(D2) Achievements (Senior and Young researcher)

Excellent research is conducted by researchers with significant achievements in the research discipline/field. The following are considered as examples of relevant achievements: publications, positions in academic organizations/ committees (conferences and journals) and positions in professional bodies, obtaining funds for different research projects.

(D3) Reputation (Senior and Young researcher)

Excellent research is conducted by researchers with a high reputation and impact in the research discipline/field. This reputation and impact are proved by the number of citations, Hirsch index, Research Awards and honored titles. Research also should be 23 conducted in an ethical manner, such as respect for intellectual property, respect for colleagues, social responsibility, human subjects' protections, etc.

(D4/s) Engagement (Senior researcher)

Excellent research is conducted by senior researchers engaged in professional development of project team members, in training/educating students, in promoting the research organizations to which the team members are affiliated. Senior researchers should prove public engagement, in society and culture and global citizenship. Also, the senior researchers should contribute to the increase the visibility of the research profession.

(D4/y) Engagement (Young researcher)

Excellent research is conducted by young researchers with contributions to the affiliation (s) and other stakeholders.

5. Introduction to the Project Excellence Model

5. Research Evaluation

5.1 Approaches to the research evaluation

Research evaluation is a thorough process that enable researchers and other stakeholders to understand how to achieve excellent and to identify and use their strengths and improvement potential.

The IPMA REM provides a framework that ensures proper planning of research evaluation activities, while taking into consideration all the key areas influencing research ability to succeed. The key benefits of using the model in this context are:

- Easy reporting on various levels.
- Inclusion of innovation as one of the key characteristics of research.
- Inherent link among research problems, research processes and research processes.
- People foremost principle as one of the key dimensions of research management.

When the IPMA REM is used for conducting an evaluation, it is recommended to supplement area Research Problems with the catalogues of the research (such as fundamental research, applied research), area Research Processes with the catalogues of methodology (such empirical research and normative research; deductive reasoning and inductive reasoning).

Whenever research results of an evaluation based on the IPMA REM are presented, it is recommended to highlight the connection of findings in the areas Research Problem and Research Processes with Research Results. This gives an important perspective on the theoretical rationality and rigorousness for the research.

The research evaluation includes not only evaluating the content based on the IPMA REM but also checking and verifying the evidence listed in the Award Application Report, such as the publishing list, etc.

IPMA rewards excellent research through the IPMA Global Research Awards, it supports research on PPP in achieving innovative academic or theoretical problems, approaches, tools and conclusions. The IPMA Global Research Awards motivate researchers to identify their strengths and optimize their use.

The intention of the IPMA Global Research Awards is to increase the recognition of research from different countries, different research organizations to motivate researchers to do and improve research and to compare themselves against international benchmarks or set new ones. By rewarding researchers that

prove their success in research, IPMA recognizes and acknowledges excellent and innovative research.

5.2 Evaluation during different research phases

All research initiatives will have phases, and the research lifecycle may differ in both the number of phases it has, and the detail within each of these phases. Evaluating research during its different phases leads to a better understanding of the research context and the way it sets out to realize its objectives. The evaluation can be used to help identify the most significant research problems, the effective research approaches at the early phases, and at later phases these can also be considered to see how the approaches lead to research results. It turns the IPMA REB into powerful tool to help researchers to achieve their objectives.

The research evaluation can be conducted during the early research phases or midway through the research. In this case, the focus will be on the areas Research Problem and Research Processes criteria. Research Results can't be fully evaluated at this stage. Nevertheless, an evaluation before the end of the research is beneficial and recommended, as it will give the researcher (team) feedback on the research while corrective actions are suitable to be taken and help them to align their approaches for the upcoming phases.

The research evaluation can be conduct in the late research phase. At this point in time, the evaluation will focus on Research Results criteria of the IPMA REM. The evaluation results will help the researchers to self-reflect on their own strengths and potential improvement.

In general, the IPMA REM is an evaluation then can be applied throughout the whole research phases and it also helps the researchers to self-reflect, and capture lessons learned for future research.

5.3 Research evaluator: role and competences

The research evaluators are the heart of the evaluation process. Their key responsibilities are to set up the process and to carry out an objective and fair evaluation based on the criteria in the IPMA REB. Characteristics of a research evaluator include:

- **Extensive research experience in PPP management research background**
  - Is an acting professor in the PPP management field.

