Lunchtime Seminar – *Big Data: how do we meet the expectations?*
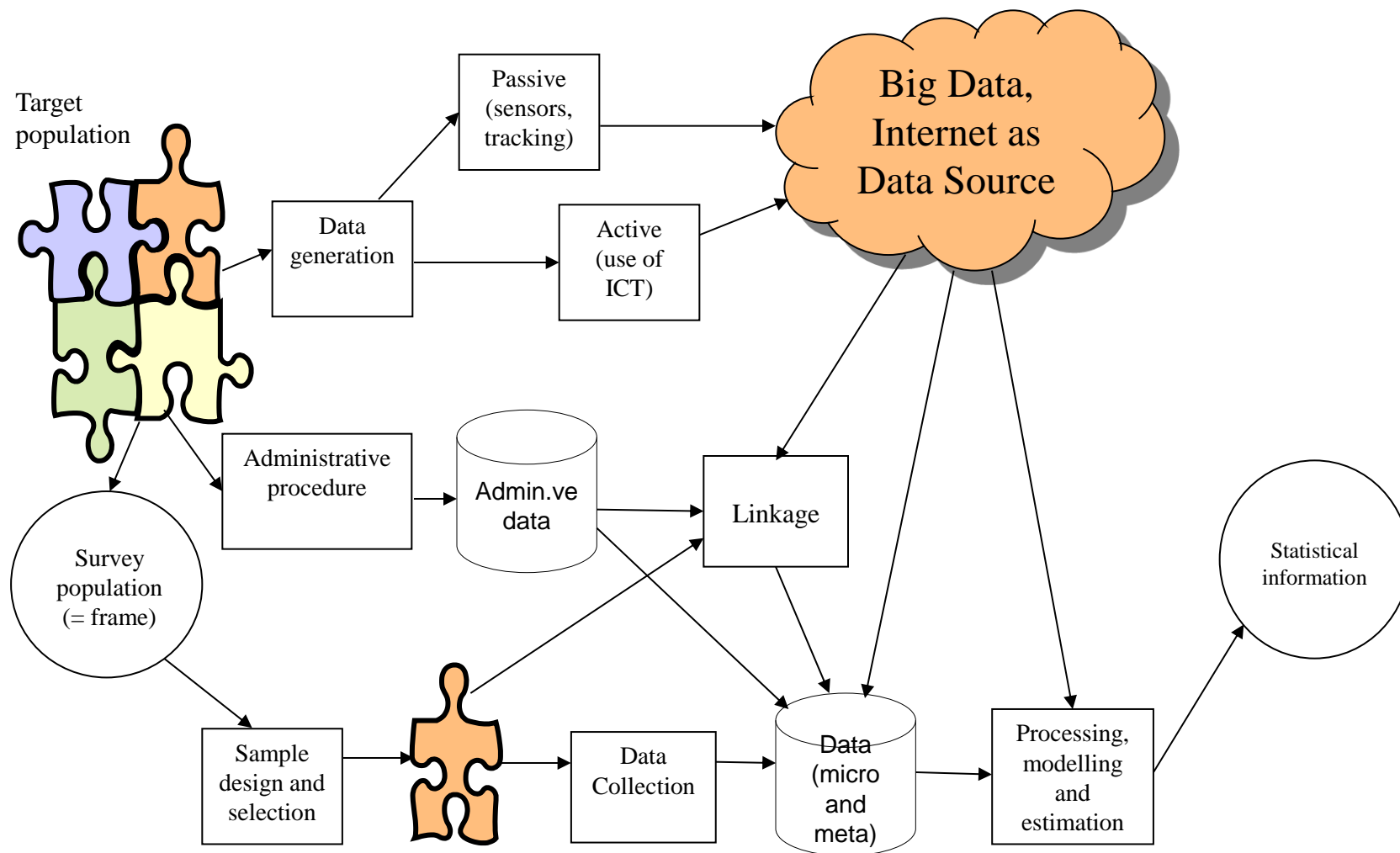
Big Data for Official Statistics
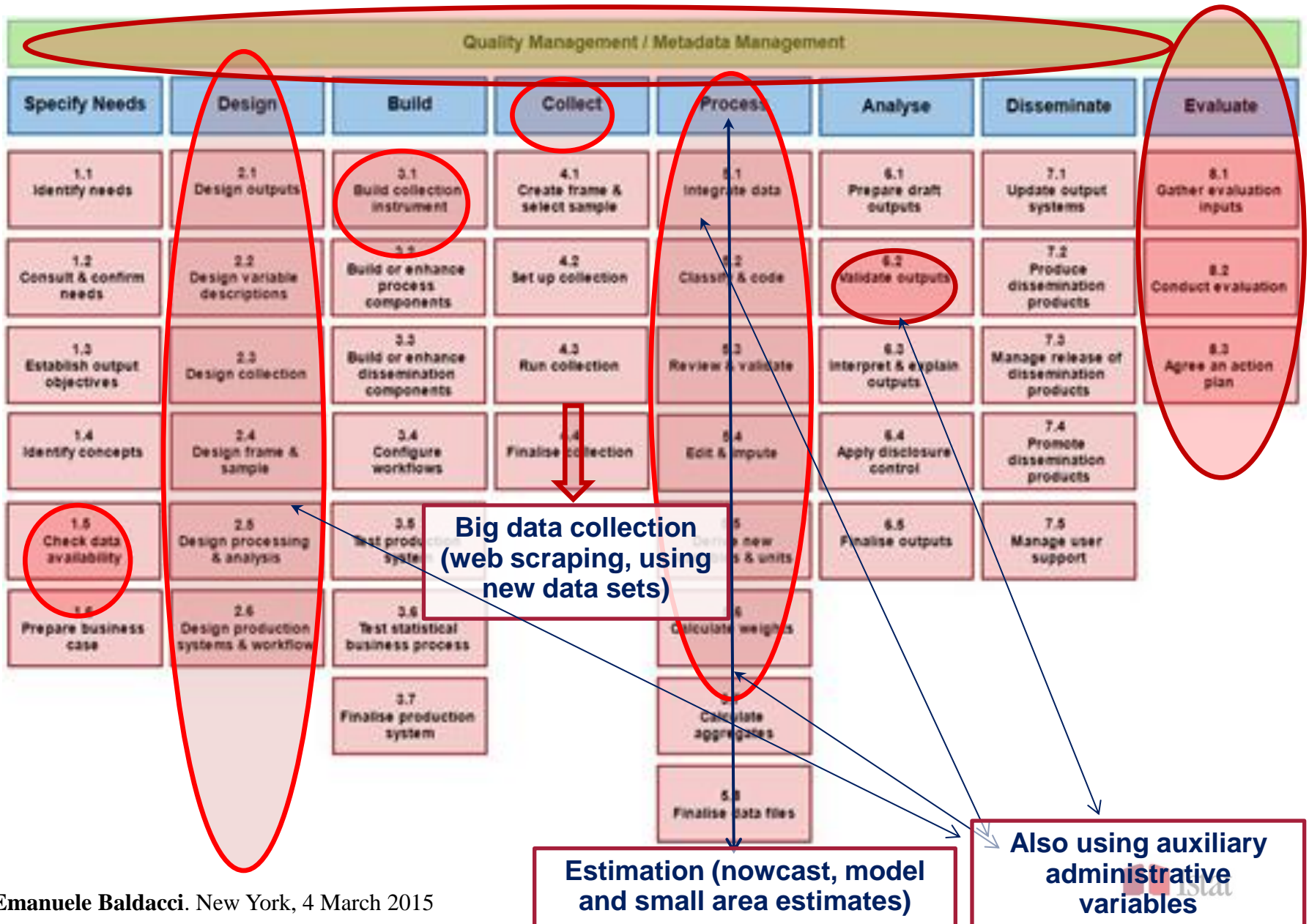
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The methodological taxonomy: general framework

