INDICATORS: FROM EVIDENCE TO DECISION

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- W.J. Radermacher, P. Martín-Guzmán, E. Giovannini,

Indicators: from evidence to decision

A TWO-WAY DYNAMIC INTERACTION

Going beyond statistical methodology

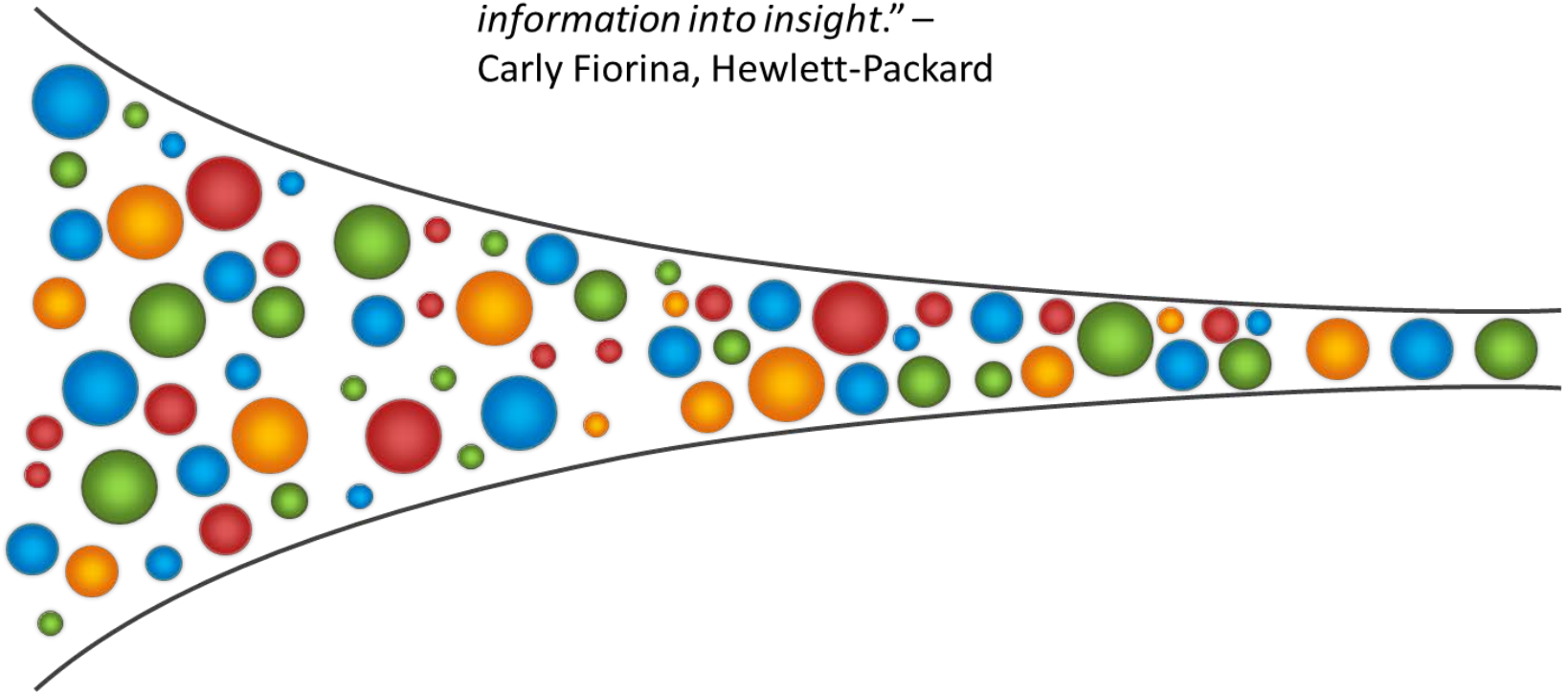
- Borderline of official statistics: Composites, dashboards etc. To be produced with the same brand?
- Caution: This is a potent medication. Follow the prescribed schedule exactly to avoid the risk of potentially severe side effects!
- Feedback loops: Any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes
- Literacy + data culture: Poor statistical literacy becomes a serious ethical issue when data are used to determine funding or actions that impact on people's lives