  - Has experience in project management research and/or has published papers in international Journals.

- **Strong competences in people and perspective domains**
  - Is flexible and open to new approaches, methods, procedures, and tools.
  - Can understand the context of the project and its complexity.
  - Appreciates and understands cultural diversity.
  - Familiar with the IPMA REB. Evaluators must adopt the following ethical values and professional standards:

- **Ethical values**
  - Integrity – Be honest and have strong moral principles.
  - Responsibility – Take responsibility for their actions and honor their commitment towards the research stakeholders (internal and external ones).
  - Respect – Treat research equally, with respect and fairness.
  - Confidentiality – Do not divulge any information provided by researchers to any third parties.
  - Trust – Be committed to behaving ethically and professionally.
  - Without any interest conflict with the researchers.

- **Professional Standards**
  - Service and Excellence – Be committed as a proactive and dedicated partner to the researchers.
  - Transparency – Seek constructive, transparent, and open dialogue with researchers:
  - Commitment – Value the efforts of others that support the evaluation process and strive to create an environment that is designed to attract, develop and retain excellence.

5.4 Research evaluation process

The evaluation process can be conducted by at least two independent evaluators, who are without a conflict of interest with the researchers, to set an evaluation group. This helps ensure the results are objective and gives the opportunity to use evaluation as a knowledge-sharing exercise.

Before the evaluation, the evaluators should agree on such aspects of the evaluation as evaluation purpose, objectives, scope and process. The evaluators conduct the evaluation based on the research report and related document respectively, give scores to each criterion in the IPMA REM and write down

questions and prepare initial feedback for the researchers. After the individual evaluation, the evaluation group will research consensus on the final assessment. The evaluation results are then documented in a feedback report ad presented to the researchers and the interested parts. The report should cover the assessed IPMA REM criteria, with the evaluation information the evaluators found.

5.5 Scoring in the research evaluation

Whenever the IPMA REM is used for the research evaluation, a scoring system is recommended to evaluators against the model criteria. Table 5-1 to Table 5-3 show the weights of each area and criterion for the IPMA REM areas used for the evaluation of senior researchers and young researchers.

The weights in Table 5-1 to Table 5-4 are set for IPMA Global Research Awards evaluation. They can be adapted according to the evaluation specificities.

Table 5-1: Weight of Areas in the IPMA REM for Research Evaluation

Areas	Weights
A. Research problem	25%
B. Research process	25%
C. Research result	25%
D. Research People	25%

As stated in 3.3, excellent research must be balanced in all four areas in the IPMA REM. The weight set for each of the four areas has the same weight, i.e., one fourth of 100%. However, the weighs set for the criteria are different (See Table 5-2), the criterion Originality and Innovation is taken as the most important and encouraged factor for the research.

Table 5-2: Weights for the Criteria in Areas Problem, Process and Result

Areas	Relevance	Soundness	Complexity	Originality and innovation	Impact
A. Research problem	15%	15%	15%	40%	15%
B. Research process	20%	20%	20%	20%	20%
C. Research result	20%	20%	N/A	40%	20%

The senior researcher should provide evidence that they were engaged in the research and lead the team. They should have enough related achievements and influential reputation in the research field which can be considered as evidence to prove the value of the research. However, the young researchers are different from senior colleagues, their evaluation will be based on their own achievements and reputation, where achievements are very important. The weights allocated for the senior and young researchers are shown in Table 5-3.

Table 5-3: Weights for the Criteria in the Area Research People

Areas	Leading teams	Achievements	Reputation	Engagement
D. Research People (for senior researchers)	15%	15%	15%	40%
D. Research People (for young researchers)	20%	20%	20%	20%

For graduate researchers, the evaluation area D in the IPMA REM is not necessary. Table 5-4 will replace Table 5-2 to display the weights for the criteria in the IPMA REM for graduate researchers, and Table 5-3 is not adoptable to the graduate researchers.

Table 5-4: Weight of the Areas in IPMA REM for Graduate Research Evaluation

Areas	Weights
A. Research problem	30%
B. Research process	30%
C. Research result	40%

Annex A: Introduction to IPMA Global Research Awards

IPMA Global Research Awards were launched in 2007, and aim to promote excellent research to enhance project management. With these annual awards IPMA recognizes recent outstanding contributions to the development of the field and profession project management through professionally conducted research.

