



STRATEGIC TECHNOLOGY ANALYSIS (STA)

*Introducing a new discipline in
twenty-one tweets*

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Tweet 1

June 18, 2013



Rias van Wyk @technoscan

12d

We must make technology easier to grasp, to guide, and to communicate. #techknowledge #technology #management

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Tweet 2

June 19, 2013



Rias van Wyk @technoscan 12d

Technology is the major source of economic growth. #techknowledge
#technology #management
#technosphere

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Tweet 3

June 20, 2013



Rias van Wyk @technoscan

11d

Every day there is a global outburst of new technologies: to handle matter (M), energy (E) and information (I) #techknowledge #technosphere

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Tweet 3 (favorited)



Tommie van Zyl favorited



Rias van Wyk @technoscan

13d

Every day there is a global outburst of new technologies: to handle matter (M), energy (E) and information (I) #techknowledge #technosphere

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Tweet 4

June 20, 2014



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10d

Few organizations succeed in
technology=based game=changing
innovation. #technosphere
#techknowledge #technology
#managment

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Tweet 5

June 22, 2013



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9d

Too many innovations fail. Billions of dollars are wasted each year on poor technological investments.
#technosphere #techknowledge

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Tweet 6

June 22, 2013



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7d

Poor technology management
leads to pollution that threatens the
very life giving forces of nature
[#techknowledge](#) [#technosphere](#)
[#management](#)

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Tweet 7

June 25, 2013



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5d

How do we ensure that the positive impact of technology (T+) outweighs its negative consequences (T-)? #technosphere #techknowledge

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Tweet 8

June 26, 2013



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5d

To ensure that technology benefits (T+) outweigh negative consequences (T-) seek technology-conversant managers
#techknowledge #technosphere

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Tweet 9

June 27, 2013



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6d

Technology-conversant leadership
= Technology focused MBA +
Engineering and technology
management (ETM)
[#management_of_technology](#)

[Details](#)

Tweet 10

June 28, 2013



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5d

Technology-conversant leadership
needs properly structured
technological knowledge
[#technosphere](#) [#techknowledge](#)
[#management_of_technology](#)

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Tweet 11

July 1, 2013



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2d

Technological knowledge: How well is it structured?

[#techknowledge](#) [#technosphere](#)

[#management_of_technology](#)

[#technology](#) [#management](#)

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Tweet 12

July 2, 2013



Rias van Wyk @technoscan 1d

Technological knowledge: An anomaly. #techknowledge #technosphere #management_of_technology #technology #management pic.twitter.com/dgLrfnCQkn



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Tweet 12 (Addendum)

July 2, 2013

Technological knowledge: We have an anomaly

- The anomaly:
 - *Specific* knowledge of individual specialties is brilliant
 - *Integrative* knowledge of how they fit together does not exist
- The void:
 - “Missing, in other words, is a theory of technology – an ‘ology’ of technology”
 - Arthur, p.14
- Note three sources in mainstream literature:
 - Olsen, J.K.B. et al (Editors) (2009) *A companion to the philosophy of technology*, Wiley-Blackwell, Chichester, UK.
 - Arthur W.B. (2009) *The nature of technology*, Free Press, New York, NY.
 - Kelly, K. (2010) *What technology wants*, Viking, New York, NY.

Tweet 13

July 5, 2013



Rias van Wyk @technoscan

3h

How integrative technological knowledge was lost.

#technosphere #techknowledge
#management_of_technology
#technology

pic.twitter.com/n6gcw3rku0



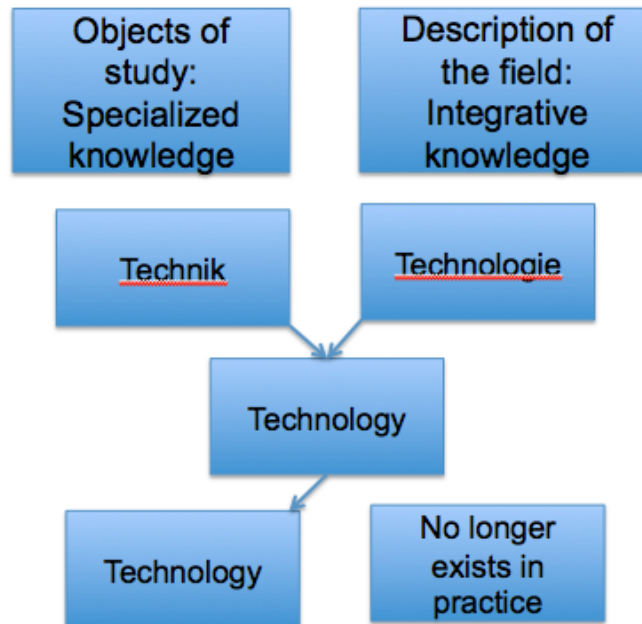
Details

Tweet 13 (Addendum)