Indicators: from evidence to decision

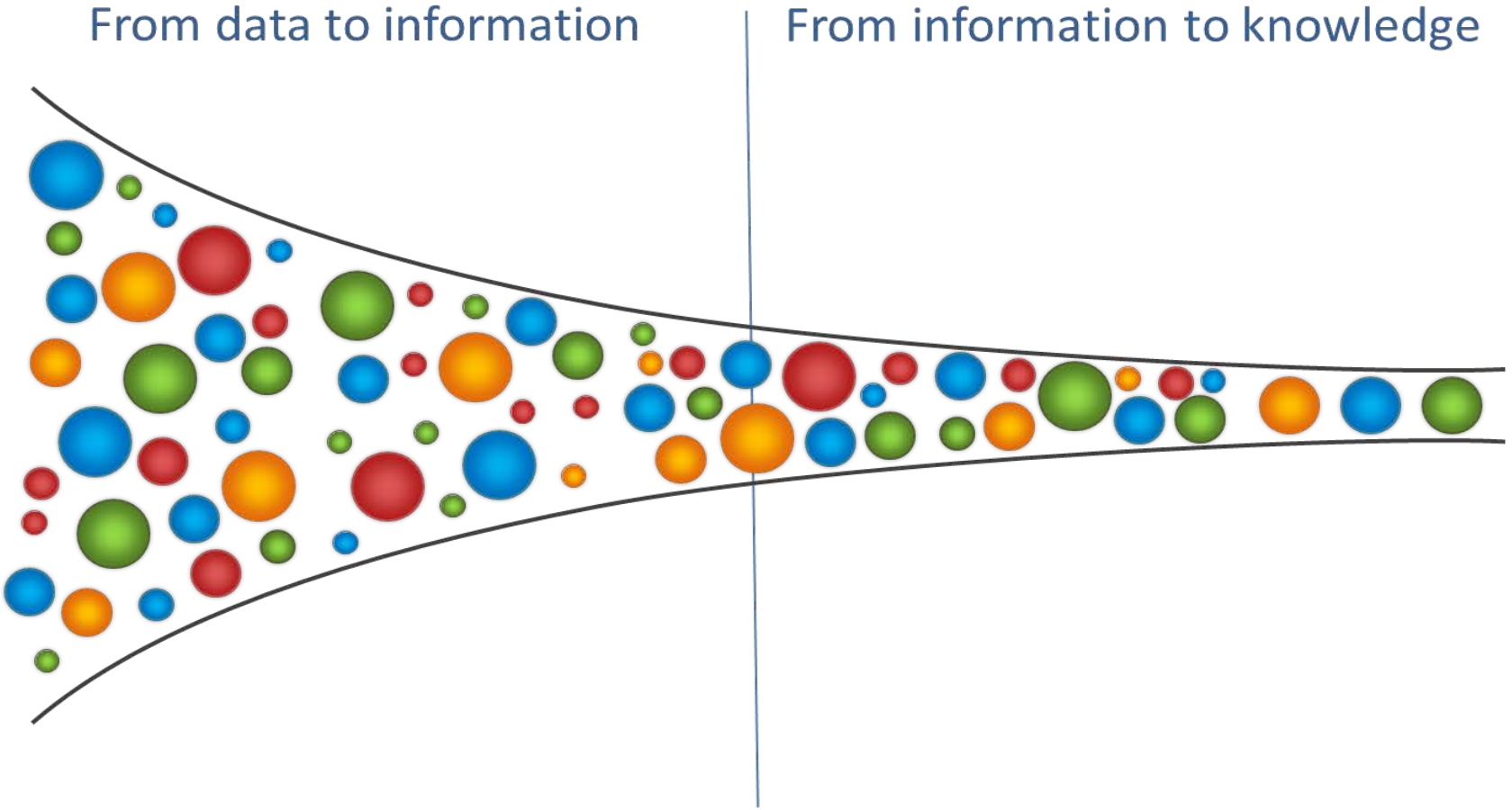
THE REDUCTION OF COMPLEXITY (BY MEANS OF INDICATORS)

Reduction of complexity

"The goal is to turn data into information, and information into insight." –
Carly Fiorina, Hewlett-Packard



