

IMPROVING PROJECT COMMUNICATION

WITHIN AND OUTSIDE OF THE PROJECT TEAM

Presented by
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- Provide additional material (e.g., the appendices) for self or group study after the webinar.

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**IMPROVING PROJECT
COMMUNICATION:
WITHIN AND OUTSIDE OF THE
PROJECT TEAM**



I draw on my project management experiences in the public, private, and academic sectors; on research; and on lessons learned from successes and failures

As a result of this webinar,
you should **be able to:**

- Be more aware of **communication's role** in successful projects
- Learn and use communication tactics to **contribute more** to project success

APPENDICES

A: RESOURCES FOR FURTHER STUDY

B: PRESENTER

C: EXPONENTIAL GROWTH OF RELATIONSHIPS

D: COMMUNICATING GLOBALLY

E: RED FLAG WORDS

**F: GENERATIONS IN YOUR WORKPLACE AND
BEYOND**

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5

TOPICS

INTRODUCTION

PROJECT COMMUNICATION CHALLENGES

PROJECT COMMUNICATION TIPS

RECAP

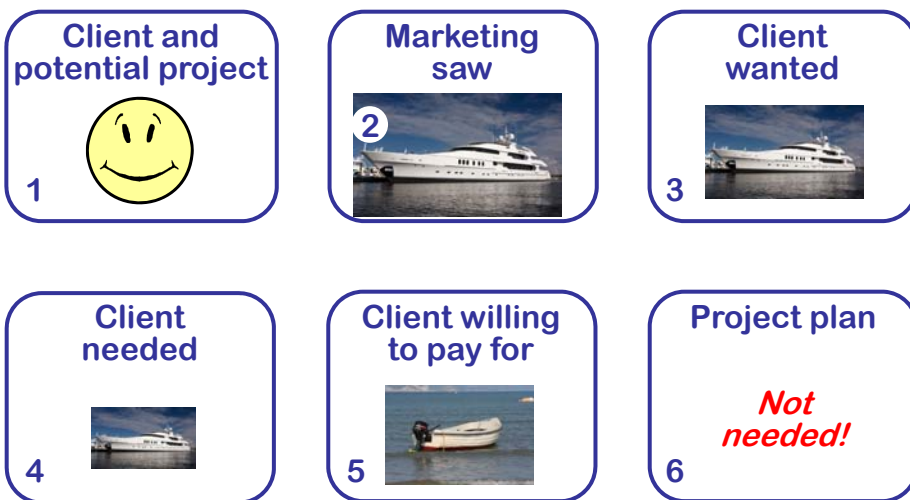
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6

“The problem was communication”






Client and project *life (death?) cycle*



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8

<p>Project documentation prepared/shared</p> <p>7 <i>Little</i></p>	<p>Project team delivered</p> <p>8 </p>	<p>Profit earned</p> <p>9 \$0</p>
<p>Lessons learned shared</p> <p>10 <i>None</i></p>	<p>Client's view</p> <p>11 </p>	<p>Consultant's reputation</p> <p>12 </p>

Source: Adapted from Velocitech (Velocitech.com)

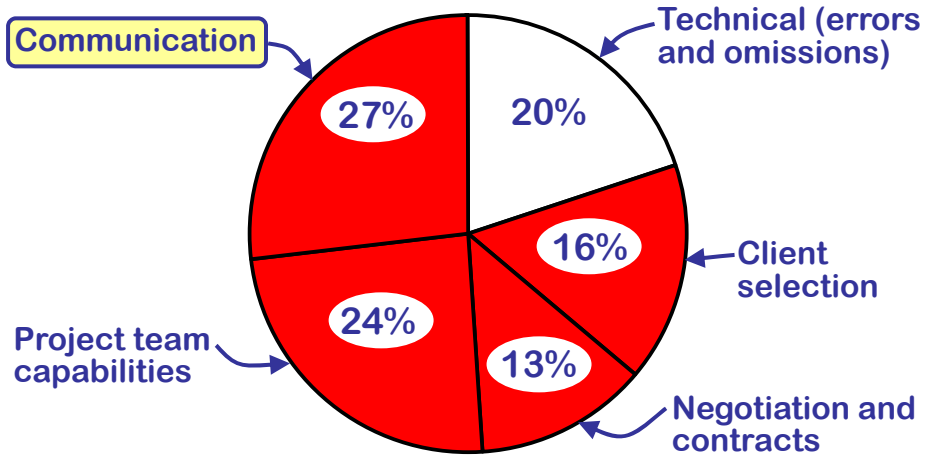
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Client and project *opportunities sink* for us because of

- *Technical* errors?
- *Communication* lapses?