July 5, 2013

Integrative technological knowledge:
Lost in translation

- Original terms
- Translation
- Present convention



Tweet 14

July 6, 2013



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3m

We need to rebuild the body of integrative technological knowledge. #technosphere
#techknowledge
#management_of_technology
#technology

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Tweet 15

July 15, 2013



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1m

One source of integrative
technological knowledge
amzn.to/w4vgKQ #technosphere
#techknowledge
#management_of_technology
#technology

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Tweet 16

July 15, 2013



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28m

Integrative technological
knowledge: An agenda

#techknowledge #technosphere

#management_of_technology

pic.twitter.com/Es2f1wHrF3



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Tweet 16 (Addendum)

July 15, 2013

Integrative technological knowledge: An agenda

- Define technology
- Focus on functionality
- Find a common structure
- Create a conspectus

Tweet 17

July 15, 2013



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1 m

Integrative technological
knowledge: Define technology
#techknowledge #technosphere
#management_of_technology
pic.twitter.com/1t5g6kEekK



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Tweet 17 (Addendum)

July 15, 2013

Integrative technological knowledge: Define technology

- Technology is competence created by people and expressed in devices, procedures and human skill
 - Van Wyk, R.J. (2004) *Technology: A unifying code*, Cape Town, Stage Media Group, p. 23

Tweet 18

July 25, 2013



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7h

Integrative technological
knowledge: Focus on functionality
#technosphere #techknowledge
#management_of_technology
pic.twitter.com/ZZH6mY7miq



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Tweet 18 (Addendum)

July 25, 2013

Integrative technological knowledge: Focus on functionality

- The essence of technology is to provide functionality
- Functionality is the ability to transform physical reality and improve social utility
- Transformation involves three actions: (i) Process (ii) Transport (iii) Store: Each action affects three outputs: (i) Matter = M (ii) Energy = E (iii) Information = I
- This yields nine fundamental functionalities that represent a natural order for technology
- The nine fundamental functionalities can be arranged into a 3x3 functionality grid

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July 27, 2013



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2m

Integrative technological
knowledge: A common anatomy
#technosphere #techknowledge
#management_of_technology
pic.twitter.com/8VGa0q8zXC

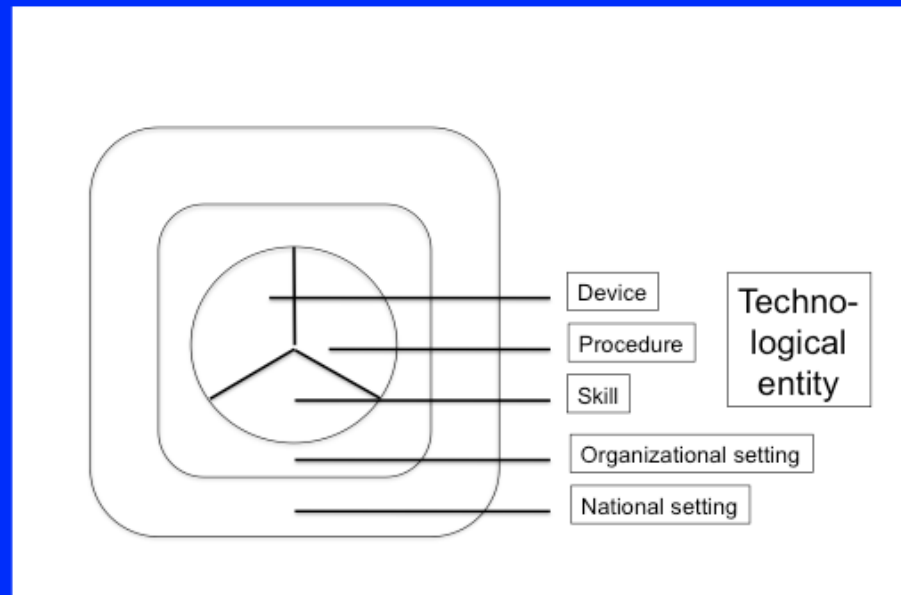


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Tweet 19 (Addendum)

July 27, 2013

Integrative technological knowledge:
A common anatomical structure



Tweet 20

July 29, 2013



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36s

Integrative technological
knowledge: Technological
conspectus #technosphere
#techknowledge
#management_of_technology
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Tweet 20 (Addendum)

July 29, 2013

		Output		
		Matter (M)	Energy (E)	Information (I)
Action	Process			
	Transport			
	Store			

Reformatted from: Van Wyk, Rias J: *Technology - A Unifying Code*, 2004, SMG, Cape Town, p. 34
Based on: Ropohl, Gunter: *Eine Systemtheorie der Technik*, 1979, Carl Hanser Verlag, Munich and Vienna, p. 178.

Tweet 21

August 1, 2013



Rias van Wyk @technoscan

46s

Use technology conspectus for an
"Omega Map" #technosphere
#techknowledge
#management_of_technology
pic.twitter.com/UwNIGgOrzG



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Tweet 21 (Addendum)

August 1, 2013

