

# Project Management: A “Hands – On” Approach

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## ABSTRACT

Project Management covers a wide variety of areas in business and industry in both private and public sectors. In the last thirty years, project management tools and techniques have been developed and applied in projects resulting in an evolving common language that project managers use in managing projects. The Project Management Institute’s Project Management Body of Knowledge (PMBOK®) [1] provides these knowledge areas and the common concepts and language essential to provide successful project completion.

We are all born with the tools to learn project management. By combining PMBOK’s® concepts with visual learning tools, specifically our hands, we are able to present the concepts and principles of project management and easily retain the information. Using this visual and interactive “Hands-On” approach we can teach and disseminate the collective and common understanding of the content of project management. In this straightforward manner, we can provide this knowledge to our present and future project management professionals ensuring the growth and advancement of project management.

## I. Projects

What is a project? According to PMBOK®, “A project is a temporary endeavor undertaken to create a unique product or service” (p.4).

Projects are “**Unique**” – Each project has products or services that differ in some way from projects that the company has completed (p. 4). Each project is unique, just like each of us has a unique fist or fingerprint.



Hand Motion: Make a fist.

Projects are “**Temporary**” – Each project has a defined beginning and defined end (p. 5). Project Initiation to Close – Initiate to Close, Start to Finish, Cradle to Grave, Womb to Tomb, Lust to Dust.



Hand Motion: Show the thumb and pinky up with the index, middle, and ring fingers tucked down. Hold up the thumb first, then the pinky, alternating movement between the thumb and pinky when expressing “initiate” (thumb) and “close” (pinky) while slightly rotating the wrist.

Projects are NOT operations. - **Operations** differ from Projects in that they are ongoing and use the same processes of Planning, Executing, and Controlling the project repeatedly.



Hand Motion: Show the middle three fingers – Planning, Executing, and Controlling – which are repetitive over on-going activities.

We can expand on PMBOK®’s project definition to say that a project is “a temporary endeavor undertaken to create a unique product or service” whose characteristics are progressively elaborated through 39 project management processes that are grouped into 5 IPECC process groups and 9 knowledge areas.

## II. IPECC Process Groups

Project management processes are organized into five process groups. Each group is related to a digit on the hand as follows:

**Initiate** – “authorizing the project or phase” (p. 30). – Major deliverables include Project Charter written and Project Manager identified/assigned.



Hand Motion: Thumb up

**Plan** – “defining and redefining objectives and selecting the best of the alternative courses of action to attain the objectives that the project was undertaken to address” (p. 30). – major deliverables include project plan and supporting detail.



Hand Motion: Extend Index Finger

**Execute** – “coordinating people and other resources to carry out the plan” (p. 30). - major deliverables include work results and change requests.



Hand Motion: Extend Middle Finger

**Control** – “ensuring that project objectives are met by monitoring and measuring progress regularly to identify variances from plan so that corrective action can be taken when necessary” (p. 30). – major deliverables include project plan updates, schedule updates, and risk response plan updates.



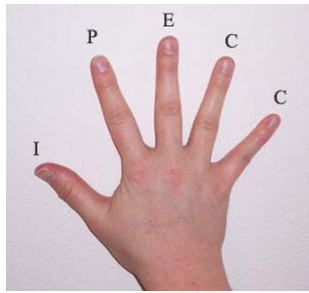
Hand Motion: Point Ring Finger down. We use the 4<sup>th</sup> finger for tasting (control) in cooking.

**Close** – “formalizing acceptance of the project or phase and bringing it to an orderly end” (p. 30). – major deliverables include archive project file, formal acceptance and closure, and documented lessons learned.



Hand Motion: Lock pinkies together. Indicates the buyer and seller both promise to work together on future projects.

Product Scope vs. Project Scope - When properly defined, the scope of the project-the work to be done-should remain constant even as the product characteristics are *“progressively elaborated”* (p.6).



Hand Motion: Start with fist and raise the thumb, index finger, middle finger, ring finger, and pinky, one after another, to show “Progressively” – proceeding in steps; continuing steadily by increments, and “Elaborated” – worked out with care and detail; developed thoroughly (p. 5-6).

### III. Nine (9) Knowledge Areas

The Project Management Knowledge Areas describe the project management knowledge and practice in terms of their component processes. The 39 processes are organized into nine knowledge areas (p. 7).

**Triple Constraint** – Project Manager Practitioners refer to the project triple constraint as a framework for evaluating competing demands (p. 29). It can be viewed as a three legged stool. Each leg relates to one of the following knowledge areas of time, cost, and performance (scope and quality). You must have all three to have balance in a project for effective project management, just as you need all three legs on a stool, for it to balance.



Hand Motion: The index, middle, and ring fingers are pointed downward, forming the three legs of a stool.

### Core Management Functions (Right Hand)

Project **Scope** Management – the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully (Chapter 5).

Hand Motion: Raise index finger on right hand.



Project **Time** Management – the processes required to ensure timely completion of the project (Chapter 6).

Hand Motion: Raise middle finger on right hand.

Project **Cost** Management – the processes required to ensure that the project is completed with the approved budget (Chapter 7).

Hand Motion: Raise ring finger on right hand.

