

TOMORROW:

NUZIP STANDARDS DEVELOPMENT EXERCISE (1)

**YOU HAVE ALL RECEIVED GENERAL BACKGROUND AND ROLE SPECIFIC BRIEFING.
PLEASE CAREFULLY REVIEW.**

This exercise is intended to help introduce through experience multiple dimensions and complex motivations often involved in standards negotiation (with subtleties that are difficult to convey otherwise.) Though some technical background is given, emphasis is more on strategic issues than technical merit. The technology/performance standard example is highly simplified – discussion after working through the exercise in a class setting might delve into deeper issues in emerging technologies/systems, as well as broader marketing, finance, political, organizational, design etc. considerations.

STANDARDS DEVELOPMENT NEGOTIATION

WHY IS PARTICIPATION IN STANDARDS DEVELOPMENT SO IMPORTANT?

- Push strategic agenda; influence standards (encourage favorable, block unfavorable); avoid giving competitors advantage (recognizing that a standard can limit basis for competitiveness)
- Help advance field and key systems
- Build relationships
- Help assess strengths and vulnerabilities
- Use as test bed for new ideas
- Learn (from how discussed):
 - Current, potential competitors' thinking
 - Current emerging alliances
 - Technology evolution paths; research directions

VERY QUICK REVIEW OF NEGOTIATION BASICS

- Define your own interests and goals (continually refine)
- Assess interests and goals, absolute positions of other parties in the negotiation
- Seek agreement that maximizes your profit (this may mean first “growing the pie”, and could lead to pulling out of negotiation)
- Particularly if you will need to negotiate again with some of all of the same parties and given the need to implement agreement, work to help them to be comfortable with the agreement
- Multi-party negotiation (including standards) involve dynamic (shifting) alliances among parties

ADDED COMPLEXITY IN STANDARDS NEGOTIATION (CONTINUED)

- Understanding of own interest already a challenge. Standards can be a platform impacting across organization and both current and uncertain future competitive position; ideal rep needs both technical and strategic/management understanding; Participants may represent multiple interests including what is best for their industry, country, company or personal agendas
- Parties are often very mismatched- differing in
 - types of organizations ranging from governments to industry to other stakeholders,
 - levels and standing of individual representatives,
 - varying agendas, knowledge bases, and experience in target domain and standards setting in general,
 - cultures and development stages

ADDED COMPLEXITY IN STANDARDS NEGOTIATION (CONTINUED)

- Goals of participation extend beyond “winning”; consequences of pulling out can be significant and negotiations & standards setting will continue without you
- Strategic interests may have complex and distinct short versus long-term components
- Likely will encounter parties again with different starting alliances and perhaps changed agendas
- Process is often argumentative
- Negotiations often have a significant informal as well as formal component
- **Success of standards development determined by acceptance and implementation of standard**

EXAMPLE QUESTIONS FOR NEGOTIATION PLANNING

- Whom/what do I represent? How could my company's needs change? What is critical to me? What authority do I have?
- What do I know and not know? What can/should I learn from the negotiations?
- Who is at the table? Whom/what do they represent? How are they interrelated? How might their needs change?
- What is the position, authority and standing of the representatives? How might negotiations change if the reps change?

- What do they know and not know? Can I expand their knowledge productively?
- Who could block? Who might enable?
- How are current negotiations linked to other negotiations? Who might I need in the future and how?
- What are my underlying assumptions (and those of other parties)?
- What are my competitive strengths and weaknesses? How might these change?
- How might the focus technology change and how would this impact?