Reduction of complexity



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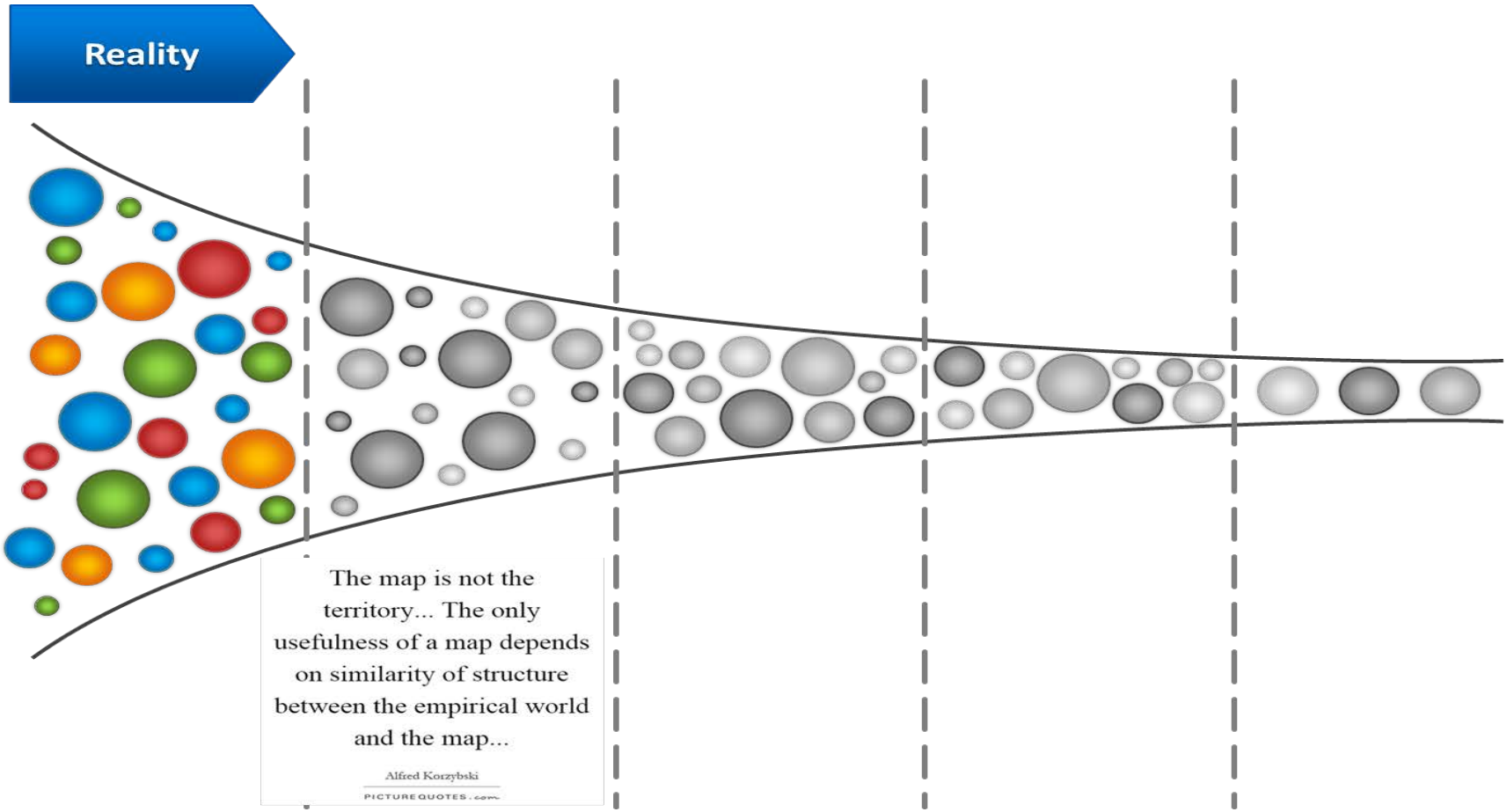