Causes of liability claims

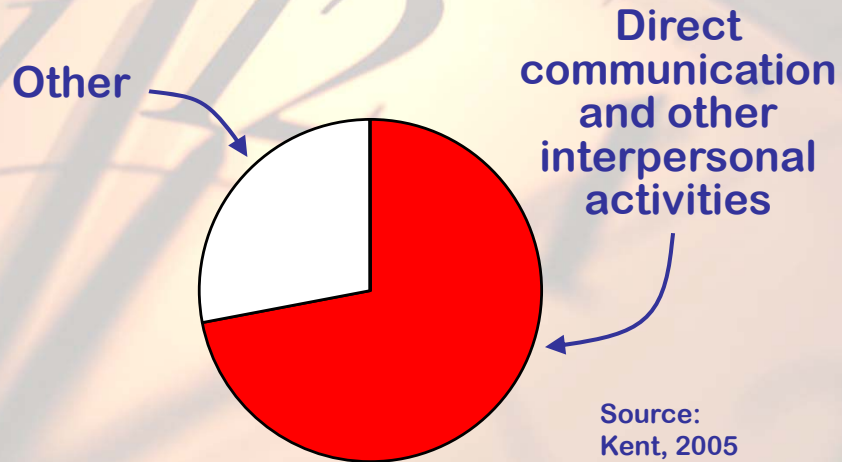


Source: LeVan and Kopplin

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11

How do project managers ***spend their time?***



Source:
Kent, 2005



TOPICS

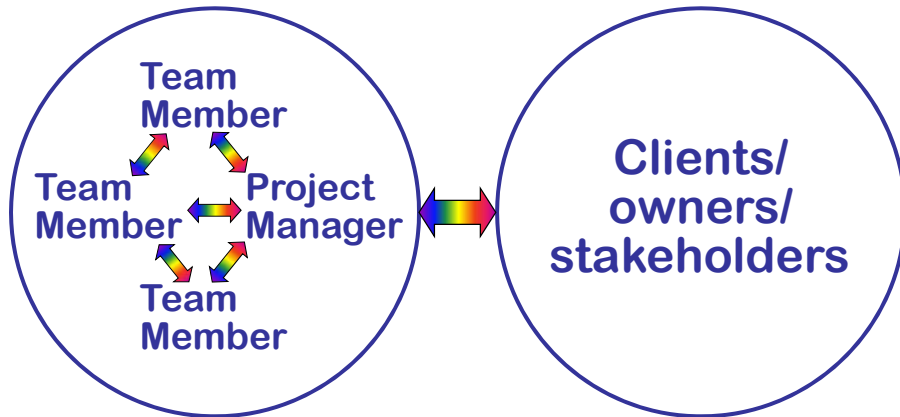
INTRODUCTION

PROJECT COMMUNICATION CHALLENGES

PROJECT COMMUNICATION TIPS

RECAP

Communicate *internally* and *externally*



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15

What you *send* is not necessarily what they *get*



You, the project manager

Your
message

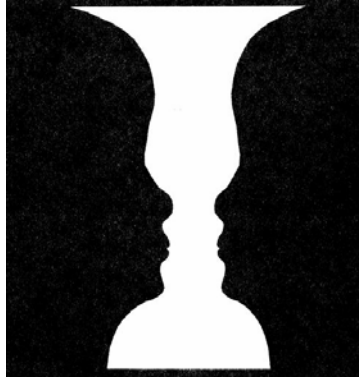


Project team/client/ owner/ stakeholders

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16

You wanted them to see a *chalice*



but they saw *two children*

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Fatal assumptions
when we send a message

They *understand*

They *agree*

They *care*

They will *act*

Source: Clark and Crossland, 2002

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18

TOPICS

INTRODUCTION

PROJECT COMMUNICATION CHALLENGES

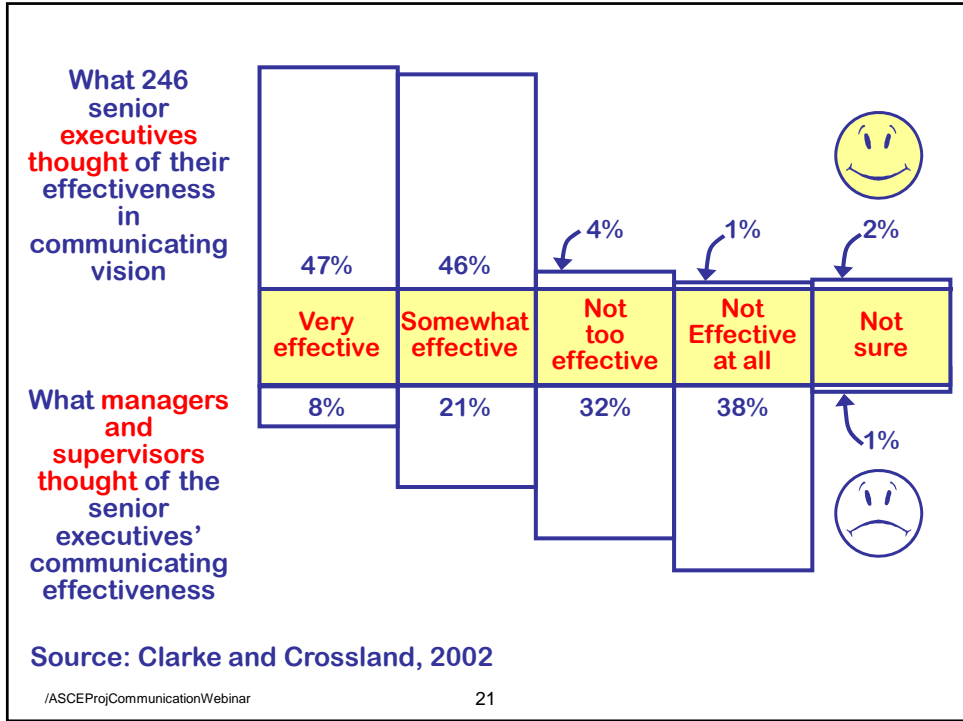
PROJECT COMMUNICATION TIPS

RECAP

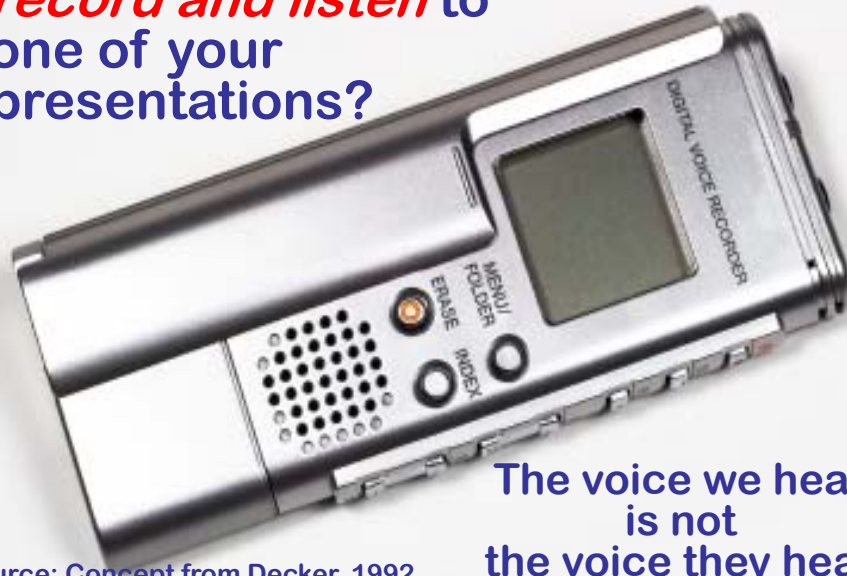
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19





When did you last **record and listen** to one of your presentations?



The voice we hear is not the voice they hear

Source: Concept from Decker, 1992

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When did you last **experiment** with a way to improve your communication ability?



When did you last *practice* your project presentation “out loud” while visualizing the setting and the audience?



Source: Walesh, 2012

When did you last arrange for *360° feedback* reality check?



When a project is *going well*

Look out the
window?



Gaze into the
mirror?