A1. IPMA Global Research Awards Categories

There are 4 categories in IPMA Global Research Awards:

- **IPMA Research Awards**, which are for the researchers who may come from disciplines other than project management but must contribute to the development of project, program and portfolio (PPP) management and the project-oriented companies or any element named in the IPMA ICB, IPMA PEB or IPMA OCB.
- **IPMA Young Research Awards**, which are for the researchers less than 35 years of age and can prove that they have been involved for less than 10 years in research.
- **IPMA Graduate Research Awards** are for the graduate students at both Master's, MBA's and Doctoral level.
- **IPMA Research Achievement Awards** are for the researchers with an outstanding lifetime contribution to project management research.

A2. The benefits of applying for the IPMA Global Research Awards

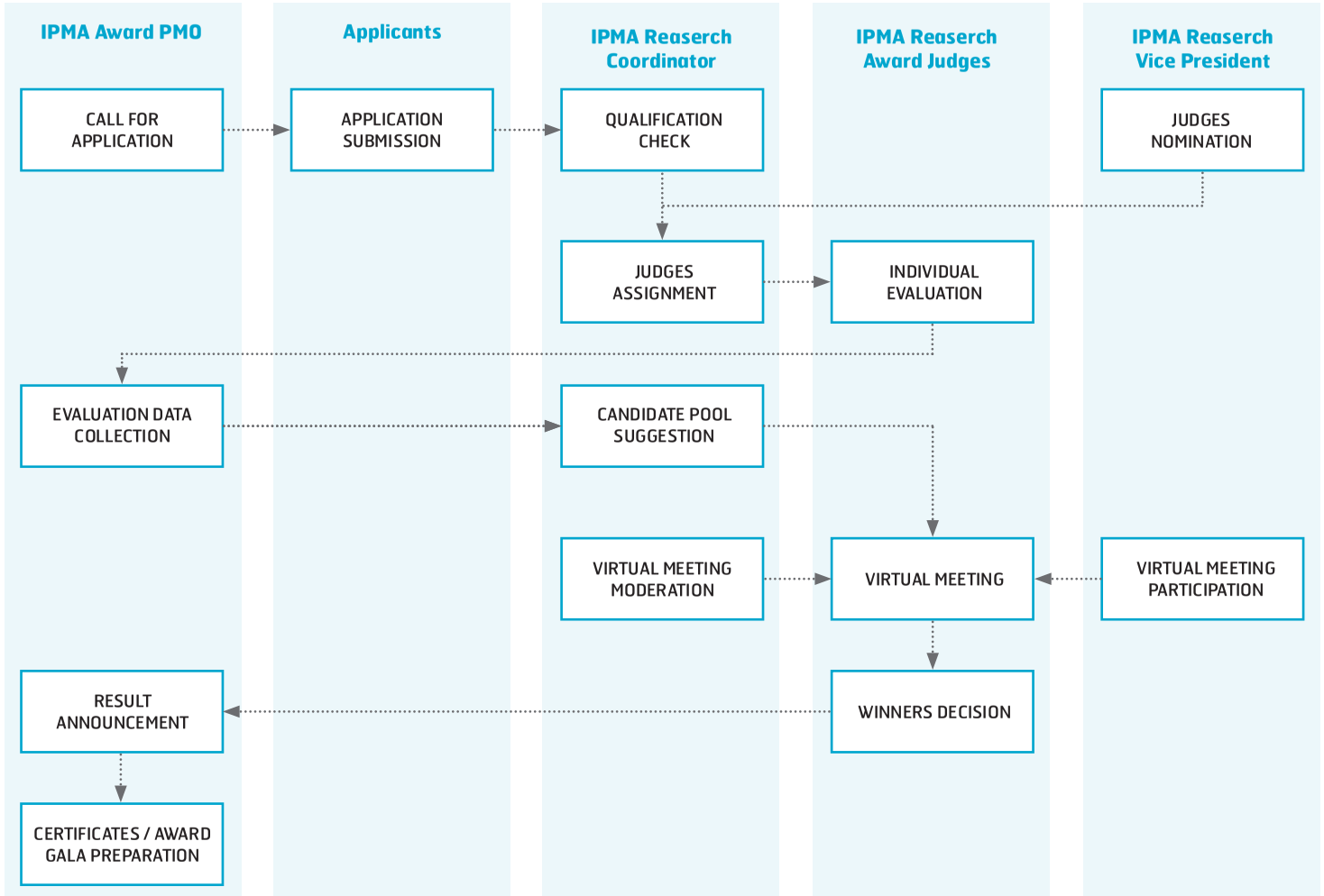
The applications will be evaluated by 3 IPMA research judges who have global experience and are influential researchers recognized globally. They selected from IPMA Research Group. The IPMA Global Research Awards winners will be recognized globally by being invited to participate in the IPMA research conference and give presentation to all the attendees.

