The Rules of the Global Game: Standards-Setting and National Cultures

April 24, 2015

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THE COMPLEX INTERRELATED DIMENSIONS OF STANDARDS AND STANDARD-SETTING
OUTLINE OF TALK

A. The quiz (Japan)
B. General emerging context
C. Introduction to standards and standard setting with a quick China case
D. Overview of culture
E. Japan, China and Korea cultural and institutional/political examples of variation
1. When you receive the “silent treatment” during a negotiating session in Japan, it could mean:

a. The Japanese are having difficulty understanding you
b. The Japanese feel comfortable with you
c. The Japanese feel uncomfortable with the discussion
d. All of the above
e. None of the above

Culture, Legacies, Structure
- Assumptions
- Communication styles
- Risk, uncertainty tolerance
- Products, Processes, procedures
- Regulations
- Infrastructure

Globalization
- Technologies
- Markets
- Finance
- Competition
- Operations

Emergence (and convergence)
- Technologies
- Markets
- Competition

STANDARDS

Accelerating pace of change, complexity and interconnection

THE OVERALL DYNAMIC PLANNING AND OPERATIONAL CONTEXT
From Prof. dr. Knut Blind, Standardization: A Catalyst for Innovation ERIM, 2009
STANDARDS TOO LATE
STRATEGIC IMPORTANCE OF STANDARDS

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

- contemporary Chinese proverb

STANDARDS AS BRIDGE

Technology – Strategy
Innovation – Legacies
Product – Market
Corporation – Ecosystem
Industry - Government
DEFINITION OF STANDARDS

The important International Organization for Standardization (ISO) indicates Standards are documents achieved
by consensus and approved by a recognized body that provides, for
common and repeated use, rules, guidelines or characteristics for activities
or their results aimed at the achievement of the optimum degree of order
in a given context.

MY DEFINITION:
A technical Standard is a documented and industry/market applied
agreement containing uniform engineering or technical guidelines to ensure
that materials, products, processes, practices and/or services can be
consistently produced and used and remain adequate for their purpose
within a given context. This includes ensuring safety and enabling required
interoperability with other materials, products, etc.
A “QUALITY” STANDARD

• clear, not vague or with internal contradictions; as simple as possible
• As relevant, backward (legacy) compatible and/or support transition
• potential to be platform for innovation; allows flexibility
• consensus developed and addresses stakeholder concerns
• likely to be implemented in market and by industry
• timing appropriate to support market growth and investment.
## IMPACT ON INNOVATION

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<tr>
<th>INHIBIT</th>
<th>STIMULATE</th>
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<tr>
<td>Lock-in solutions blocking potentially better approaches</td>
<td>Enable platforms; support subsequent generations of innovation; allow focus on component level innovation</td>
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<td>May particularly delay or inhibit radical innovation</td>
<td>Ensure innovations will work with legacy infrastructure and systems (may support transition)</td>
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<td>May reduce choice and competition across approaches</td>
<td>May stimulate competition (within standard defined domain); push incremental innovation</td>
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<td>In a new field, knowledge required to inform standards may be limited</td>
<td>Reduce cost of change and facilitate trade of complex products</td>
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<td>Participation in standards development may be difficult for smaller firms including entrepreneurs</td>
<td>Give investors, consumers and innovators confidence, may grow market including government procurement</td>
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<td>May enable global, cross-sector and cross-system collaboration</td>
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Considerations at different phases:

- varying, changing stakeholders, players, agenda, and roles
- identification and integration with existing/legacy technologies, processes and standards; defining what is relevant
- supporting versus constraining innovation
- determination of best standards development process
- different degrees of standardization are optimal at different points in the technology’s evolution
Trend is moving from reactive to *anticipatory* to provide platforms/foundation for corporate planning/technology selection and decisions and innovation

**Challenges include:**

- Standards process has traditionally been slow and deliberate – now need to be more rapid
- How support transition from legacy systems and prior standards?
- How maintain flexibility and support innovation, avoiding choosing an approach too soon? How define scope of standard?
- What does the anticipatory standard build on, what is relevant?
- Who should/must participate in anticipatory standard development? (may inherently cross traditional boundaries)
- How deal with the wider than usual variation in understanding and knowledge among developers?
- Other?
STANDARDS AND SMART GRID

Standards will be critical related to Smart Grid offering:

• essential common data formats, controls and performance measures across devices, systems, sensors and organizations (including multiple vendors)
• potential consensus selection of development paths
• vehicles for companies to balance individual strategic and operational requirements with implied cross organization/cross-sector, even cross-national environmental and efficiency initiatives
• support for innovation by giving confidence that new products, technologies and processes will be compatible with legacy systems, infrastructure and vendor capabilities, and will be accepted in the market
• support for development of reporting requirements recognizing varying levels of understanding, contexts and proprietary concerns
OTHER TRENDS IN STANDARD SETTING

• Increased incorporation of Standard Essential Patents {FRAND: “fair, reasonable and non-discriminatory” fees}

• Design/prescriptive to performance

• Governments, SDO’s to industry consortia
WHY IS PARTICIPATION IN STANDARDS DEVELOPMENT SO IMPORTANT?