Source: Collins, 2001

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27

Reward/recognize

Personal
comment



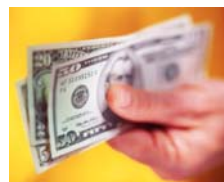
Note



Token



Financial



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28

2. Identify and involve *stakeholders*



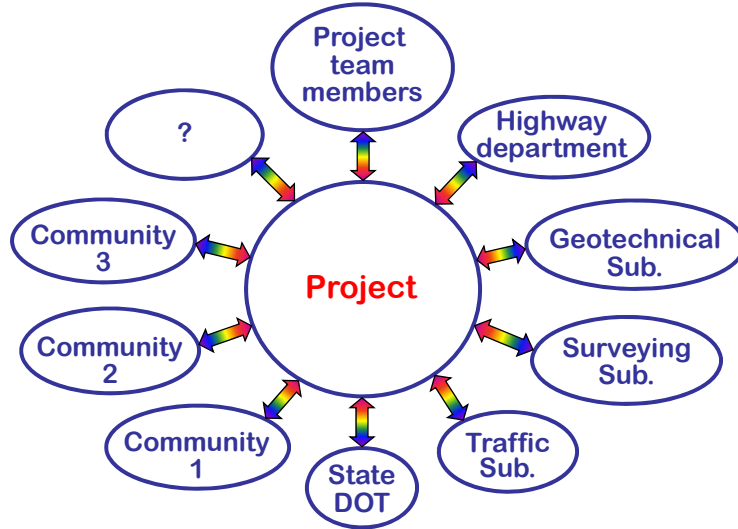
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29

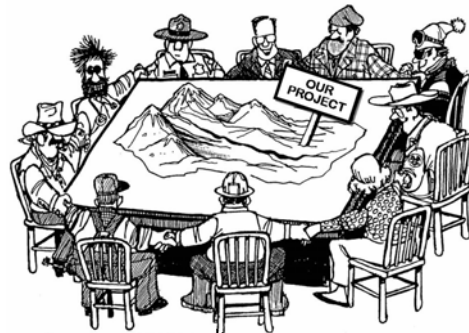
Client: A county highway department

Project: Preliminary engineering and design of a frontage road

Stakeholders



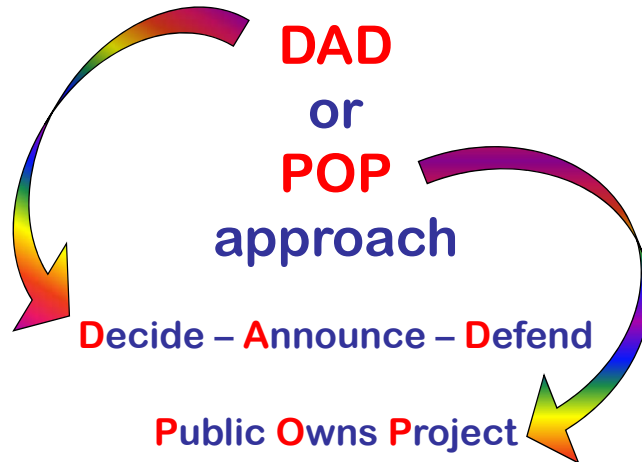
Get *all stakeholders* involved



Source: USEPA

Involvement
me
now
or
fight
me
later

Decide if we are going to take a



Source: Walesh, 1999

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33

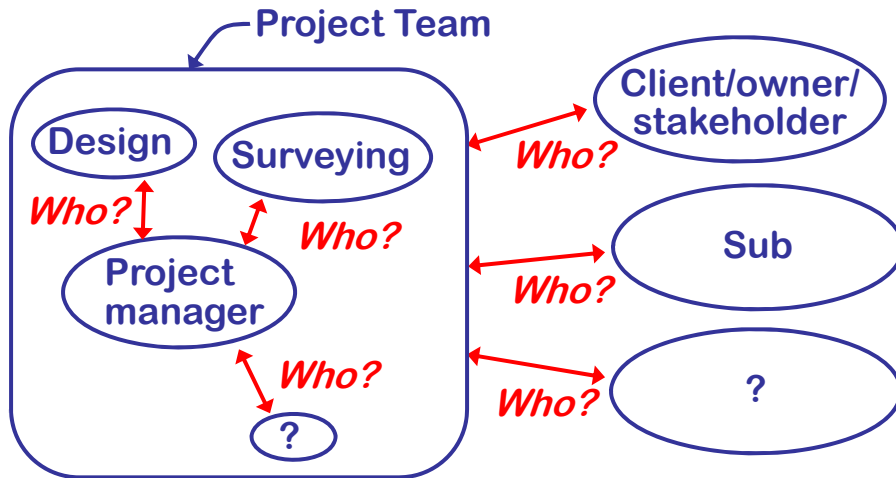
Who has the ball?



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34

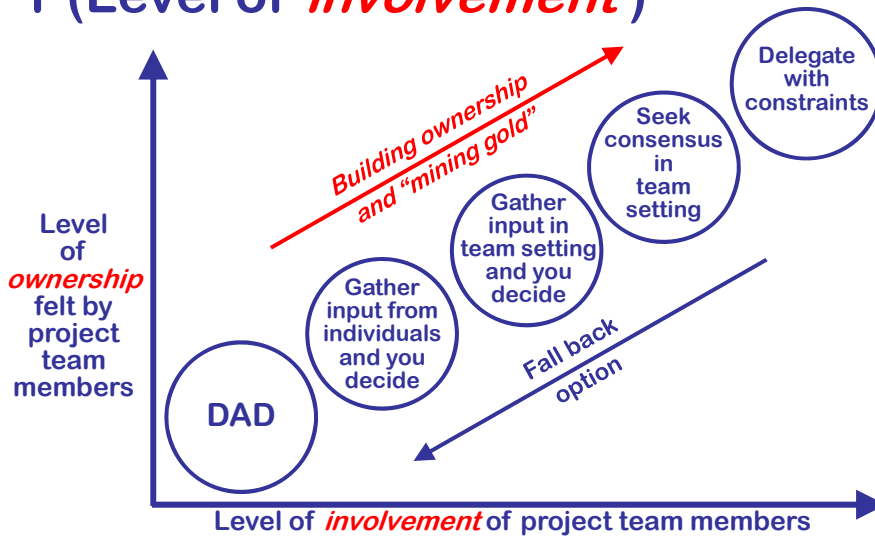
3. Establish *communication protocol*



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35

Level of *ownership* = f (Level of *involvement*)



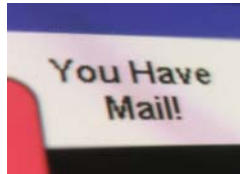
Source: Adapted from Strauss, 2002 and Walesh, 1999

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36

Collaboratively *select communication tools*

Email



Telephone/
texting/
tweets



Website



Blog



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37

Create a system to monitor the most important *project performance indicators*

Share the system and the indicators:

- Deliverables
- Schedule
- Budget
- Public acceptance/transparency?
- Keeping the mayor "happy?"
- Securing a state grant?
- Winning a project award?

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38

Apply the **Broken Window** Theory

Sources: Gladwell 2000,
and Feith 2013

What do you or I communicate *by not communicating?*

- “It wasn’t that important after all,
- It doesn’t matter that it didn’t get done,
- There are no consequences for missing a deadline, and/or
- Late is OK in our organization.”

