

# IEEEJ

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## The Entrepreneur and References (Standards)

Ken Krechmer

Lecturer, University of Colorado at Boulder

<http://www.csrstds.com/klist.html>

[krechmer@csrstds.com](mailto:krechmer@csrstds.com)

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## The Entrepreneur and References

- Define terms: 2 slides
- See the big picture 5 slides
- Solve current problems 3 slides

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## References

Established by	Term
Accident, assumption, convention	common reference
Government	regulation
Private entity	specification
Committee	standard
Market	“de facto” standard

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## Terms

Reference: Common basis to quantify a variable

Standard: A codified reference imposed by an authority, committee or market

Standardization: Process of creating, implementing, or using a standard

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## History and Impact of Technical References

	Age		
	Hunter Gatherer (before 3000BC)	Agrarian (3000 BC - 1750 AD)	Industrial (1750 - 1950)
Succession of references	Symbols		
Economic self-reinforcing mechanism	Communications		
Authorities' involvement in establishing references	Dominate		
New policy area	Trading		
Entrepreneurs' view of references	Unknown		

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## History and Impact of Technical References

	Age		
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Succession of references	Symbols	Measurement	
Economic self-reinforcing mechanism	Communications	Coordination effects	
Authorities' involvement in establishing references	Dominate	Authoritarian	
New policy area	Trading	Taxation	
Entrepreneurs' view of references	Unknown	Undesirable	

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## History and Impact of Technical References

	Age		
	Hunter Gatherer (before 3000BC)	Agrarian (3000 BC - 1750 AD)	Industrial (1750 - 1950)
<b>Succession of references</b>	Symbols	Measurement	Similarity
<b>Economic self-reinforcing mechanism</b>	Communications	Coordination effects	Scaling and learning effects
<b>Authorities' involvement in establishing references</b>	Dominate	Authoritarian	Oversight
<b>New policy area</b>	Trading	Taxation	Patents
<b>Entrepreneurs' view of references</b>	Unknown	Undesirable	Distrustful

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## History and Impact of Technical References

	Age		
	Agrarian (3000 BC - 1750 AD)	Industrial (1750 - 1950)	Information (1950 - 2000)
<b>Succession of references</b>	Measurement	Similarity	Compatibility
<b>Economic self-reinforcing mechanism</b>	Coordination effects	Scaling and learning effects	Network effects
<b>Authorities' involvement in establishing references</b>	Authoritarian	Oversight	Representative
<b>New policy area</b>	Taxation	Patents	Commercial systems
<b>Entrepreneurs' view of references</b>	Undesirable	Distrustful	Winner-take-All

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## History and Impact of Technical References

	Age		
	Industrial (1750 - 1950)	Information (1950 - 2000)	Post-Information (2000 +)
<b>Succession of references</b>	Similarity	Compatibility	Adaptability
<b>Economic self-reinforcing mechanism</b>	Scaling and learning effects	Network effects	Gateway effects
<b>Authorities' involvement in establishing references</b>	Oversight	Representative	Future: Guidelines?
<b>New policy area</b>	Patents	Commercial systems	Copyright and trademark
<b>Entrepreneurs' view of references</b>	Distrustful	Winner-take-All	Fair?

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## The Downside of Controlled Compatibility Standards

Prior to 1984, AT&T controlled its network and interfaces.  
FCC Part 68 introduced new standard interfaces.

IBM patented Token Ring local area networks.  
IEEE standardized Ethernet as IEEE 802.3.

GSM and WCDMA cellular technologies standardized with many IPR holders.

Chinese promote TD-SCDMA as alternative in China.

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## Some Problems With Controlled Compatibility Standards

- The European Union's concern that only Apple iPods can download music from Apple iTunes web sites.
- The Chinese government's push for their own communications technology in Chinese communications systems.
- The European Union and previous US anti-trust actions over Microsoft's proprietary software interfaces.

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## Insights Offered by Succession of Standards

- Adaptability standards support new value systems
- Government should promote guidelines, not solutions
- Patents best applied to similarity
- Need to limit patents in compatibility standards
- Need to avoid patents in adaptability standards

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# Thank you

This lecture is based on: “The Entrepreneur and Standards”

<http://www.iecchallenge.org/papers/>  
<http://www.csrstds.com/IECChallenge2006.pdf>

Ken Krechmer

Lecturer, University of Colorado at Boulder

e-mail: [krechmer@csrstds.com](mailto:krechmer@csrstds.com)

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