NUZIP STANDARDS DEVELOPMENT EXERCISE (2)

CHALLENGES UNDERLYING STRONG INDUSTRY PRESSURE FOR NEW STANDARD

- Multiple and growing number of machines and devices on factory floor and beyond that need to be interconnected
- Continually evolving IT technologies and analytic potential, stakeholder expectations (including integration with broader office systems) and emerging demands of cross-enterprise smart grid pushing increased speed and accuracy of data throughput
- Increased speed and interconnections heightening security risks

NUZIP STANDARDS DEVELOPMENT EXERCISE (3)

TECHNICAL TRADE-OFFS ADDRESSED IN EXERCISE

- System-wide speed of throughput
- Determinism (reaction time – speed required data is received and confirmed, and extent to which this is consistent and predictable); mitigates throughput speed
- Complexity (difficulty in set up and maintenance – how much expertise and training is required); difficulty is transitioning from legacy systems

NON-TECHNICAL FACTORS: Strategic interests, level of industry development, local economic and market constraints, political and trade relations, varied players and agendas

NUZIP STANDARDS DEVELOPMENT EXERCISE (4)

You have been assigned to represent one of 5 countries (A-E) which have varying concerns related to a technology (which has a de-facto/ market determined standard) and has different goals in negotiations to develop a formal new standard. Some of you have instead been designated as a “Chair” /Secretariat.

You have been given general background and a role-specific briefing on your position. PLEASE REVIEW.

TASKS

- Assess needs and concerns, define basic strategy – both ideal and fallback position
- Identify and assess positions and foundations of other participants, refine strategy
- Pursue strategy through both open session and, as appropriate and necessary, private interaction during breaks

NUZIP STANDARDS DEVELOPMENT EXERCISE (5)

KEY UNDERLYING TECHNOLOGY: NUZIP

Country A firms originated technology and are market leaders; Country A firm only one with demonstrated (and now patented) high speed approach. Country C is evolving alternative, incompatible, approach which may have advantages - but no time line for commercial launch.

There is strong industry pressure for high speed standard to guide and support investment planning.

NUZIP STANDARDS DEVELOPMENT EXERCISE (5)

COUNTRY PROPOSED DRAFT STANDARD

1. The standard for NUZIP will be high speed: 10 mbs -1 gb throughput speed with less than 1 mbs reaction time.
2. The technology will be based on the Country A approach including its level of safety and security.
3. It will be backward compatible and support use at lower levels.

If a standard is not approved in the current session, it will be put off until at least next year

NEGOTIATION PROCESS AND INSTRUCTIONS

STAGES

1. 15 minutes preparation within groups

Use this time to review role assignments and consider strategy. While you cannot embellish or change the technology, you can and should be creative in anticipating other parties' positions (refining assessment as negotiations proceed), how you can address them and how they might respond. What is critical to you? What will you reveal - or not – and when about your interests and thinking? What do you need, how urgently? Who might be allies? Who might be enemies?

2. 20 minutes formal negotiation:

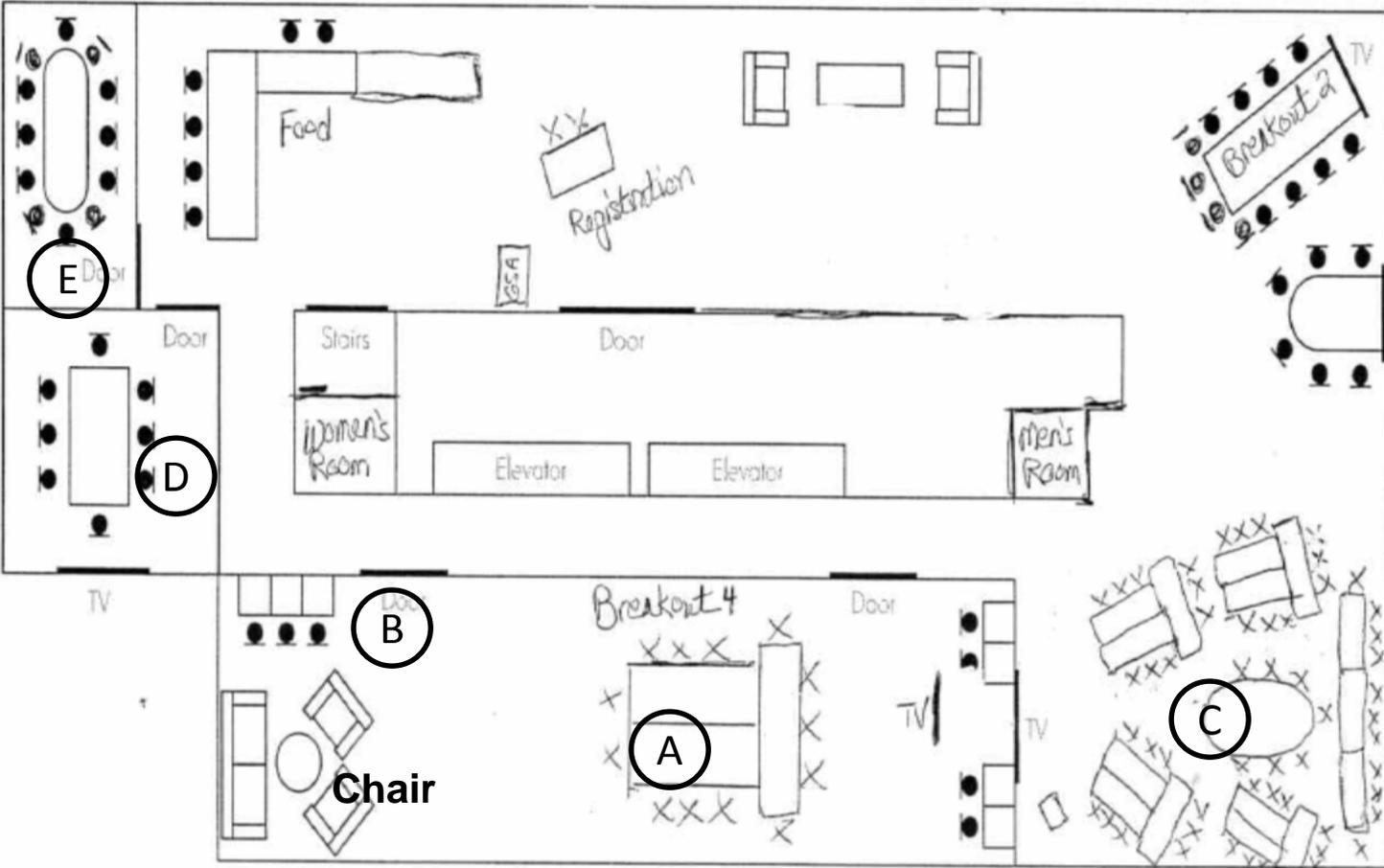
Each group will make brief opening statements and then offer further comments and counterpoints/questions with permission of Chair, The Chair can call for a vote at any time. Voting will follow ISO rules with a consensus (approval of standard) determined by agreement of 2/3 of voting participants (in this case 4 of 5 voting participants).

NEGOTIATION PROCESS AND INSTRUCTIONS

- 3. 15 minute break** (you may use this time for informal interactions with other groups)
- 4. 15 minutes formal negotiation**
- 5. 15 minute break** (you may use this time for informal interactions with other groups)
- 6. 10 minutes final formal negotiations** (if necessary)

Main Conference Area

Breakout 3



Catering Room

Keynote & Breakout-1

DEBRIEF DISCUSSION

Summary of exercise country characteristics and negotiation goals

Country	Market position	Negotiation goals
A	Leader (large)	Fast setting of moderately high standard – preferably referencing your approach
B	Follower (large)	Slow standard process
C	Innovator (small)	Push significantly higher standard – generic or following your approach, actively participate in standards development to build credibility and acceptance
D	Customer - strong global position in industry which could apply technology – if it were further developed	Much higher standard ASAP to pull development
E	Significant industry but struggling globally; concerned with security	Block new standard; push for stringent testing

DISCUSSION QUESTIONS (1)

STAYING WITHIN ROLES (Each “country” and Chair responds):

1. What was your strategy? What impacted this during the negotiation?
2. How close did you come to achieving your objectives?
3. What did you learn about the others at the table?