Source: Azzarello 2013

The *telephone*



- Create an *agenda*
- Avoid giving *bad news*
- Minimize *abbreviations, acronyms, and shop talk*

Issue *status reports*

- Work *completed* during period
- Work *planned* during next period
- Information/items *needed*
- *Schedule* and *budget*

One
page
maximum

Names of
key team
leaders

Mix “Push” and “Pull”

Method you use as PM	Mode	
	“Push”	“Pull”
Copy others on email/texts/progress reports/etc. you send	X	
Request periodic oral or written status reports		X
Conduct periodic or as-needed team meetings	X	X
Forward selected emails/texts with added comments	X	
Refer one or more individuals to a website/person/other resource and request response	X	X
Ask questions		X
Request review of text/drawings/analysis/etc.		X

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43

What is the role of **social media** in your evolving project communicative environment?

LinkedIn Facebook YouTube
Twitter Blogs ?

Be careful with **confidential/sensitive** project information

Maybe use to **“push”** information to the public

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44

Miscommunication $\stackrel{?}{=}$ Disaster



Deaths: 114
Injuries: 200

Sources: http://en.wikipedia.org/wiki/Hyatt_Regency-walkway_collapse, Hoke 2011

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45

***Communicate
communicate
communicate***

**with team members/clients/
owners/stakeholders**

**Don't treat
them like
*mushrooms***

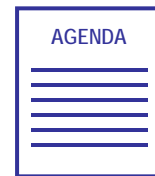


**"Kept in the
dark and fed
manure"**

Source: Based, in part, on Davenport, 2005

4. Bring newly-formed, dispersed, project teams, together *face-to-face ASAP*

- Then rely on *electronic meetings*
- Plan, execute, and follow-up *as carefully* as you do for face-to-face meetings



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47

5. Build *intra-team camaraderie* and trust

- *Everyone* prepares for and *contributes* something to meetings
- Don't always meet at *least cost location*
- Avoid *high status – low status language*

Source: Based in part on Brenner, 2003

Making *electronic meetings* work

- Display **photos** of team members on the computer
- Ask each person, or one person at each meeting, to **share something** personal (e.g., favorite quote, influential book, memorable trip)
- **Engage** everyone—call on them by name



Source: Zoninsein, 2010

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49

- Use a **“Vent”** agenda item—encourage members to share biggest concerns about the project, team, or client
- Suggest anonymous use of the **pound or hashtag key** (on telephone conference calls) if someone talks too long, too much, or off-topic

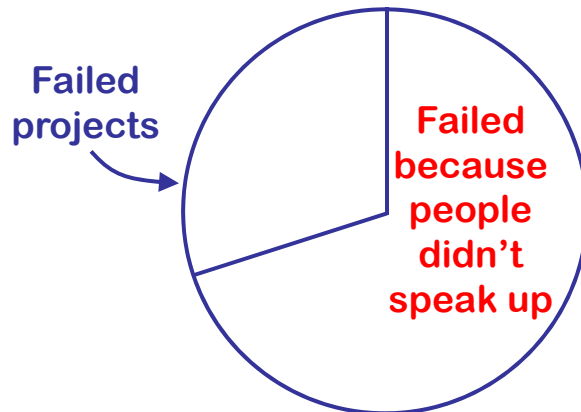


Source: Zoninsein, 2010

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50

6. Encourage team members to *speak up!*

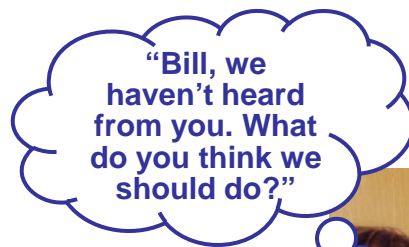


Source: *PM Network*, 2006

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51

Request input



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52

Discover the *minority view*



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53

Avoid *dismissive gestures*

- Eye rolling
- Heavy sighing
- Shrugging
- Tossing a document—with a “spin”
- Laughing at—not with
- Self-grooming
- Looking at watch
- Checking email
- ?

**You don't
do these?
Are you
sure?**

Source: Brenner, 2007

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54



7. Use the *Project Plan (PP)* to encourage communication

- Scope of services
- Directory → List stakeholders and explain how they will be involved
- Work tasks
- Deliverables → Indicate number of meetings
- Budget
- Schedule
- Billing → Explain how progress will be reported
- Monitoring and control procedure



CATEGORY	EXAMPLES
Absolutes/superlatives	<i>Best, all,...</i>
Words of promise	<i>Assure, warrant,...</i>
Multiple meanings/ interpretations	<i>Periodic, safe,...</i>

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58

9. *Plan, execute, and follow-up* on internal and external *meetings*

Do we need to meet?

Reason 1:

Working session

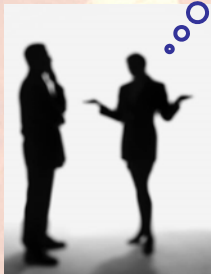
Reason 2:

Briefing on critical, non-routine topics

Undocumented meetings “cost”

Never happened

What meeting?



As many *different and conflicting* versions as the number of attendees



Time out for your input

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Repeat
the
poll
for
internal
meetings



10. *Bring the field* into the office



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63



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64

11. Recognize *preferred ways of learning/understanding*



Auditory: understand mainly by hearing



Visual: understand principally by seeing



Kinesthetic: understand mainly by touching/doing

Anticipate varied styles by using:

- Carefully written text



- Practiced verbal briefings



- Visuals



- Props



Ductile iron pipe (DIP)



Polyvinyl chloride pipe (PVC)

12. A project is likely to be *viewed in very different ways* by stakeholders

Stakeholder

You, the project manager




City engineer

View of the project

Your first *opportunity* to profitably manage a large project

Negative – forced to do it by the council



<u>Stakeholder</u>	<u>View of the project</u>	
Member of your project team	Opportunity to learn new <i>software</i>	
Member of environmental group	<i>Threat</i> to the environment	
DNR/DEP/DEM/etc. staff person	More <i>meetings</i> and <i>paper processing</i>	



Frame
 your message
 to
 their perspective

Source: Adapted from *Hemispheres*

Explore using *psychological type* models such as:

- *Myers Briggs:*¹

16 types (e.g., INTJ and ISTJ)

- *People Mapping:*²

4 types (Leader, task, people, free spirit)

Sources:

- 1) Wankat and Oreovicz
- 2) Lillibridge

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71

When we make a recommendation to a ...

