

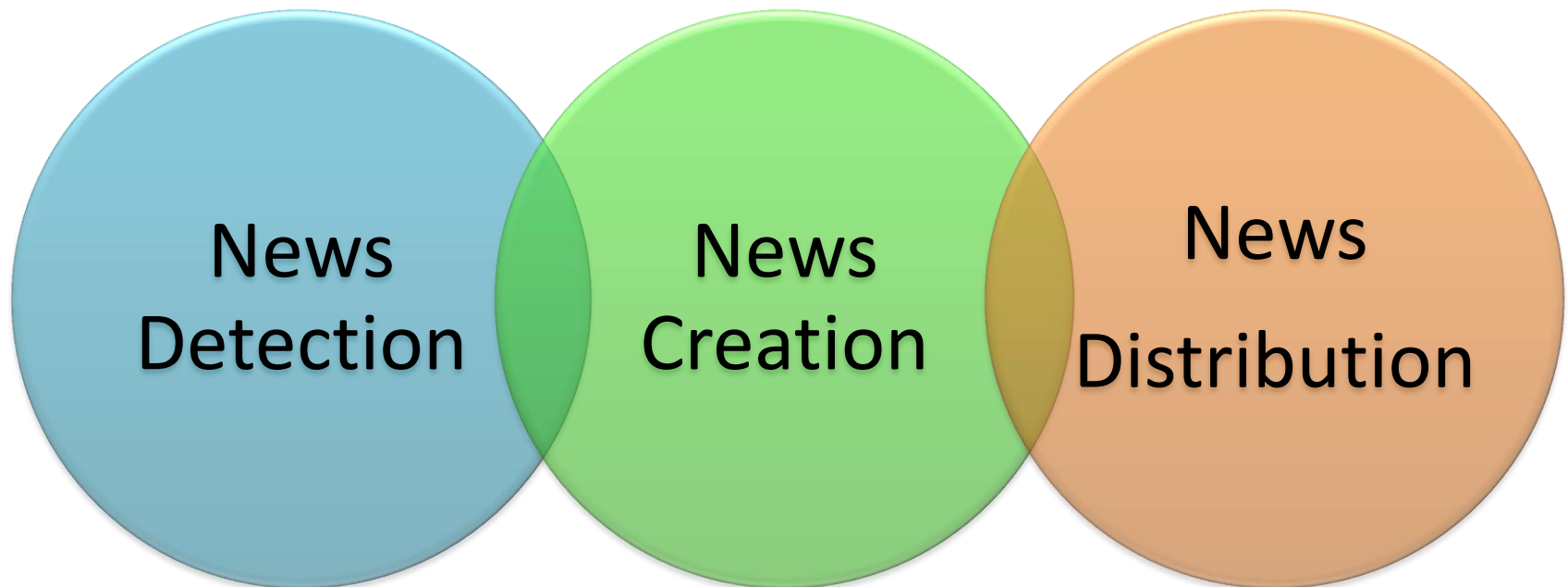
# The Artefacts of Automated Journalism: Producers' Perspectives and Audience Assessments

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Digital Media, Journalism and Factual Storytelling  
Symposium, Cardiff University, 19 May 2016



## **Automated Journalism:**

“Algorithmic processes that convert data into narrative news texts with limited to no human intervention beyond the initial programming”.

- Matt Carlson



# texton



Our robots write in several languages to meet your international needs.