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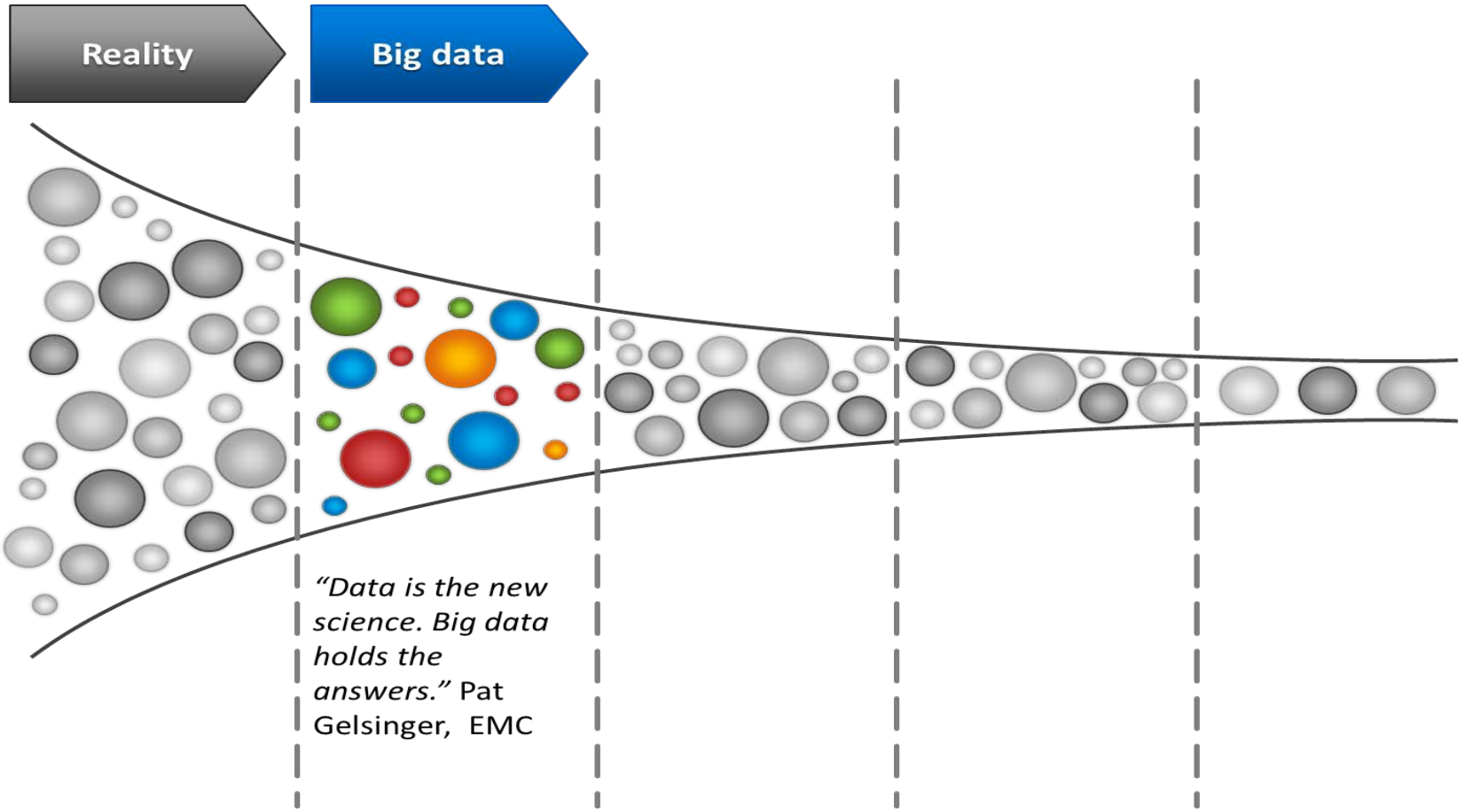