Leader Will want to know about the *long term impact*

Task person Will want to know *how* it would be implemented

People person Will want to know *impact on others*

Free spirit Will want to know what is *innovative/unique*

Source: Based, in part, on Alessandra, 2004

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72



13. *Trim Hedges*



Speak, write, and answer questions

With
qualifications
keyed to audience

Positively,
with high
expectations

Source: Walesh, 2004, pp. 89-91



Not this

I'll have to...

I'll try to...

This should take a few weeks to...

To tell the truth...

This is a problem



This

I'll be glad to...

I will...

I'll get it to you by...

Just tell it!

This is an opportunity

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75

14. Practice *"e-tiquette"* with email

- *Proofread*
- If you wouldn't say it, *don't spray it*
- Create an informative *subject line* and *opening sentence*
- Don't *even suggest* lewdness, crudeness, pornography, sexual harassment, etc.
- Use a *complete signature*
- *Balance* high tech with high touch

Source: Based, in part, on Conlin 2002, and Goupil 2008

15. **Confirm** that *we understand* what he/she sent

One
face
or
two
?



Old
woman
or
young
girl
?

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77

Ways to **confirm**
our understanding:

Ask using active verbs

Paraphrase

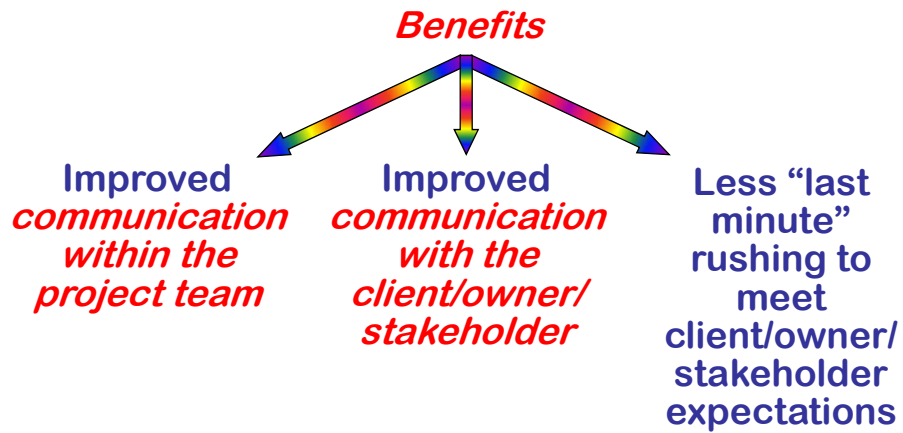
Draw/sketch

Follow up in **writing**

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78

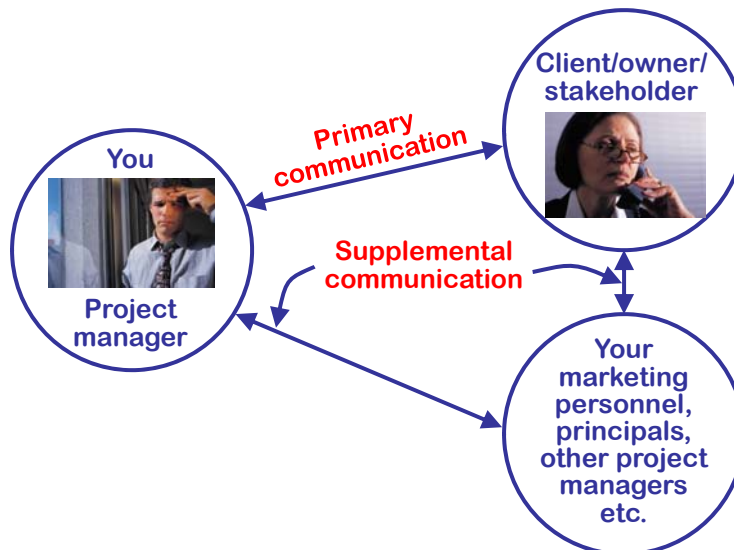
16. Start writing and sharing the report on *Day 1*



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79

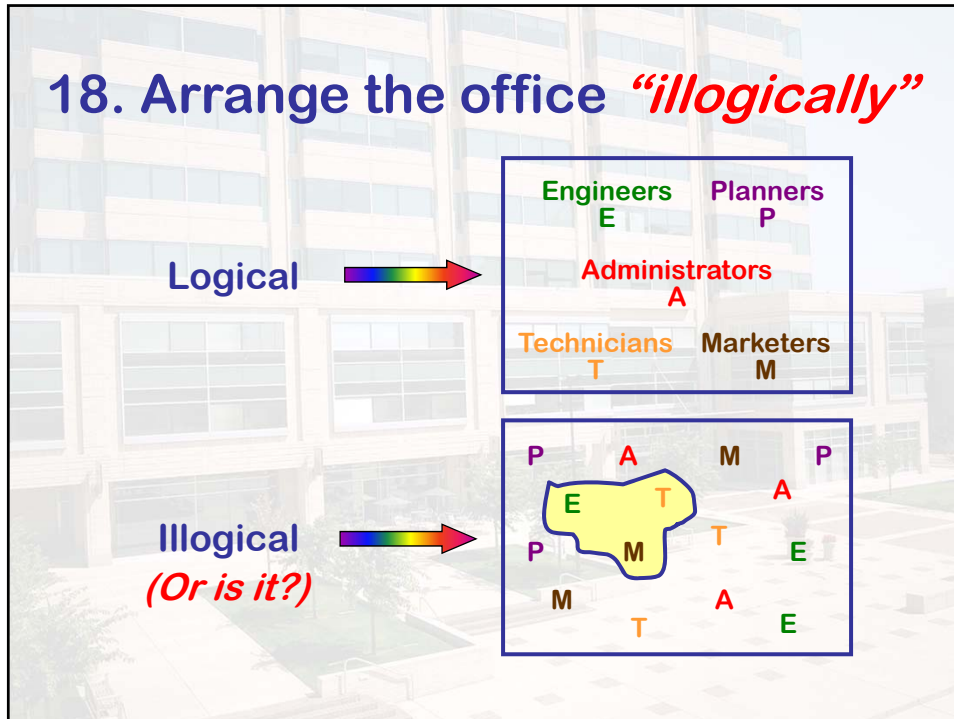
17. Ask *third parties* to help



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80

18. Arrange the office *“illogically”*



19. Work with the generations in your workplace **Caveat!**

<u>Generation</u>	<u>Age in 2016</u>
Traditionalists	71 or older
Baby boomers	52 - 70
Generation X	36 - 51
Generation Y	35 or younger

See Appendix F for preferences/characteristics

Engaging **Baby Boomers** (Age in 2016: 52 - 70)

- Explain the advancement path
- Protect them from their workaholicism
- Provide technology assistance
- Enable them to teach/coach/mentor younger personnel