# ARRIA

The market leader in real-time data storytelling

# textOmatic

from big data to big insights in next to no time

NarrativeScience



## LET US DO THE WRITING FOR YOU.

# retresco



## ROBOT JOURNALISM AS A PARTNER

Supplementing the existing offer by more content in local and long tail

ai AUTOMATED  
INSIGHTS

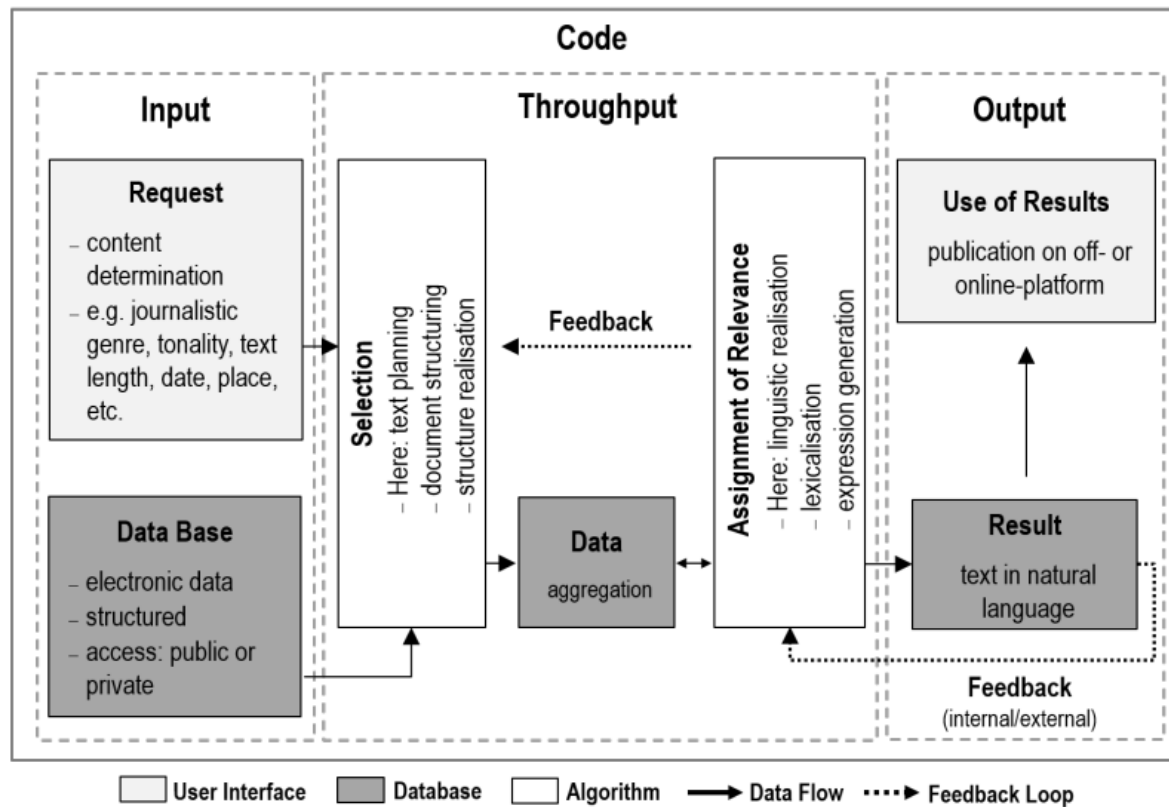
Let our Software Do the Writing for You

# LABSENSE

**AP**  
**YAHOO!****Le Monde****Forbes**Berliner  Morgenpost **Handelsblatt**

**Figure 1**

*I-T-O model Algorithmic Journalism based on Latzer et al. (2014), Reiter and Dale (2000)*



Input

Requirements

- content determinat
- e.g. journal
- genre, ton
- length, dat
- etc.

crime-trends-london-4.xlsx

	A	B	C	D	E	F	G	H	I
1	year	month	total_crimes	total_crimes_prev_month	total_crimes_11_month_average	borough_most_crimes	borough_most_crimes_number	borough_least_crimes_name	borough_least_crimes_number
2	2016	February	58175	60269	61534	Westminster	3899	Kingston-upon-Thames	83
3	2016	January	60269	62638	61534	Westminster	4178	Kingston-upon-Thames	83
4	2015	December	62638	64375	61534	Westminster	4550	Richmond-upon-Thames	86
5	2015	November	64375	64269	61534	Westminster	4352	Richmond-upon-Thames	85
6	2015	October	64269	59419	61534	Westminster	4300	Kingston-upon-Thames	86
7	2015	September	59419	60004	61534	Westminster	3857	Kingston-upon-Thames	75
8	2015	August	60004	63810	61534	Westminster	4096	Kingston-upon-Thames	83
9	2015	July	63810	62838	61534	Westminster	4060	Sutton	83
10	2015	June	62838	62875	61534	Westminster	3926	Kingston-upon-Thames	85
11	2015	May	62875	58203	61534	Westminster	4170	Kingston-upon-Thames	84
12	2015	April	58203		61534	Westminster	3882	Kingston-upon-Thames	77
13									