• Push strategic agenda; influence standards (encourage favorable, block unfavorable)
• 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
Signaling national/cultural issues beyond technical- a case: QUALCOMM IN CHINA
CONSIDER THESE NEWS BULLETS – WHAT IS UNDERLYING THEM? WHAT MIGHT THEY IMPLY? WHAT DON’T YOU KNOW?

ON

• March 1993: Qualcomm conducts first meetings about CDMA with Chinese officials.
• December 1993: Qualcomm signs agreement in Beijing to conduct CDMA field trials.
• April 1994: Qualcomm begins testing CDMA in China.
• October 1994: Qualcomm calls field tests a "complete success."
November 1996: China's Great Wall Mobile Communications (gov’t created entity to deploy CDMA) drafts plan to build CDMA network.

May 1997: Qualcomm signs deal to sell wireless phones to Great Wall.


November 1997: Great Wall begins installing trial CDMA network.
March 1998: China postpones approval of Qualcomm's manufacturing plants, delaying regional CDMA phone systems in Xian, Beijing, Shanghai and Guangxi.

February 1999: China imposes moratorium on deployment of CDMA, according to news reports.
ON

- April 1999: Qualcomm's stock jumps on reports that China's telecom ministry plans to buy $500 million worth of CDMA equipment.
OFF?

ON?

- November 1999: U.S. agrees to support China's entry into the World Trade Organization.
- February 2000: Qualcomm drafts deal with China Unicom (government authorized carrier) for a nationwide CDMA network.
OFF?

• Within days, news reports state that the Chinese government has delayed the CDMA network indefinitely.
ON

- March 2000: Chinese Premier Zhu Rongji denies any delay in rolling out CDMA.
- June 2000: Qualcomm licenses CDMA technology to eight Chinese manufacturers.
- September 2000: Senate approves normalizing trade relations with China, an important step for entry into the WTO.
- December 2000: China's telecom ministry backs deployment of a nationwide CDMA network.
- March 2001: Unicom invites companies to bid on multibillion-dollar CDMA network.
OFF?

• April 2001: U.S. spy plane collides with Chinese fighter jet and lands in China.
• May 1, 2001: Unicom postpones awarding CDMA contracts.
ON?

• May 10, 2001: Chinese President Jiang Zemin tells business leaders, including Qualcomm CEO Irwin Jacobs, that it would be useful to have CDMA in China.
• May 16, 2001: Unicom signs CDMA equipment contracts worth $1.5 billion with Ericsson, Motorola and others.
• May 25, 2001: Spy plane incident resolved.
• July 2001: Qualcomm opens center in China to provide training for CDMA. November 2001: China accepted into the WTO. Unicom says it will deploy its CDMA network in January.
• December 2001: Bush formalizes permanent normal trade status with China.
• January 2002: Unicom launches national CDMA wireless network.
1. There was significant in-fighting between the Ministry of Electronics Industries (MEI) and the Ministry of Posts and Telecommunications (MPT). MPT had a monopoly but in 1993, MEI was approved to form a second carrier known as China Unicom. MPT, which was using GSM, worked to slow entry of CDMA. In 1998 MEI and MFT were both abolished and a new Ministry of Information (MII) was formed.

2. CDMA was viewed as American technology and its fate often rose and fell with US-China relations. China used CDMA as a bargaining chip to push US support for China’s admission to WTO. The US sometimes also pushed for CDMA in exchange for support.
3. In 1998, the Great Wall (formed by MPT and the People’s Liberation Army) failed to get approval from MII for permanent operation. China Unicom was also ordered to stay with GSM officially to conserve funding for transition to the expected 3G network.


5. In 2000, MII said a decision on CDMA was on hold pending resolution of the WTO bid and trade agreements with the US going through Congress.
OTHER REPORTED POTENTIALLY IMPACTING FACTORS

The Chinese government was reportedly unhappy with the terms of the initial deal between Qualcomm and China Unicom. Qualcomm later reduced fees.

Chinese manufacturers needed more time and technology transfer to be ready to make CDMA equipment.

In 2000, Qualcomm brought along Brent Scowcroft to meetings. Scowcroft had been National Security Advisor to Presidents Ford and Bush and in that capacity was one of the few Western leaders to visit Beijing soon after the Tiananmen Square incident.
China has launched an investigation of Qualcomm under the country’s Anti-Monopoly Law. Though the law has been used generally to keep prices and inflation down, likely contributing factors include the fact that China Mobile is preparing to introduce high speed 4G wireless and will need to negotiate license and component purchase from Qualcomm.