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83

Engaging **Generation Xers** (Age in 2016: 36 - 51)

- Coach and mentor
- Provide frequent (more than annual) feedback
- Involve them in vision/mission
- Provide competent managers
- Reward based on merit
- Offer flexible scheduling
- Stress teamwork
- Help them enrich their resumes
- Respect their personal life
- Ask for their opinions

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84

Engaging **Generation Yers** (Age in 2016: Up to 35)

- Provide latest technology
- Provide very frequent feedback
- Indulge them
- Stress teamwork
- Offer flexible scheduling
- Ask for their opinions

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85

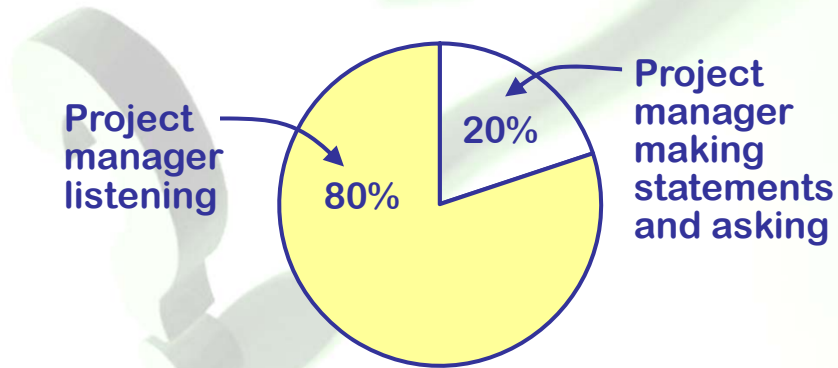


**Recruit/retain
Traditionalists**

**Age in 2016:
71 or older**

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20. Communicate more by *talking less*



“Listening” with our eyes



Resists your message,
closed mind



Thinks your words
are deceptive



Has
questions/concerns

Sources: NIBM, 1988; Wang, 2009



Does not believe you



Deciding



Good decision

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89

As a result of this webinar,
you should **be able to:**

- Be more aware of **communication's role** in successful projects
- Learn and use communication tactics to **contribute more** to project success

TOPICS

INTRODUCTION

PROJECT COMMUNICATION CHALLENGES

PROJECT COMMUNICATION TIPS

RECAP

ASCE | KNOWLEDGE
& LEARNING

Questions

Critiques

Comments

Tips

Suggestions



stuwalesh@comcast.net

- **Poor communication** within and outside of the project team **causes problems**



- **Tips** for improving project communication:

1. **Look inward**



2. **Identify and involve stakeholders**



3. **Establish communication protocol**



4. Bring new teams together
(face-to-face) early in the
project

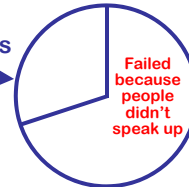


5. Build intra-team
camaraderie



6. Encourage team
members to *speak up!*

Failed
projects



7. Use the *PP* to encourage
communication



8. Carefully use *red
flag* words



9. Plan, execute, and follow-up
on *meetings*



10. *Bring the field* into the office



11. Recognize different *styles*



12. *Frame* your message for them



13. *Trim hedges*



14. Practice *e-tiquette*



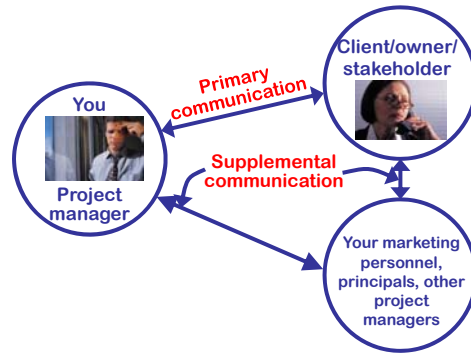
15. *Confirm* our understanding



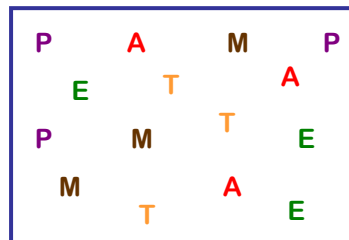
16. Start major written deliverables on *Day 1*



17. Ask *third parties* to help



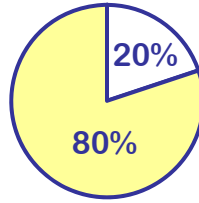
18. Arrange office *“illogically”*



19. Work with the *generations*

Traditionalists
Baby boomers
Generation X
Generation Y

20. Talk less, *ask more*



APPENDIX A: RESOURCES

Note: Listed here are sources cited earlier plus additional materials for individual and group study. If you know of a useful resource that should be included, please let me know.

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Thank you,
Stu Welsh
stuwalesh@comcast.net

Books and Articles

Alessandra, T. 2004. “Dr. T’s Timely Tips, Adjusting to Other People’s Behavioral Styles,” June 19 (<http://www.alessandra.com>).

ASCE. 2007. *The Vision for Civil Engineering in 2025*, ASCE, Reston, VA.

Azzarello, P. 2013. “How to Lay Down the Law If Your Team Keeps Blowing Deadlines,” *Fast Company*, February 2013. (<http://www.fastcompany.com/3006023/how-lay-down-law-if-your-team-keeps-blowing-deadlines>)

Bauerlein, M. 2009. “Why Gen-Y Johnny Can’t Read Non-verbal Clues,” *Wall Street Journal*, August 28.

Beckwith, H. 2003. *What Clients Love*, Warner Business Books, New York, NY. (Offers these additional communication suggestions relevant to projects: 1) use your space (office) to communicate to clients that they belong and you care about them, 2) ok to occasionally err, but never let your communication suggest you don’t care, and 3) apply rule of 3—people tend to be able to remember 3 ideas, topics, etc.)

Brack, C. 2011. “Life’s Too Short for Bad Project Management,” Project Management Insights, *CE NEWS* Webcast Series, April 8.

Brack, C. 2011. “Project Revival,” *CE NEWS*, December, p. 20. (Addresses the communication challenges associated with re-launching a project that was put on hold. Suggests revisiting client goals and preferences, accounting for changes in project team personnel, and investigating events and changed conditions that could impact budgets and schedules.)

Brack, C. 2012. “Weekly Update!,” *CE NEWS*, June, p. 28.

Brenner, R. 2003. “Dispersed Teams and Latent Communications,” *Point Lookout* (e-newsletter), Volume 3, Issue 36, September 3.

Brenner, R. 2007. **“Dismissive Gestures: Part I,”** *Point Lookout* (e-newsletter), Volume 7, Issue 12, March 21.