The IPMA Global Research Awards winners and their research achievements will be promoted on IPMA media platforms, which will be much helpful for developing their research careers in project management research world.

A3. The Application and Evaluation Process for IPMA Research Awards and IPMA Young Research Awards

The application and evaluation processes for the IPMA Global Research Awards in categories IPMA Research Awards, IPMA Young Research Awards and IPMA Graduate Research Awards are illustrated in the figure below (see Figure A-1).

Figure A-1: The application and decision process in IPMA Global Research Awards



(1) Call for Application

The IPMA Awards Office announces the Call for the IPMA Global Research Awards including the IPMA Global Research Awards Submission Guideline and the template of the IPMA Global Research Award Application Forms (See Appendix). In the IPMA Global Research Award Submission Guideline, the following content is covered:

IPMA Global Research Awards Introduction

PART 1. IPMA Global Research Awards
1.1 Eligibility
1.2 Format and Content of the Submission

PART 2. IPMA Young Researcher Awards
2.1 Eligibility
2.2 Format and Content of the Submission

PART 3. IPMA Graduate Researcher Awards
3.1 Eligibility
3.2 Format and Content of the Submission

PART 4. General Conditions Relating to all Submissions
4.1 General Submission Requirements
4.2 The Submission Application Process
4.3 Submission Materials
4.4 Application Fee
4.5 Judging Process
4.6 Announcement of Winners
4.7 Media

The Call for Application is announced on the IPMA websites and other social media annually.

The IPMA research coordinator determines if the application reports match the limitation and the scope of the IPMA Research Awards. If an application doesn't match the scope, then the application report will be rejected by the IPMA research coordinator. The basic requirements for a qualified application report include:

1. The lead researcher has not won the IPMA Global Research Awards in the last three years.
2. The research must have been in development for at least one year and must be completed when the application is submitted. The completion of a research project may date back to January 1st of the application's last year.

3. Researchers may come from disciplines other than project management but must contribute to the development of PPP management, project-oriented companies.
4. For the graduate researchers, they can apply for the awards by themselves directly with the permission from their supervisors, or their supervisors can nominate them for the awards competition. When the graduate researchers apply directly, they should also provide recommendation letters from their supervisors. The graduate researcher should provide documents to prove their student status.

Every qualified Application Report must be sent to at least three evaluation judges who come from different countries.

(2) Research evaluators (Judges) nomination and assignment

Each application is independently evaluated by three IPMA Global Research Awards judges, who are members of the panel of judges and are selected from the IPMA Research Group. Collectively they have a broad range of experience in research and will be independent of all submissions.

Criteria for nominating judges include:

- Strong PPP management research background, which means they:
  - Are professors or senior professionals in the PPP management field.
  - Are experienced in project management research and/or have published impacted papers in international academic journals.

- Strong competences in people and perspective domains, which means they
  - Are flexible and open to new approaches, methods, procedures, and tools.
  - Can understand the context of the project and its complexity.
  - Appreciate and understand cultural diversity.

Judges must adopt the following ethical values and professional standards:

- Ethical values
  - Integrity – Be honest and have strong moral principles.
  - Responsibility – Take responsibility for their actions and honor their commitment towards the Research Awards stakeholders (internal and external ones).
  - Respect – Treat award applicants equally, with respect and fairness.

  - Confidentiality – Do not divulge any information provided by award applicants to any third parties.
  - Trust – Be committed to behaving ethically and professionally.

- Professional Standards
  - Service and Excellence – Be committed as a proactive and dedicated partner to the award applicants.
  - Transparency – Seek constructive, transparent, and open dialogue with Awards stakeholders:
  - Sustainability – Conduct the Award services with a long-term perspective to support the sustainability of the Awards as a product and IPMA as an organization.
  - Commitment – Value the efforts of others that support the Awards process and strive to create an environment that is designed to attract, develop and retain excellence. The judges are committed to complete all activities within their responsibility to the required quality level and on time.

