ITU Kaleidoscope 2014
Living in a converged world - impossible without standards?

Standardization: A Primer

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Standardization Books

• Standards and Standardization. Norman F. Harriman, 1928
• Standardization: a new discipline. by Lal C. Verman, 1973
• Tracks across continents, paths through history. The economic dynamics of standardization in railway gauge. Douglas J. Puffert, 2009
Three Questions

• Are standards necessary?

• Is standardization desirable?

• Is academic education in standards desirable?
# Technical Order

<table>
<thead>
<tr>
<th>Established by</th>
<th>How order occurs</th>
<th>Term for order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical laws</td>
<td>Inherent</td>
<td>Nature</td>
</tr>
<tr>
<td>Convention</td>
<td><em>Kosmos</em></td>
<td>Reference</td>
</tr>
<tr>
<td><strong>Standardization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private entity</td>
<td>Commercial</td>
<td>Specification</td>
</tr>
<tr>
<td>Government</td>
<td>Required</td>
<td><em>Taxis</em></td>
</tr>
<tr>
<td>Formal stds. body</td>
<td>Consensus</td>
<td>De jure standard</td>
</tr>
<tr>
<td>Consortium</td>
<td>Consensus?</td>
<td>Standard</td>
</tr>
<tr>
<td>Market</td>
<td><em>Kosmos</em></td>
<td>De facto standard</td>
</tr>
</tbody>
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Standardization of Measurement

- Egyptian cubit
- 790 ACE Charlemagne
- 1215ACE Magna Charta
- “Weigh” houses
- Scientific Societies
Standardization of Similarity

• 1300ACE Venetian galley’s components

• 1600ACE The production of dead eyes for sailing ships

• 1700ACE The industrial revolution begins
Standardization of Compatibility

- Late 1700s Railway track gauge
- 1800 Utility companies
- 1904 Gillette razor and blade
- 1950 The information age begins
- 1980s The patent wars begin
Positive Economic Effect of Standards

**Standard succession**
- Measurement
- Similarity
- Compatibility

**Self-reinforcing effects**
- Increase trade
- Increase efficiency
- Increase transfer
Public Good and Private Gain

- Society through its institutions attempts to balance public good and private gain. Standardization is one such institution.

<table>
<thead>
<tr>
<th>Succession of standards</th>
<th>Public good</th>
<th>Means for private gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>Increased trade</td>
<td>Commerce</td>
</tr>
<tr>
<td>Similarity</td>
<td>More efficient (mfg., dist., use)</td>
<td>Patents</td>
</tr>
<tr>
<td>Compatibility</td>
<td>Increased transfer</td>
<td>Utility company</td>
</tr>
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</table>
The Way Forward

- Standardize identification, negotiation and selection, not the communications process.

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<tbody>
<tr>
<td>Adaptability</td>
<td>Communications</td>
<td>Trademarks</td>
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</tbody>
</table>
Three Answers

**Question**
- Are standards necessary?
- Is standardization desirable?
- Is academic education in standards desirable?

**Answer**
- Absolutely
- Increasingly
- Increases awareness but a common core is lacking