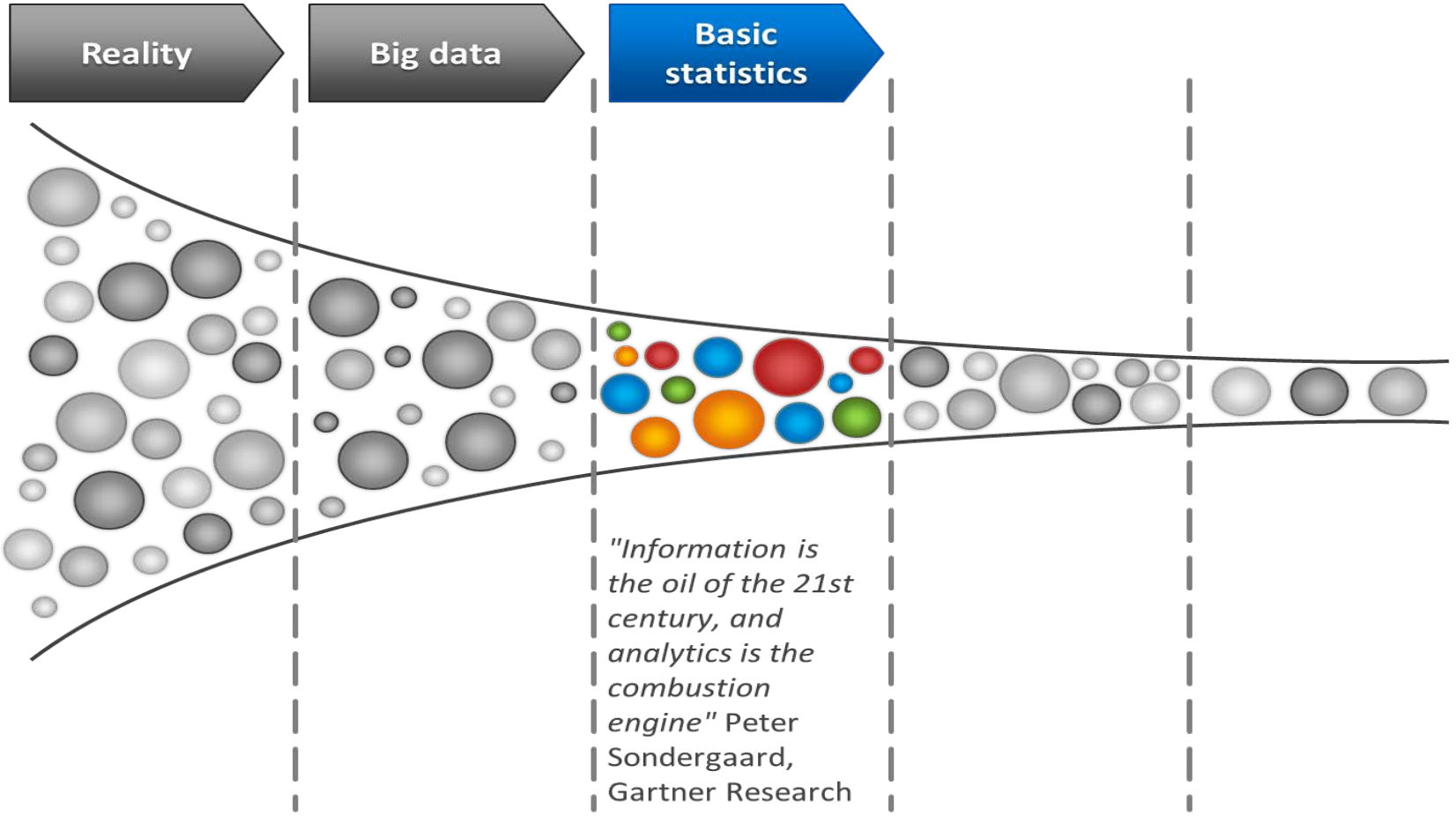
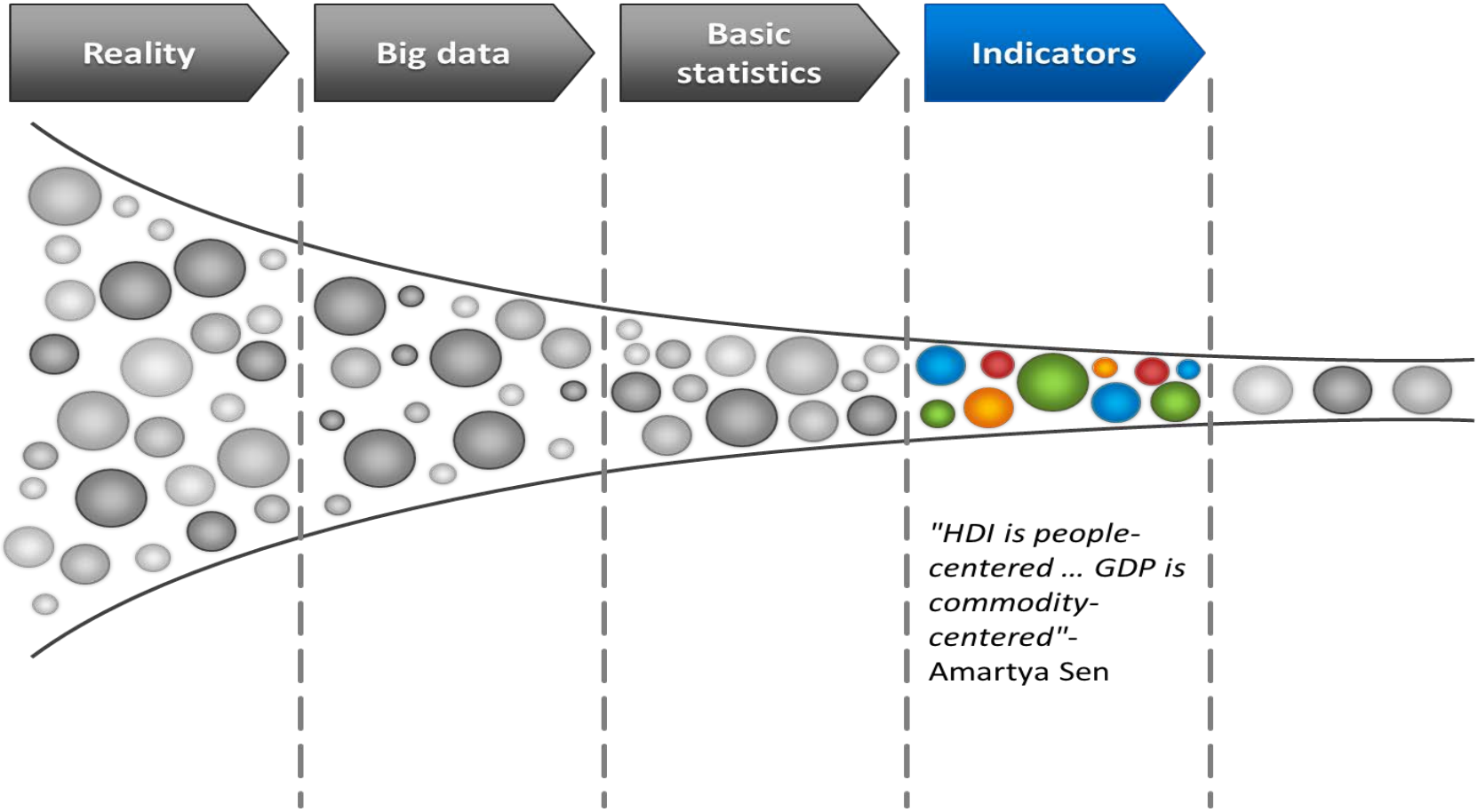