The IPMA Research Coordinator will provide a potential judge name list (Judge's candidates pool) to the IPMA vice president in charge of the research. The Vice President will nominate the potential judges and send them the invitation letters. The appointed judges for the current year must confirm their full commitment to participate in the full duration of the evaluation process.

After the judges' confirmation, the IPMA Research Coordinator will communicate with the judges and assign three judges to each application. The IPMA Awards Office will send the application reports to the judges.

In case of conflict of interest, the judges must withdraw from the application. The judge's assignment is anonymous to the applications.

The judges must sign the Evaluation Confidentially Agreement to ensure the confidentiality of the proprietary information contained in the applications.

(3) Individual evaluation

The IPMA Research Coordinator must ensure proper planning and coordination of all judges' activities ahead of and during the whole evaluation process.

The judges make their evaluations individually based on the IPMA Research Evaluation Baseline (REB). If necessary, the judges can require the applicants to provide extra essential materials to make their evaluation. The requirements must be communicated to the applicants by the IPMA Awards Office.

The judges submit to the IPMA Awards Office their evaluation results that must be documented in a referee report and feedback. The referee report (Table 6-1) should cover the IPMA REM criteria and have with comments about the

suggestions for the decision. The lowest score in each criterion is 0, while the highest score is 100 in Table A-1. The total score can be the summarized weighted scores for each criterion.

The following criteria for scoring are helpful to reduce subjective scoring on each of the evaluating factors:

Up to 100: All or most evaluation criteria from the checklist are fulfilled. Where evaluation criteria are not fulfilled, the conclusions of the study or review are thought very unlikely to alter.

Up to 80: Some evaluation criteria from the checklist are fulfilled. Where evaluation criteria are not fulfilled or are not adequately described, the conclusions of the study or review are thought unlikely to alter.

Up to 50: Some evaluation criteria from the checklist are fulfilled. Where evaluation criteria are not fulfilled or are not adequately described, the conclusions of the study or review are thought likely to alter.

Up to 10: Few or no evaluation criteria fulfilled. Where evaluation criteria are not fulfilled or are not adequately described, the conclusions of the study or review are thought very likely to alter.

To be applied to the scoring in TABLE A-1 and A-2

Table A-1: Scoring Sheet for IPMA Research and Young Research Awards

Evaluation Area		Score	Weight		
			Weight for Senior Researcher	Weight for Younge Researcher	Weight for Evaluation Area
A. RESEARCH PROBLEM	A1. Research problem: Relevance		15%		25%
	A2. Research problem: Soundness		15%		
	A3. Research problem: Complexity		15%		
	A4. Research problem: Originality and innovation		40%		
	A5. Research problem: Impact		15%		

B: RESEARCH PROCESS	B1. Research Process: Relevance		20%		25%
	B2. Research Process: Soundness		20%		
	B3. Research Process: Complexity		20%		
	B4. Research Process: Originality and innovation		20%		
	B5. Research Process: Impact		20%		
C. RESEARCH RESULT	C1. Research Result: Relevance		20%		25%
	C2: Research Result: Soundness		20%		
	C4: Research Results Originality and innovation		40%		
	C5. Research Result: Impact		20%		
E. RESEARCH PEOPLE	D1. People: Leading teams (N/A for Young Researchers)		25%		25%
	D2. People: Achievements		25%	70%	
	D3. People: Reputation		25%	30%	
	D4. People: Engagement (N/A for Young Researchers)		25%		
The total score of the application report					
Recommendation and reasons					

Because the students are at the beginning of their research career, the evaluation area D in the IPMA REM is not included in the evaluation model for them. Table A-2 is used for IPMA Graduate Research Awards.

