Crosswind Learning

Crosswind Success Series: PMP® Exam Bootcamp Manual

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7.3.4. Communication Channels Formula

Communications are a complex part of any project. The greater the number of people involved in a project, the greater the number of communications that will be sent and received.

The formula for this relationship is **N x (N - 1) / 2** with N being the number of people on the project.

Figure 7-4: Communication Channels shows how communications grow as people are added to the project.
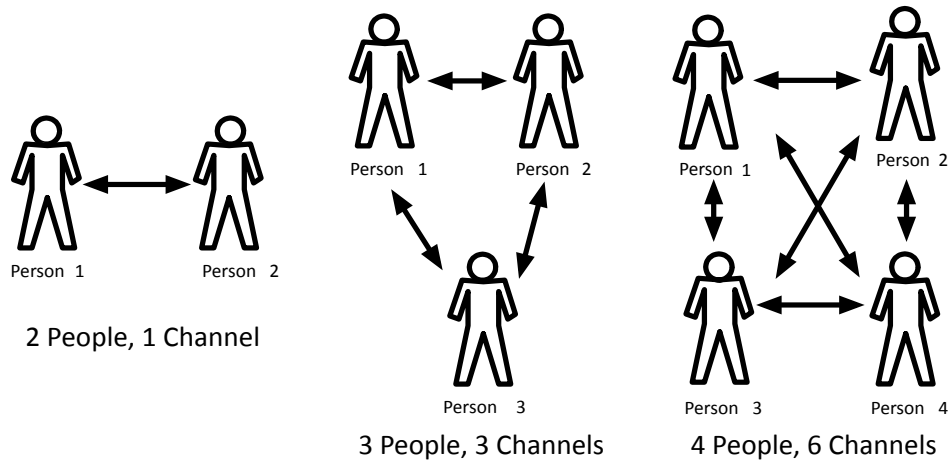
Know the communication channels calculations.

2 People, 1 Channel

3 People, 3 Channels

4 People, 6 Channels

Figure 7-4: Communication Channels

It is very important to know how to calculate the total number of communication channels, the total communication channels if team members are added or removed, and the number of channels added/subtracted if team members are added or removed.   It is also important to note that a part-time team member is no different than a full-time team member when calculating communication channels. For example, a team consisting of three full-time members and two part-time members, is considered a five member team in the calculation.

Total number of channels	Total number of channels when team members are added/removed	Number of channels added/removed when team members are added/removed
Use the standard formula.	Use the standard formula for new total number of people.	Use the standard formulas for original number of people and for new total number of people then subtract the difference.
$N^{original} \times (N^{original} - 1) / 2$	$N^{new} \times (N^{new} - 1) / 2$	$(N^{new} \times (N^{new} - 1) / 2)$ $- (N^{original} \times (N^{original} - 1) / 2)$
Sample for team of four: $4 \times (4 - 1) / 2 = 6$	Sample for two members added to team of four: $(4 + 2) \times ((4 + 2 - 1) / 2) = 15$ Or $6 \times ((6 - 1) / 2) = 15$	Sample for two members added to team of four: $15 - 6 = 9$

Note that a reference to team members may include or exclude the project manager, depending on the wording used. Reference the chart below for examples.

PM has a team of six (count seven people)	The PM is described as "outside" the team, and the total count must be adjusted to include the PM in the communications channels.
The team has six people (count six people)	The PM is described as within the team. No adjustment to the total count is necessary.

7.3.5. Communication Methods

The methods utilized to share information among stakeholders are:

- **Interactive**, which enables an **exchange of information** between multiple parties and fosters a common understanding between participants
- **Push**, which **distributes information** but does not ensure that the information was received or understood
- **Pull**, which **provides information** in a centrally accessible location such as the Internet

7.3.6. Communication Blockers

Communication blockers are factors that disrupt the message that the receiver is trying to interpret from the sender.

7.3.7. Meeting Rules

Meeting rules are commonly abused. As a result, perception of how to effectively conduct meetings is often inaccurate.

Some basic rules for conducting meetings are:

- When a meeting is scheduled, an agenda should be created and distributed beforehand to give people a chance to review and prepare; this agenda should allocate a portion of time for each topic
- All relevant documents should be distributed prior to the meeting
- Everyone should review the agenda and prepare for the meeting
- During (or before) the meeting, the leader (facilitator) should be established to conduct the meeting and ensure adherence to the agenda; the leader (facilitator) does not always need to be the project manager
- If the leader/facilitator decides to honor a request to add a non-agenda item to the meeting, the item should be added at the end of the meeting or moved to a future meeting
- From an exam readiness perspective, if the project is a priority and a meeting has been scheduled, functional issues (generally speaking) should not delay the meeting

The source for the above text is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Pages 366-378