Reduction of complexity



Reduction of complexity



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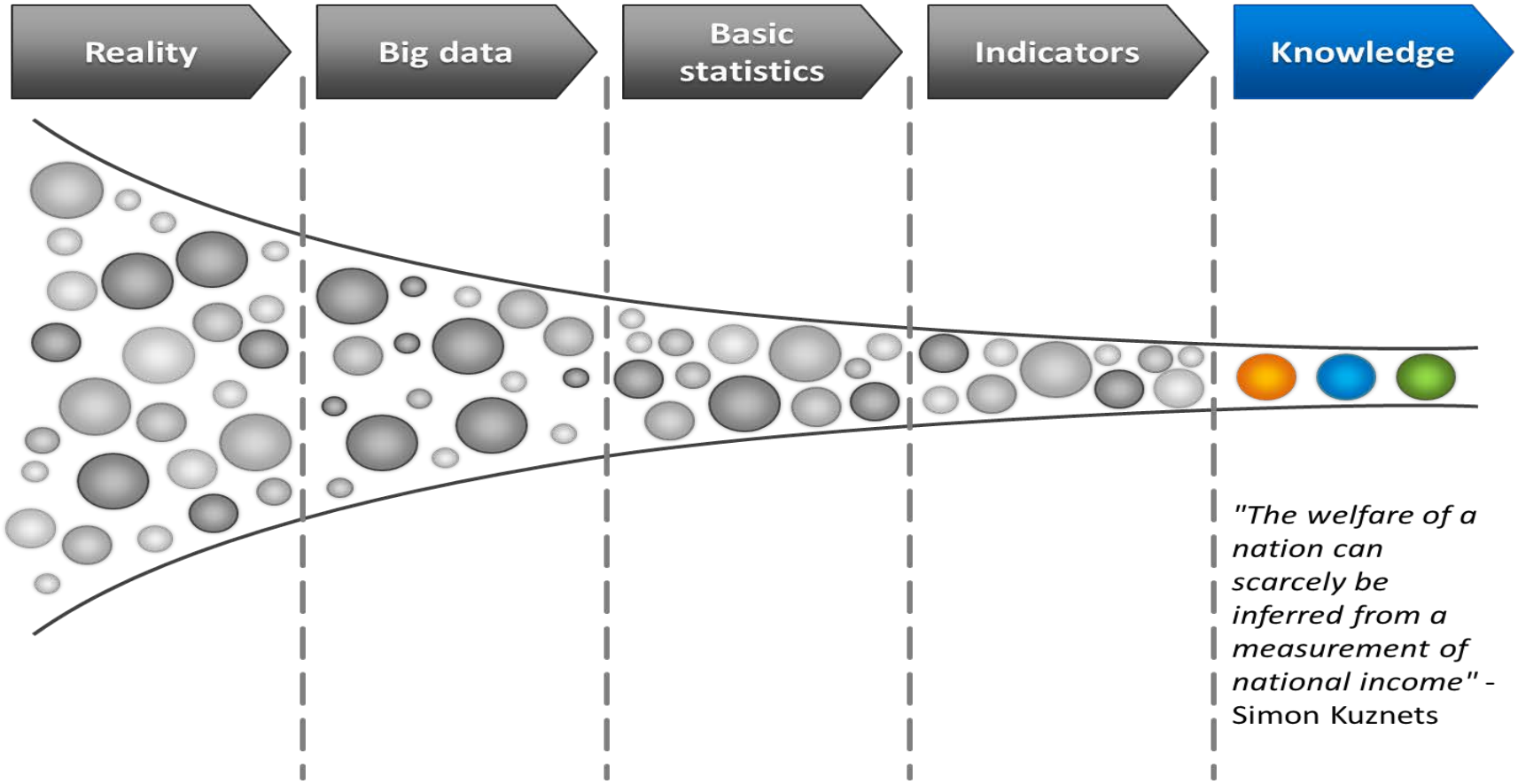
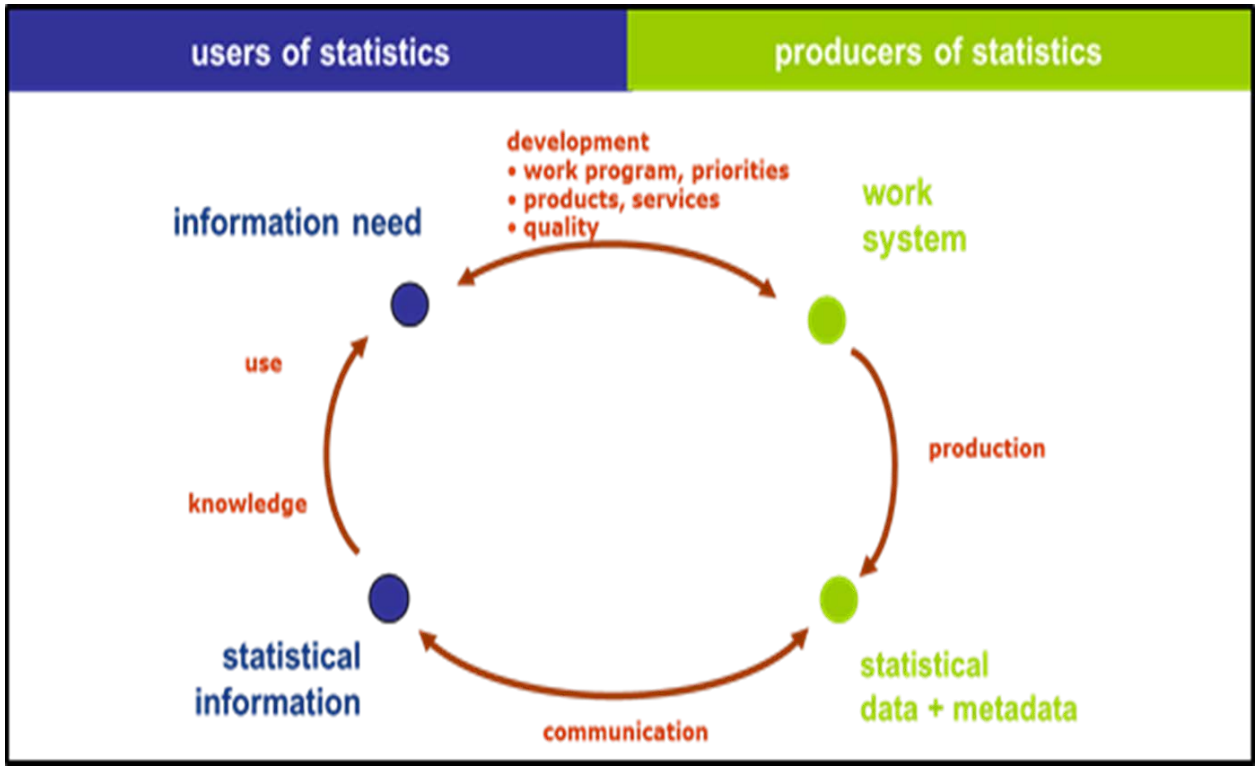