Table A-2: Scoring Sheet for IPMA Graduate Research Awards

Evaluation Area		Score	Weight	
			Weight for Sub-Evaluation Area	Weight for Evaluation Area
A. RESEARCH PROBLEM	A1. Research problem: Relevance		15%	30%
	A2. Research problem: Soundness		15%	
	A3. Research problem: Complexity		15%	
	A4. Research problem: Originality and innovation		40%	
	A5. Research problem: Impact		15%	
B: RESEARCH PROCESS	B1. Research Process: Relevance		20%	30%
	B2. Research Process: Soundness		20%	
	B3. Research Process: Complexity		20%	
	B4. Research Process: Originality and innovation		20%	
	B5. Research Process: Impact		20%	
C. RESEARCH RESULT	C1. Research Result: Relevance		20%	40%
	C2: Research Result: Soundness		20%	
	C4: Research Result: Originality and innovation		40%	
	C5. Research Result: Impact		20%	
The total score of the application report				
Recommendation and reasons				

(4) Virtual meeting and the final decision

The IPMA Research Coordinator will moderate the virtual meeting with the assigned judges to make decisions for the winners with the support of the IPMA Award Office. Prior to the virtual meeting, the IPMA Research Coordinator consolidates and analyses the individual evaluation results and prepare a winners' candidate pool for the IPMA global research awards judges and send all the individual evaluation results of the applicants in the candidate pool with the judge names blanked to all judges. During the virtual judges meeting, the IPMA Research Coordinator introduces the individual evaluation outputs, and the judges discuss the individual results to reach a common understanding. The IPMA Vice President for research will be invited to the virtual meeting. The decisions for the research winners and the outstanding research contributions are made by the judges during the virtual meeting. However, if consensus is not reached among judges for the final decision, the Vice President will have the authority to make the final decision.

There is the utmost one research award winner, but there could be two outstanding research contributions for each category.

(5) Announcement of the research evaluation results

The IPMA Awards Office will announce the final evaluation decision to the applicants for their planning the participation in the IPMA Research Conference and the IPMA Global Research Awards Gala after the judges' virtual meeting. The official announcement will be published on the IPMA website and other social media after the IPMA Global Research Awards Gala.

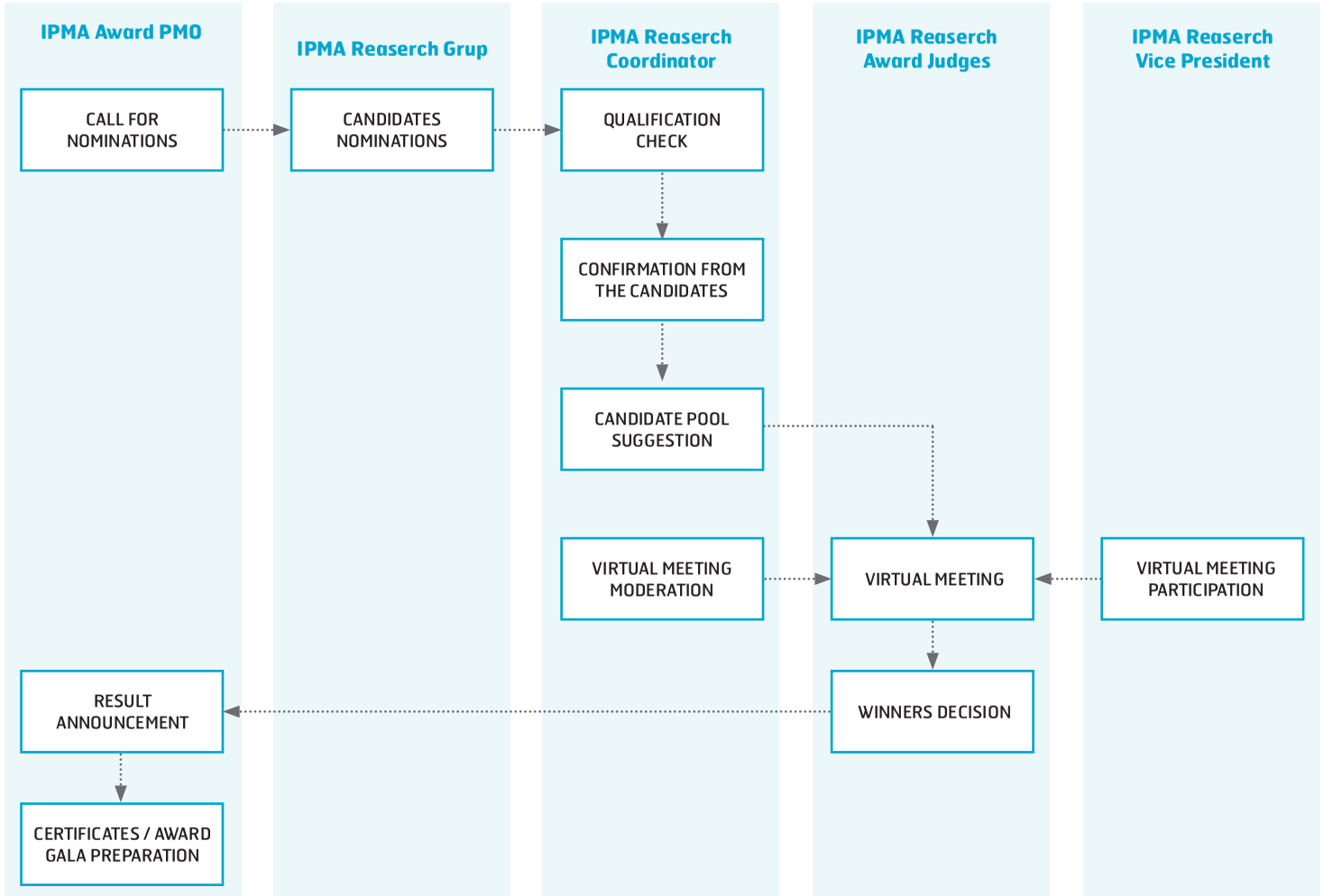
After the IPMA Global Research Awards Gala, the IPMA Award Office will prepare the certificates for the judges to appreciate their contributions, which will be assigned by the IPMA Vice President for research and the IPMA Research Coordinator. The IPMA Awards Office will email the certificates to the judges.