Sheet1

## Data Base

- electronic data
- structured
- access: public or private

## Data

aggregation

Assi

He

lex

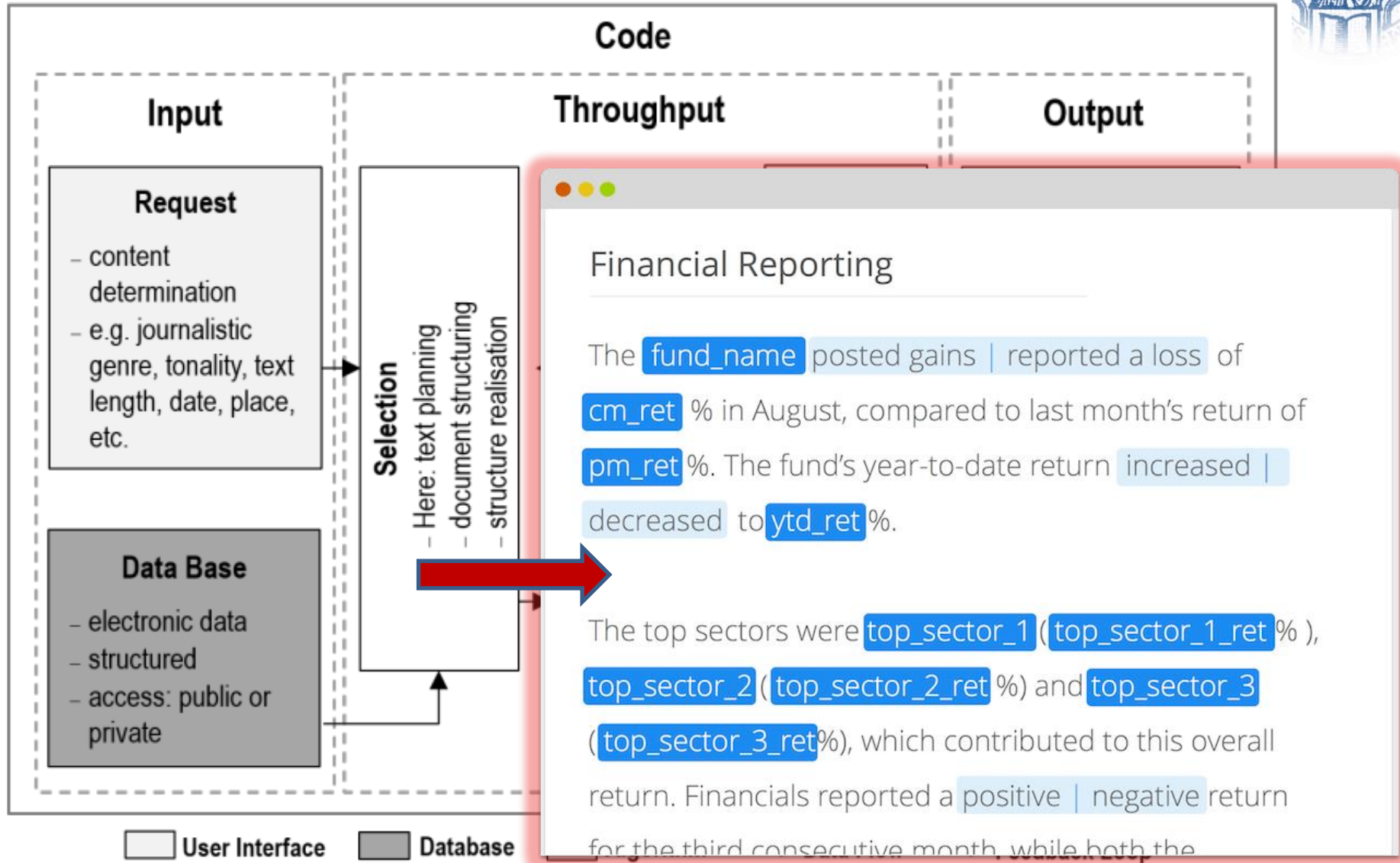
ex

## Result

text in natural  
language

Feedback  
(internal/external)







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## BloombergBusinessweek News

Global Economics Companies & Industries Politics & Policy Technology Markets & Finance Innovation & Design Lifestyle

Microsoft

### SELL IN THE NOW

AP News

#### US Steel posts smaller 2Q loss

July 29, 2014

f t in + - SEND TO Kindle

PITTSBURGH (AP) — United States Steel Corp. (X) on Tuesday reported a smaller loss in its second quarter, and topped analysts' expectations.

The Pittsburgh-based company reported a loss of \$18 million, or 12 cents per share, compared with a loss of \$78 million, or 54 cents per share, in the same quarter a year ago.

Earnings, adjusted for non-recurring costs, were 17 cents per share. The average estimate of analysts surveyed by Zacks Investment Research was for a loss of 33 cents per share.