But not coincidentally, there have also been growing security related tensions between the US and China with a U.S. congressional investigation concluding that Huawei (a large Chinese company) posed security risks to the U.S. because their telecom equipment could be used for spying on Americans. The China action may be retaliation.
In most countries a central entity, usually part of the government, has primary responsibility for standards development. In the US, the American National Standards Institute (ANSI) helps coordinate the essentially private sector voluntary US standardization system, certifies “national standards” and represents the US in ISO, and the National institute for Standards and Technology (NIST) coordinates government standards usage and collaboration with industry (and carries out research underpinning standards). But neither develops standards.
WHO DEVELOPS STANDARDS AND HOW

INTERNATIONAL:

• non-governmental organizations (NGOs) organizations with countries as members such as
  – International Electrotechnical Commission (IEC);
  – International Telecommunications Union (ITU – actually part of the UN), and
  – International Organization for Standardization (ISO.) (Note the US based Institute of Electrical and Electronics Engineers (IEEE ), for example, also has global but primarily individual private sector members.) There are also regional bodies such as for Latin America, Europe, Africa, Caribbean, and Asia-Pacific among others.

• Enforcement of international standards comes officially through the World Trade Organization and the associated Technical Barriers to Trade (TBT) agreement and an arbitration system punishing non-compliance. This is actually rarely used.
As is true of most national level formal standards organizations, work is done through **technical committees** formed around technology foci (within ISO there are over 3000 committees) and in turn, often through **working groups**. Whereas each country has a single vote, companies and others may participate on behalf of their country on committees/groups.
ISO PROCESS

1. New standard is proposed to relevant technical committee

   If proposal is accepted

2. Working group of experts start discussion to prepare a working draft

3. 1st working draft shared with technical committee and with ISO CS

   If consensus is reached within the TC

4. Draft shared with all ISO national members, who are asked to comment

   If consensus is reached

5. Final draft sent to all ISO members

   If standard is approved by member vote

6. ISO International Standard
HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

SITUATION:
THERE ARE 14 COMPETING STANDARDS.

14?! RIDICULOUS!
WE NEED TO DEVELOP ONE UNIVERSAL STANDARD THAT COVERS EVERYONE'S USE CASES. YEAH!

SOON:

SITUATION:
THERE ARE 15 COMPETING STANDARDS.
How Standards Proliferate:
(see: A/C chargers, character encodings, instant messaging, etc)

**Situation:**
There are 14 competing standards.

14?! Ridiculous!
We need to develop one universal standard that covers everyone’s use cases.

Yeah!

**Soon:**
There are 15 competing standards.

**Situation:**
One really thick standard with 14 independent chapters.
STANDARDS DEVELOPMENT NEGOTIATION
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

Standards negotiators reflect multiple perspectives:

- corporate/organizational goals (doing what’s right for company)
- national interests (doing what’s best for country)
- industry, global community (doing what will work best and advance field)
- personal (pride) or pre-established relationships
- strategic – give in now for support in later negotiations

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**

- First task in actual negotiations: agreeing on rules

- 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
• Goals of participation extend beyond “winning”; consequences of pulling out can be significant and negotiations & standards setting will continue without you

• Likely will encounter parties again with different starting alliances and perhaps changed agendas

• Need to establish credibility to really negotiate

• Process is often argumentative

• Negotiations often have an informal as well as formal component

• Success of standards development determined by acceptance and implementation of standard - but this may not be the goal of all participants – why not?
DEFINING CULTURE

An integrated system of learned values, assumptions and beliefs associated with a group that are transmitted from generation to generation and are slow to change and which strongly influence perceptions, behavior, decision making, and total way of life.

Culture is "to human collectivity what personality is to the individual"

Geert Hofstede
How you meet
How you initiate communication
How you communicate – and what constitutes communication
When you communicate – or don’t
Where you communicate
Who communicates - and to whom (and how what is communicated and how varies by whom)
What you communicate
How decisions are made
The speed of decision making
The speed of decision implementation
How conflict is managed
What regulates business or other relationships
(and more)
ILLUSTRATION CULTURE IMPACTS ON ASPECTS OF INNOVATION

1. Invention

*Risk taking encouraged*
- free to try and fail
- think/act “unconventionally”
- depart from the past
- long-term perspectives
- change/improvement are OK
- constant questioning/challenging of assumptions,
- redefining operating domain

*Rewards*
- new ideas valued & encouraged
- built into operations

*Open to:*
- advice, criticism, conflict
- new/varied people, mobility

2. Implementation

*Consensus*
- shared visions, ownership
- teamwork, mutual respect
- equitable sharing of rewards
- jobs, budgets flexibility