Project **Quality** Management – the processes required to ensure that the project will satisfy the needs for which it was undertaken (Chapter 8).

Hand Motion: Raise pinky on right hand.

### Facilitating Management Functions (Left Hand)

Project **Human Resource** Management – the processes that are required to make the most effective use of the people involved with the project. (Chapter 9)

Hand Motion: Raise index finger on left hand.



Project **Communications** Management – the processes required to ensure timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project information (Chapter 10).

Hand Motion: Raise middle finger on left hand.

Project **Risk** Management – the processes concerned with identifying, analyzing, and responding to project risk (Chapter 11).

Hand Motion: Raise ring finger on left hand.

Project **Procurement** Management - the processes required to acquire goods and services from outside the performing organization (Chapter 12).

Hand Motion: Raise pinky on left hand.

### Project Management Integration

Project **Integration** Management - the processes required to ensure that the various elements of the project are properly coordinated (Chapter 4).



Hand Motion: Lock thumbs together to show integration. Move fingers in an up and down motion to imitate a bird flying.

Showing the palms relates to “**Professional Responsibility**” and indicates the transparent nature of the Project Manager’s ethics and integrity.

### IV. Project Life-Cycle

Project **Timeline** – there is an average amount of time spent in each phase of the project. The phases “**C**” – **Conceive** and “**D**” – **Define**, make up the Planning phase, along with “**E**” – **Execute**, and “**F**” – **Finish** to represent the four phases of a project’s life.



Hand Motion: Hold the hand up with back of the hand toward audience. Spread the thumb and index finger apart at a 90 degree angle to represent the Planning – “Conceive and Define” phases as taking 50% of the time.

Faster is slower and slower is faster. Spending more time in the first two phases “C” and “D” will result in successful project completion.

## V. There are 39 Processes within the 9 knowledge areas

The number of processes changes with time as the PMBOK® matures. The number of processes for each knowledge area in the 2000 version is shown below (p. 38).

Project Integration Management (3) (has 3 processes); Project Plan Development, Project Plan Execution, Integrated Change Control

Project Scope Management (5); Initiation, Scope Planning, Scope Definition, Scope Verification, Scope Change Control

Project Time Management (5); Activity Definition, Activity Sequencing, Activity Duration Estimating, Schedule Development, Schedule Control

Project Cost Management (4); Resource Planning, Cost Estimating, Cost Budgeting, Cost Control

Project Quality Management (3); Quality Planning, Quality Assurance, Quality Control

Project Human Resource Management (3); Organizational Planning, Staff Acquisition, Team Development

Project Communications Management (4); Communications Planning, Information Distribution, Performance Reporting, Administration Closure

Project Risk Management (6); Risk Management Planning, Risk Identification, Qualitative Risk Analysis, Quantitative Risk Analysis, Risk Response Planning, Risk Monitoring and Control

Project Procurement Management (6); Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, Contract Closeout

**The following four methods are suggested to help remember the number of processes in each PMBOK® knowledge area.**

### Method 1: Count letters

Match the number of letters in the knowledge area to the number of processes.

“**Scope**” has 5 letters → 5 processes

“**Cost**” has 4 letters → 4 processes

### Method 2: Count the number of letters in the abbreviation.

Match the number of letters in the abbreviated knowledge area to the number of processes.

“**INT**egration” has 3 letters → 3 processes

“**COMM**unications” has 4 letters → 4 processes

Project Quality Management – “**Q**TY” has 3 letters → 3 processes

Human Resource Management – “**HRM**” has 3 letters → 3 processes

### Method 3: Count the number of words in the phrase

Use word association and match the number of words in the phrase to the number of processes.

“Time is dynamic in nature” → has 5 words in the phrase → 5 processes

### Method 4: Rote Memorization

“**Risk & Op/or/tun/i/ty**” → together have 6 syllables → 6 processes

“Procurement” → “**Pro/cure/ment and Con/tract**” → the three words combined have 6 syllables → 6 processes

## VI. Systems Approach

A system can be shown as having inputs and outputs with a conversion process between them that is accomplished by using tools and techniques.

Tools and Techniques – Each of the 39 processes has its own number of inputs, tools and techniques, and outputs. Thus, some processes’ outputs become other processes’ inputs. All 39 processes are interrelated systematically to convey project deliverables.

**Inputs** - Items that will be acted upon (p. 32).

Hand Motion: With the index finger point to the first segment of the opposite index finger.



**Tools and Techniques** - Things applied to items that will be acted upon (p. 32).

Hand Motion: With the index finger, point to the second segment of the opposite index finger.



**Outputs** - Items resulting in the process (p. 32).

Hand Motion: With the index finger point to the third segment of the opposite index finger.



Each process group is linked by their inputs and outputs.

Hand Motion: Interlace the fingers of both hands to show the process groups interrelationships.



## VII. Conclusion

This is version 1 of this topic. A new version of PMBOK® is expected to be published October 2004 at which time updates will be made as needed. There are future plans for an animated version to be distributed on CD.

## REFERENCES

[1] Project Management Institute, (2000), A Guide to the Project Management Body of Knowledge. (PMBOK® Guide), Project Management Institute, Inc.

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