The IPMA Awards Office will collect feedback from the stakeholders such as the applicants and judges for the IPMA Awards continuous improvement, promote the Research Award winners' contributions on the IPMA web page and other related media to promote the IPMA Research Awards.

A4. The IPMA Research Achievement Awards Nomination and Decision Process

The IPMA Research Achievement Awards nomination and decision processed are illustrated in the figure below (see Figure A-2).

Figure A-2: The nomination and decision processes for IPMA Research Achievement Awards



(1) Call for nomination

The IPMA Awards Office announce the nomination call for the IPMA Research Achievement Awards candidates to the IPMA Research Group members.

(2) Candidates' nominations

The IPMA Research Group members provide their candidates for the IPMA Research Achievement Awards to the IPMA Awards Office, together with the candidates' Curriculum Vitae, the reasons for nomination.

(3) Qualification check, confirmation from the candidates and candidates pool suggestion

The IPMA Research Coordinator check the qualifications of the candidates based on their research experience and achievements. If the candidates are qualified, such as the Curriculum Vitae can support the nomination reasons, the IPMA Research Coordinator will contact the candidates to get their confirmations and ask them to provide other supporting documents, such as the list of publications, the rewards the candidates have received and other impact about their research achievements. Based on the comparison, the IPMA research coordinator develop the candidates' pool for judges' decision making.

(4) Virtual meeting and the final decision

The IPMA Research Coordinator will moderate the virtual meeting, which is the same meeting as for deciding the winners for the other 3 categories in the IPMA Global Research Awards with the support of the IPMA Award Office. The IPMA Research Coordinator send all the related documents of the candidates in the pool to all judges before the meeting. During the virtual judges meeting, the IPMA research coordinator introduces the information of the candidates, including the reason why they are put in the candidates' pool etc. to support the judges' decision making. If consensus is not reached among judges for the final decision, the Vice President will have the authority to make the final decision.

There is utmost one IPMA Research Achievement Award winner per year.

(5) Announcement of the research evaluation results

The IPMA Awards Office will announce the final evaluation decision to the candidates for their planning the participation in the IPMA Research Conference and the IPMA Global Research Awards Gala after the judges' virtual meeting.

References

1. Measuring research – A guide to research evaluation frameworks and tools, the RAND Corporation, www.RAND.org (USA)
2. Researcher Development Framework, Careers Research and Advisory Centre (CRAC) Limited, UK, 2011
3. Evaluation Criteria for Research Projects (Romania)
4. Evaluation Criteria and process for Research Projects/Achievements (China)
5. IPMA PEB 1.0
6. IPMA ICB 4.0
7. IPMA OCB 1.0
8. IPMA ICB4CCT
9. IPMA Reference Guide ICB4 in an Agile World
10. Submission Guideline for IPMA Research Award
11. Evaluation in Research and Research Funding Organizations: European Practices. A report by the ESF Member Organization Forum on Evaluation of Publicly Funded Research, ESF, 2013.

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