Big Data: what can change?

Big data collection (web scraping, using new data sets)

Estimation (nowcast, model and small area estimates)

Also using auxiliary administrative variables

Istat main ongoing experiments

Different type of sources

Open questions

Different possible impacts on production scenarios

ISSUES		1: Persons &Places	2: Google Trends	3: ICT Usage
		Machine-generated data	*Human-sourced information*	*Web data extraction*
	IT	✓ Smart sensing application ✓ Pattern identification on tracking data	✓ Search records acquisition and processing	✓ Web Scraping ✓ Meta-searching
	STATISTICAL	✓ Record linkage and Statistical matching ✓ Non homogeneous target populations ✓ Quality control on results	✓ Enhance prevision performances (e.g. root-mean-square error)	✓ Text mining techniques
	ORGANISATIONAL	✓ Privacy	✓ Access to Web search results	✓ Access to Web sites
SCENARIO (IMPACT ON THE PRODUCTION PROCESS)		*Considerable impact* on the production process : source replaces traditional sampling and collection	*Limited impact* on the production process: complementing estimation phase	*Limited or Considerable impact*: same production process, subset of data gathered by using Internet or estimation methods based on the whole population

Emanuele Baldacci. New York, 4 March 2015

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Future challenges

- Legislation, i.e. with respect to the access and use of data

- Privacy, i.e. managing public trust and acceptance of data re-use and its link to other sources

- Continuing to ensure data quality/integrity and suitability of statistical methods within this innovative framework

- Finding new skills

- Increasing statistical culture among users

- Fostering international collaboration

- Building partnerships with private sector

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Thank you for your attention

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