Indicators: from evidence to decision

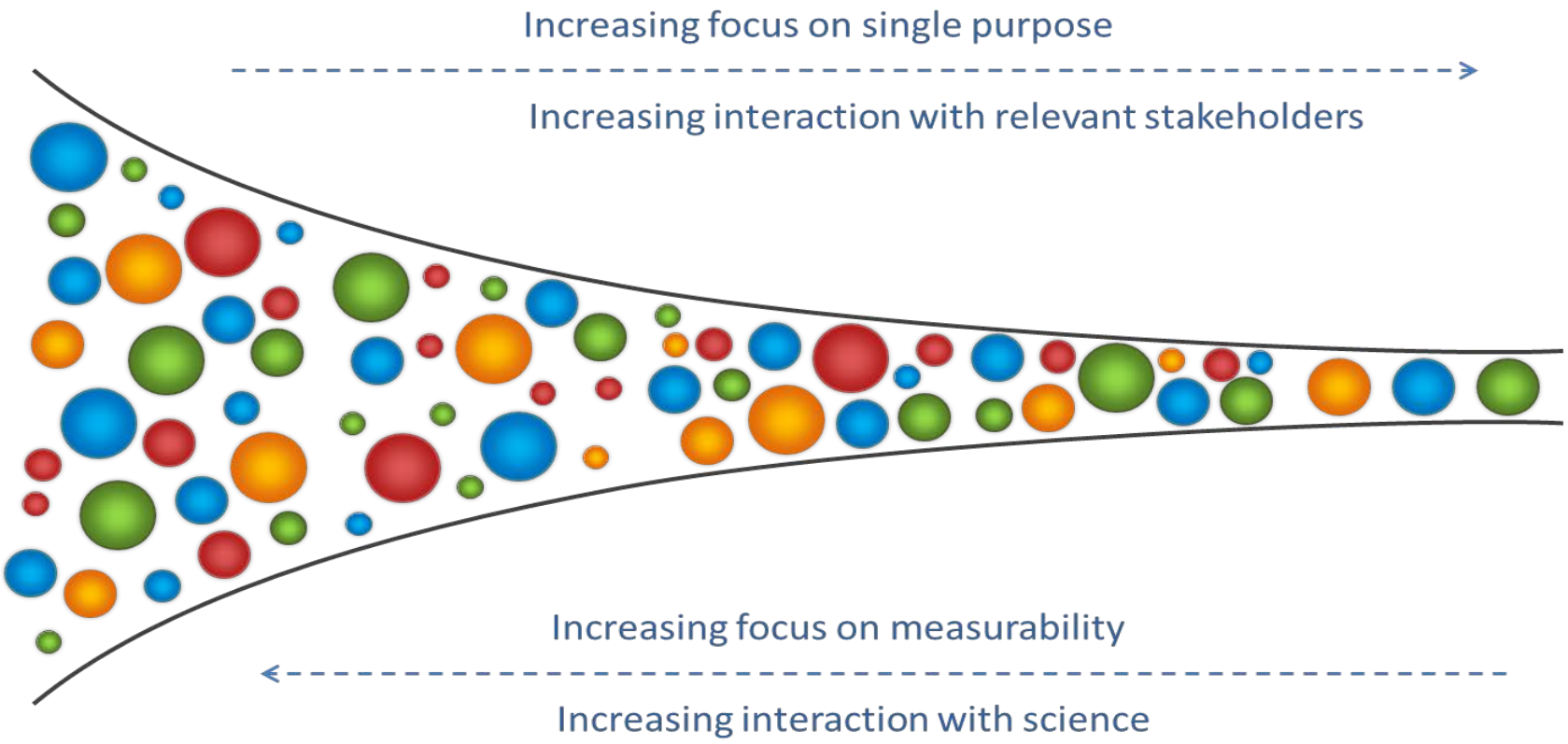
ACTORS: SCIENCE, POLICY, STATISTICS

User-producer-interaction



Quality = multidimensional

Reduction of complexity



Indicators: from evidence to decision

RISKS

Interaction between statistical indicators and public policies: possible stress!