Brenner, R. 2007. **“Virtual Conflict,”** *Point Lookout* (e-newsletter), Chaco Canyon Consulting, October 17. (Cautions that, as virtual teams become more common, so does conflict. Physical separation, in spite of ease of electronic communication, tends to lead to miscommunication because it is not informed by the richness of face-to-face encounters. Urges face-to-face communication.)

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/ASCEProjCommunicationWebinar

117

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/ASCEProjCommunicationWebinar

118

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/ASCEProjCommunicationWebinar

119

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/ASCEProjCommunicationWebinar

120

E-Newsletter

“Point Lookout,” a free weekly e-newsletter from Chaco Canyon Consulting. Featured are essays and white papers on teamwork, conflict, and project management. Many previously published essays and white papers are available at no cost. To subscribe go to <http://www.chacocanyon.com/>. (4/16)

Websites

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- Critical Path Method: Introduction to the Method and Software
- Delegation: Improve Your and Their Productivity
- Ethical Behavior: The Key to Earning Trust
- Holding Productive Meetings to Increase the “Bottom Line”
- Improving Project Communication: Within and Outside of the Project Team
- Marketing 101

- **Mentoring: Guidance for Mentors, Protégés, and Organizations**
- **Monitoring Project Budgets and Schedules: Introduction to the Earned Value Method**
- **Project Planning: How to Think Through Before You DO**
- **Quality: What Is It and How Do We Achieve It?**
- **Release the Leader Within You and Others: The Seven Qualities of Effective Leaders**
- **Retaining and Recruiting “A” Personnel**
- **Scope Creep: Focus on Prevention and Improve Project Performance**
- **Solving Problems and Pursuing Opportunities**
- **Speaking: How to Prepare and Deliver a Convincing Presentation**
- **The Five Habits of Highly Effective Marketers**
- **Time Management: A Roles and Goals Approach to Life Balance**
- **Working Smarter: Using Brain Basics to Enhance Individual and Organizational Performance**
- **Writing: How to Engage and Convince Your Readers**

“Helping You Engineer Your Future”

(<http://www.HelpingYouEngineerYourFuture.com>) offers complimentary ideas and information to help individuals and organizations improve their project management knowledge and skills. Provides links to free online resources and summarizes news and events. (4/16)

“Human Metrics” (<http://www.humanmetrics.com>) provides a free personality test. (4/16)

“TeamTechnology” (<http://www.teamtechnology.co.uk>) provides an introduction to the Myers-Briggs personality profile system and introduces the Mental Muscle Diagram Indicator (MMDI) personality test. (4/16)

“The Project Management Institute” (<http://www.pmi.org/>) is the official website of the PMI. Included are membership information, conference and seminar announcements, calls for paper, and a bookstore. (4/16)

Blog

“All About Project Management Offices,”

(www.aboutpmos.blogspot.com) is described as “a discussion of project management offices from the perspective of the director of the PMO.” Includes links to websites and podcasts.
(4/16)

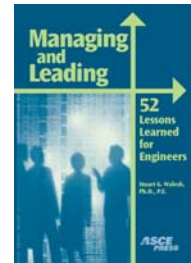
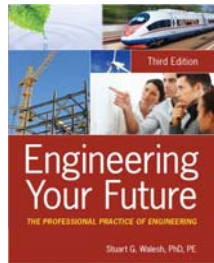
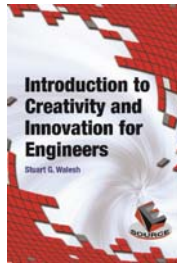
APPENDIX B: PRESENTER

Stuart G. Walesh, PhD, PE provides management, engineering, education/training, and marketing services. He draws on more than 40 years of engineering, education, and management experience in the government and private sectors to help individuals and organizations engineer their futures. Walesh has functioned as a project manager, department head, discipline manager, marketer, professor, and dean of an engineering college.

Representative clients: include ASCE; Boston Society of Civil Engineers; BSA Life Structures; Castilla La Mancha University; CDM; Clark Dietz; Daimler Chrysler; DLZ; Earth Tech; Utility Board of Evansville, IN; Harris County (TX) Flood Control District; Hinshaw & Culbertson; Indiana Department of Natural Resources; Indiana Department of Transportation/Purdue University; J. F. New; Leggette, Brashears & Graham; Midwest Geosciences Group; MSA Professional Services; PBS&J; Town of Pendleton, IN; Pennoni Associates; Taylor Associates; City of Valparaiso, IN; University of New Haven; University of Wisconsin Engineering Professional Development; and Wright Water Engineers.

Walesh authored *Urban Surface Water Management* (Wiley, 1989), *Flying Solo: How to Start an Individual Practitioner Consulting Business* (Hannah Publishing, 2000), *Managing and Leading: 52 Lessons Learned for Engineers* (ASCE, 2004), *Managing and Leading: 44 Lessons Learned for Pharmacists* (ASHP, 2008, co-authored with Paul Bush, Pharm.D), *Engineering Your Future: The Professional Practice of Engineering* - Third Edition

(Wiley and ASCE Press, 2012), and *Introduction to Creativity and Innovation for Engineers* (Pearson, 2016).






Walesh is author or co-author of over 200 publications and presentations and has facilitated or presented over 200 workshops, seminars, webinars, and meetings throughout the U.S. He recently chaired NSPE's Engineering Body of Knowledge Subcommittee and has chaired many national committees.

In 1995, he received the Public Service Award from the Consulting Engineers of Indiana; in 1998, the Distinguished Service Citation from the College of Engineering at the University of Wisconsin; in 2003, the Excellence in Civil Engineering Education Leadership Award presented by ASCE; in 2004, he

was elected an Honorary Member of ASCE; in 2005, he was elected a Diplomate of the American Academy of Water Resource Engineers; in 2007, he was named Engineer of the Year by the Indiana Society of Professional Engineers and received a Distinguished Service Award from the National Society of Professional Engineers; in 2008, he received the William H. Wisely American Civil Engineer Award from ASCE for leadership in promoting engineering as a profession; in 2009, he received the George K. Wadlin Distinguished Service Award from the Civil Engineering Division of the American Society for Engineering Education; in 2010, he was named a Fellow Member of the National Society of Professional Engineers; in 2013, he received an Alumni Achievement Award from Valparaiso University; and in 2014, he received the Thomas A. Morris Leadership Award from the Indiana Society of Professional Engineers.

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Example of increased complexity:
Possible one-on-one and one-on-two or more relationships based on group size.

Size of group	Size of group excluding manager/leader (n)	Group configuration with relationships	Maximum number of relationships (R)
2	1		1
3	2		6
4	3		18
Etc.	Etc.	Etc.	Etc.