*Responsibilities*
- decentralization
- freedom to act
- ability to influence
- resources allocated based on performance

*Process*
- up-front preparation
- concern over impact
- concern for detail
- time sensitivity
- results orientation

3. Integration/external (cross-cultural) collaboration

*Willingness*
- to loosen control
- expose weakness/needs
- transfer and accept knowledge (2 way)

*Ability and experience*
- assess and communicate detailed requirements
- explicate technology plan and development process/vision
- define/redefine real core competencies
REQUIREMENTS FOR SUCCESS IN STANDARD-SETTING WITH CULTURAL CONNOTATIONS

• Authority to negotiate; ability to aggressively assert position

• Understanding of targeted product/technology/service and advantages, disadvantages of position

• Recognition of strengths and weaknesses and those of others at the table; willingness “teach” or challenge

• Nature and recognition of goals and ability/willingness pursue appropriate strategy (support or block/delay standard; alliance etc.)

• Ability to bridge strategy and technology (cross-function/discipline)

• Cross-cultural comfort and communication skills applied to formal and informal interaction

• Reputation; credibility

• Patience, tolerance/appreciation for technical detail

• Select appropriate committees (analysis) and roles; pay cost
UNDERLYING ISSUES

• Planning horizons (extent of formal planning)
• Use of analytic processes
• Tolerance for change; need for control
• How knowledge is managed and protected; willingness to share, learn
• Attitudes toward others
• How representative is designated; their characteristics
• Decision making process/org/political structure (including boundaries and functions); who need to be engaged
• Agenda, goals for standard setting participation
CHINA, KOREA EXAMPLE VARIABLES (CULTURE AND STRUCTURAL)

• China, Korea, Japan negotiations polychromic (versus US, Europe more monochromic) – holistic view, bounce between subjects

• All 3 stress harmony but Korean more aggressive, Chinese see harmony more as a process (Japan more end goal) with stress on advancement; all 3 stress relationships – group but individual contact; all 3 hierarchical and require group support and consensus, checking back

• China key goal for participation (and spurt in unique domestic standards): reduce foreign technology licensing costs

• China reduced but remaining gov. control over process

• China growing success in international standard setting

• China (emphasis on policy and knowledge of rules) and especially Korea stress standards education
Korea’s Roadmap for Lifelong Standardization Education

- Primary School
  - Fun Standards
  - Standards Olympiad

- Secondary School
  - Higher Education
  - University Program

- Post-Formal Education
  - Learn to do/Skill Oriented/Biz Practices

- International Standards
  - Open Workshop
  - Consumer

- Basic Concept
  - Theoretical Application
  - Biz/Practical Application

- Management Development

- Standards in Daily Life
JAPAN ガラパゴス化 (Garapagosu-ka) AND CELL PHONE STANDARDS

Japan’s cellphones are like endemic species that Darwin encountered on the Galapagos Islands – fantastically evolved and divergent from their mainland cousins

Prof. Takeshi Natsuno, Keio University (quoted by Tabuchi, Hiroko, Why Japan’s Cellphones Haven’t Gone Global”, New York Times, July 19, 2009)

Japan has unique mobile standards which, though changing, result in non-Japanese phones not working in Japan but a very advanced feature set for Japanese phones.

Why did this evolve?

Background 1: In the 1990’s Japan offered a 2G phone standards that, for technical reasons (viewed as less innovative than other options and as a poor path to next generation; and lacking established base) was rejected as a global standard.

Background 2: Japanese have traditionally viewed themselves as isolated (“island mentality” and unique; “loosing face” is a significant issue; policies have supported protectionism. The rejection likely reinforced this view and also caused embarrassment
GLOBAL STANDARDS SETTING PARTICIPATION CHALLENGES FOR JAPAN (CULTURAL CONSIDERATIONS; JAPAN HAS HAD DIFFICULTY)

Let’s just take three factors:
• need to aggressively argue position,
• establishing credibility, and
• selecting representative

Japanese approach in standards discussions has often been passive, absorbing information (in Japanese negotiations, goal: relationship building, extended initial info gathering period; culture: maintain harmony, do not accentuate self)

Credibility requires
• establishing expertise and promoting personal and company strength
• developing white papers
• strategically “giving in:” on issues for support in critical later negotiations (need to know what is critical -identify and challenge position)
• actively participating in varied committees – taking on leadership role

Selecting representative- challenge for many countries including US but for Japan trade-off between needed seniority (but expected deference) and technical understanding
For more info on strategic side of standards and standard setting and related teaching (including materials) see:

http://www.northwestern.edu/standards-management/ and CTIM materials on Buffett site