Goodhart's Law

"When a measure becomes a target, it ceases to be a good measure"

Limitations in communication

- Innumeracy, statistical literacy, data literacy
- Wrong expectations
- No appetite for quality food
- Using heuristics, expecting precise measurement
- Scientific overkill, no sense for Popper's approach to science
- Naivety, blind faith
- Cleverness, political pressure

Evidence based decision-making what can go wrong?

- Consequences on evidence gathering
  - Searching under the lamp post
  - Measurement of success and failure = definition of strong incentives – who sets the norms?
  - Measurement bureaucracy (administrative activism)
  - Myopic orientation / system design

Evidence based decision-making what can go wrong?

- Consequences for decision-making
  - Adaptations - behavioural consequences of a measurement culture
  - Filter in public perception and political debate (e.g. GDP)
  - 'Beyond GDP': Measure the non-measured! Simulate markets (if they don’t exist)!
  - Misuse (financial crisis, rating, bubbles)

Evidence based decision-making what can go wrong?

- Long-term consequences
  - Cultural impacts (e.g. Bologna reform)
  - Democratic impacts, dominance of technocrats (measurement mandarins), in-transparency, loss of participation

Feed-back loops

- Measuring the unmeasured (and unmeasurable)
- Decision based evidence making
- Evidence instead of decision making

Communication traps

- Misunderstanding the real meaning of indicators by a society with a poor level of statistical literacy can create a wrong state of opinion, so misleading the voters or compelling politicians to take non-optimal measures (e.g. the at risk of poverty indicators).
- Dominance of technocrats (measurement mandarins) versus dominance of demagogues/ politicians with a poor level of statistical literacy. Where is the higher risk?

Risks for statisticians in the data age

- Big Data will make available a lot of geo-referenced/detailed data, which are very relevant for economic agents and policy makers.
- Timeliness is the other challenge. If statisticians are not able (with the desired level of accuracy) what other claim to be able to do or do, they will be seen as less relevant and therefore people/politicians will be less ready to finance statistical infrastructures.

Indicators: from evidence to decision

MITIGATING THE RISKS

Tools for visualisation

- Visualisation can reduce complexity, focusing on key messages from data and information
- This trend will continue in future years, and has a clear impact on the way in which people perceive “accuracy”.
- In a chart seen on the little screen of a tablet or a smart phone one cannot identify significant differences among data expressed in decimals. This limitation (which make numerical data almost useless for the layman) builds up a culture of “approximation” that is quite far from what statisticians do to be more and more accurate.

Quality safeguards
Culture of information

- Professional values and ethics
- Governance and institutional safeguards
- Methodology
- Literacy
- Culture of data, information and knowledge
- Training for journalists (data journalism)

New areas of work

- NSOs should expand their work in new fields, competing with “new comers”, instead of limiting themselves to the “usual business”.
- Entering in the field of research with academics, private data producers, etc. would be a way to surf the new waves, being perceived as partners of this new world and not “old fashion” organisations.

Promoting statistical literacy

http://memespp.com/homer-gdp-meme-generator-gdp-what-is-gdp-ea675c-jpg-1327467092-jpg/assets.diylol.com*hfs*d39*9e2*f7e*resized*homer-gdp-meme-generator-gdp-what-is-gdp-ea675c.jpg1327467092.jpg/diylol.com*memegenerator*homergdp2*memes*gdpwhatisgdp3/

After all: How could we do better?

- Understand better the 'mutual construction of statistics and society' (see https://www.routledge.com/products/9780415873703)
- Codify the evidence based decision making process
- Expand research and standard-setting for indicator methodology, both from the statistical and the political science side
- Principles for an undisturbed interaction between producers and users of evidence
- Engage stakeholders in the entire construction process
- Learn from language theories
- Learn from other disciplines (e.g. engineering)

Knowing limits, stamping the quality

- Reasonable limits should be set for the implementation of new indicators: citizens and social researchers should understand that not everything that counts can be counted.
- Some quality labeling can help. It might be true that HDI is people oriented while GDP is commodity oriented. But are they equally reliable and informative?
- The risks of using subjective variables in indicators should be assessed: opinions and perceptions can be easily manipulated through the media or other ways of propaganda.

Conclusions

- A key challenge for NSOs in the age of abundance of data: from data to knowledge
- A “must”, but a difficult journey and it entails some risks
- Interaction with users: a crucial point. There is a need for enhancing statistical literacy among all segments of current and potential users
- Indicators for European policies: a key role for the ESS, but it needs to manage expectations
- The increasing use of big data opens new opportunities, but also sets competition with newcomers
- Quality standards have to be preserved, but also tailored for different types of statistical products
- Governance and institutional safeguards need to be strengthened and updated

walter.radermacher@ec.europa.eu

pilar.guzman@uam.es

enr.giovannini@gmail.com

THANK YOU