/ASCEProjCommunicationWebinar

129

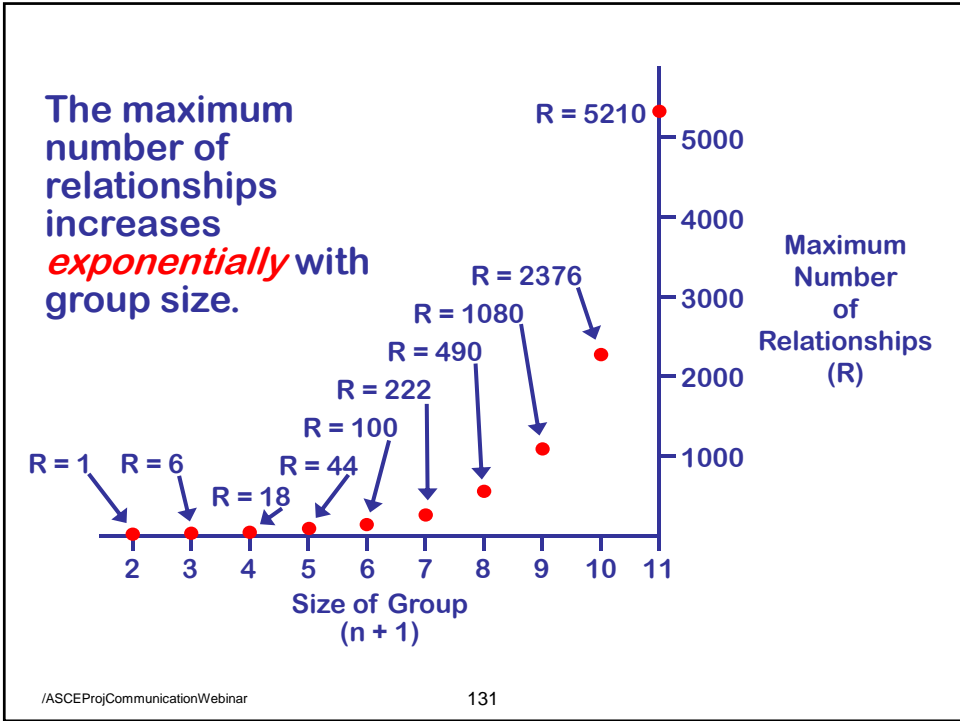
R = Maximum number of relationships = Number of single relationships from manager/leader to group members + Number of one-on-one relationships among group members + Number of group relationships (manager/leader and individual group members interacting with two or more others)

$$R = n\left(\frac{2^n}{2} + n - 1\right)$$

Source: Korzybski, 2002; Polakov, 1933

/ASCEProjCommunicationWebinar

130



APPENDIX D: COMMUNICATING GLOBALLY

Thoughts for *communicating globally*: Clients, team members, and other stakeholders

/ASCEProjCommunicationWebinar 132

- Study culture's/country's *history*.
- Be aware of civil and religious *holidays*.
- Learn several *phrases* in their language (e.g., thank you, good morning). Visit a language department at your local college/university to learn the correct pronunciation.

- Avoid *“our” sarcasms, clichés, jokes, etc.* which can be easily misunderstood.
- Appreciate that *written communication* will often get more attention.

- Be careful to *understand common, frequently used words.*
 - “Hai” in Japanese means “I’ve heard you speaking” but does not mean “I agree” and/or “will do as you suggest.”
 - “Claro” in Spanish means “that is obvious,” but does not mean “I agree.”
 - “Table it” in Canada and UK means discuss it now.

- Understand *customs/protocol* (e.g., coffee before discussing business in the Middle East, avoid hand on shoulder in many cultures/countries).
- Recognize that some individuals may view *questions* as a sign of mistrust.
- Focus on understanding *their goals.*

Sources: For all, except “common words” advice: P. Carrato, Bechtel; M. Fink, A. Epstein and Sons; D. Lau, CDM; J. Sauer, BSA Life Structures; and R. Schroedel, Earth Tech. See Weiss, 2003, for common words advice, and Silver, 2009 for additional ideas.

- Avoid being *directly critical* of someone in China. The Chinese place great value on “saving face” and maintaining a high level of respect for one another.
- Note that Asian cultures put much more value on *face-to-face communication* than, for example, Americans and Asian cultures highly value *relationships*.

Source: Gohring, 2004.

/ASCEProjCommunicationWebinar

137

APPENDIX E: RED FLAG WORDS

Absolutes and superlatives

All, always, any, best, every, highest, maximum, minimum, never, none, only

Words of promise

Approve, assure, ensure, examine, certify, guarantee, insure, investigate, supervise, test, warrant

/ASCEProjCommunicationWebinar

138

Words of multiple meanings/interpretations

**Complete, defend, equal, essential,
estimate, expert, final, full, furnish,
install, necessary, periodic, required,
safe, specialist, thorough**

Source: Adapted from Dixon, 2007

/ASCEProjCommunicationWebinar

139

APPENDIX F: GENERATIONS IN YOUR WORKPLACE AND BEYOND

<u>Generation¹</u>	<u>Birth years¹</u>	<u>Age range in 2014</u>	<u>Preferences/ characteristics</u>
Traditionalists¹ (or Veterans born before 1939²)	Before 1945	69 or older	<ul style="list-style-type: none"> • Respectful of authority² • Solid work ethic • More motivated to exceed expectations than younger workers⁵
Baby boomers¹	1946 - 1964	50 - 68	<ul style="list-style-type: none"> • Competitive, pay your dues³ • Workaholics, committed to employer, live to work¹ • Love/hate view of authority² • More motivated to exceed expectations than younger workers⁵

/ASCEProjCommunicationWebinar

140

<u>Generation¹</u>	<u>Birth years¹</u>	<u>Age range in 2014</u>	<u>Preferences/ characteristics</u>
Generation X ¹	1965 - 1980	34 - 49	<ul style="list-style-type: none"> • Skeptical, independent-minded³ • Prefer learning via mentoring and coaching, detest incompetent leadership, want involvement in mission and vision, need many positive strokes⁴ • Balance work and personal life, committed to career not employer, limited supervision, embrace technology¹ • Unimpressed by authority²

/ASCEProjCommunicationWebinar 141

<u>Generation¹</u>	<u>Birth years¹</u>	<u>Age range in 2014</u>	<u>Preferences/ characteristics</u>
Generation Y ¹ (or Millennials ²)	1981 - 2000	14 - 33	<ul style="list-style-type: none"> • Teamwork, feedback, technology³ • Married to technology, over-indulged, instant gratification, flexibility¹

Sources: 1) *PBS&J Highlights*, 2008; 2) ASCE, 2007; 3) White, 2008; 4) Hessen and Lewis, 2001; 5) Frehsee, 2013

/ASCEProjCommunicationWebinar 142