DISCUSSION QUESTIONS (2)

NOW STEPPING OUTSIDE OF ROLE (Return to your normal selves; open discussion)

1. What might you expect in reality that was not captured in the exercise?
2. What did the exercise teach you about standards?
3. How could standards (and the related development process) impact planning, operations and innovation?

DISCUSSION QUESTIONS (3)

5. What skills/attributes and knowledge are needed for negotiators to achieve institutional goals?
6. How could this exercise be used in varying course settings? What could/should be modified?

***NUZIP* INDUSTRIAL COMMUNICATION STANDARD**

COUNTRY PROPOSED V 1.0

1. The standard for NUZIP will be high speed: 10 mbs -1 gbs throughput speed with less than 1 ms reaction time.
2. The technology will be based on the Country A approach including its level of safety and security.
3. It will be backward compatible and support use at lower levels.

NUZIP INDUSTRIAL COMMUNICATION STANDARD

COUNTRY PROPOSED V 1.1

1. The standard for NUZIP will be high speed: 10mbs -100mbs throughput speed with less than 100ms reaction time.
2. The technology will be based on the Country A approach including its level of safety and security open for review.
3. It will be backward compatible and support use at lower levels.

- What can we do to further stimulate and enable you to more thoroughly incorporate standards issues in your teaching/practice?
- How can we build and maintain a support community?
- Who else should we engage?
- What will YOU do next?

A New Teaching Website

www.northwestern.edu/standards-management



The growing complexity and dynamics of services, products, and systems make technical standards and how they develop more critical and relevant for planning, teaching, and research. It also adds urgency to coverage of strategic implications. This site offers sample teaching modules, and it links standards articles and resources to pressing business topics. It will evolve through its core discussion forum.

This site was launched with support from the **National Institute of Standards and Technology (NIST)** in collaboration with the industry-academic **Global Advanced Technology Innovation Consortium (GATIC)**. Both thank Northwestern University for hosting this site and for their key role in its design.

- [Learn more about this site.](#)
- [See our definition of standards.](#)

Explore topics

Find examples of emerging challenges, with links to abstracts and papers showing the impact and contribution of standards. You can also access discussion threads.

- [Innovation and entrepreneurship](#)
- [Standards development](#)
- [Supply chain](#)
- [Smart systems](#)
- [Sustainability](#)

[Read an overview of our topic areas.](#)

In memorium

Just as this website was preparing to launch, we learned of the death of Dr. Bruce Harding, a key advisor. Bruce was not only a strong supporter of this initiative; he was a longtime friend to many in the standards arena and innovation arena. He was Vice President, Standardization and Performance Testing, American Society of Mechanical Engineers (ASME); Immediate Past-Chair, American National Standards Institute (ANSI) Committee on Education; Chair, International Organization for Standardization (ISO) Technical Committee 10, worldwide standards for Technical Product Documentation for product lifecycle management (PLM.) His expertise in standards development and management related to product realization and green manufacturing was woven into his classroom instruction at Purdue University and in research resulting in over 80 scholarly publications. He will be sorely missed.

“Third-class companies make products; second-class companies develop technology; first-class companies set standards.”

- Modern Chinese proverb

GET INVOLVED

[Find teaching resources](#)

[Participate in our forums](#)

[Find a relevant event](#)

[Contact us](#)

ADVISORS AND COLLABORATORS

Guiding site design, paper identification and review, and forum discussion are 20 advisors including faculty, researchers, and industry leaders with expertise in standards management and across our topic areas. [Read their bios.](#)

We are also collaborating with a number of other key standards-oriented and broader industry organizations. The list of collaborators will grow. [Learn about our collaborators.](#)