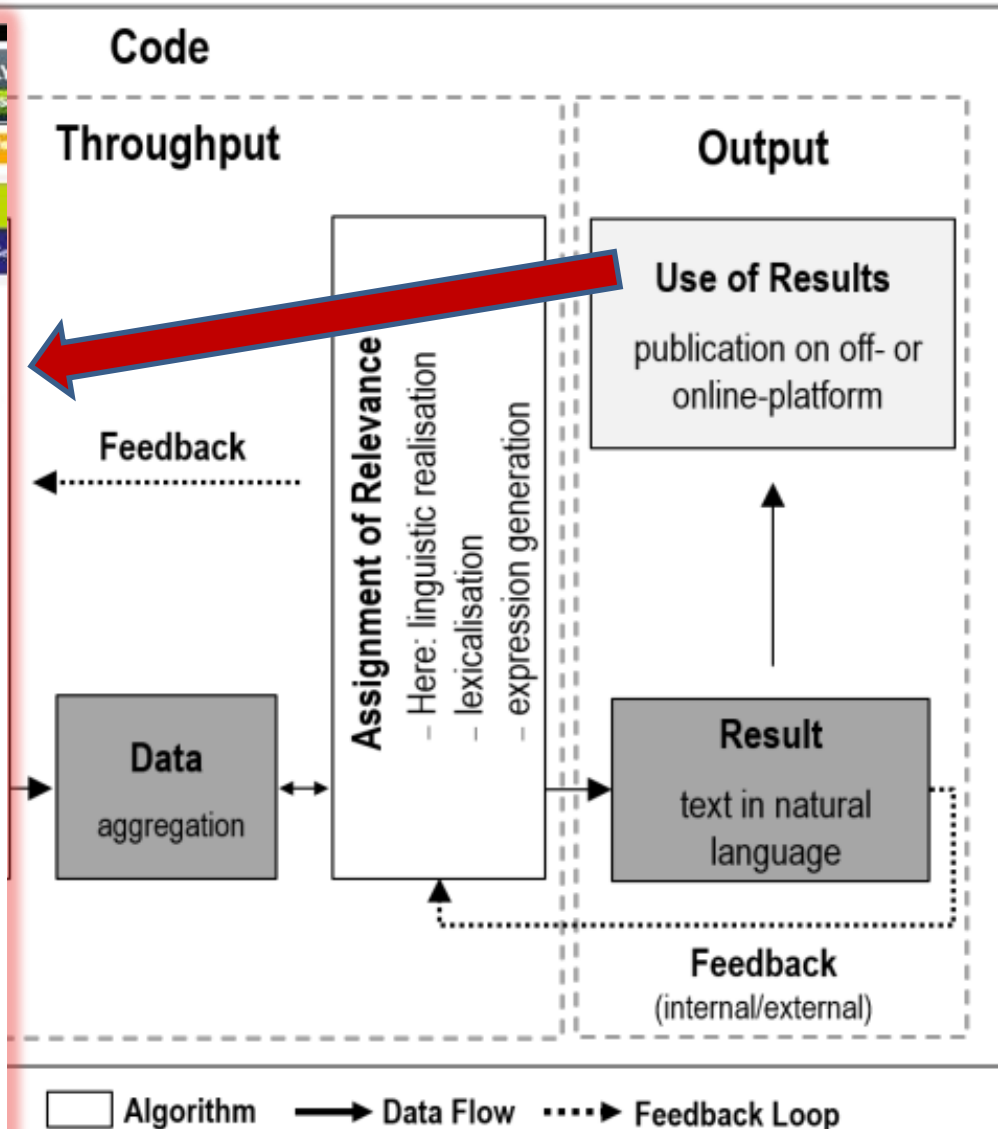
**VIDEO: Treasury Wine Posts \$100M Loss**

The company reported revenue of \$4.4 billion compared with \$4.43 billion in the same quarter a year ago, and beat Wall Street forecasts. Analysts expected \$4.12 billion, according to Zacks.

United States Steel shares have decreased \$1.83, or 6.2 percent, to \$27.67 since the beginning of the year, while the Standard & Poor's 500 index has increased 6.6 percent. However, the stock has risen \$9.96, or 56 percent, in the last 12 months.

**VIDEO: Newcrest Posts \$2.2B Full-Year Loss on Writedown**

This story was generated automatically by Automated Insights (<http://automatedinsights.com/ap>) using data from Zacks Investment Research. Full X report: <http://www.zacks.com/ap/X>



# Methodological Approaches to Studying Automated Journalism

- **‘Actors’**: humans involved in the process
- **‘Actants’**: the robots / algorithms
- **‘Audiences’**: the audience who receives the product

# Methodological Approaches

- ‘Audience’

e.g. Clerwall (2014)

*Experiment / survey.*

OCTOBER 11, 2015, 1:30 AM



shallow magnitude 2.6 earthquake was reported Sunday morning near Hacienda Heights, according to the U.S. Geological Survey. The temblor occurred at 1:23 a.m. Pacific time at a depth of 1.2 miles.

According to the USGS, the epicenter was one mile from La Puente, two miles from Avocado Heights, and three miles from Valinda.

In the last 10 days, there have been no earthquakes of magnitude 3.0 or greater centered nearby.

“I would never have written the story like that [based on the structured data file] I would have wanted a more diverse vocabulary...with analysis, interpretation, political context, quotes from local people or experts”.

- Journalist/editor (personal communication, May 2016)

“I write five of the same types of story about five different companies, really basic, really formulaic stuff. It takes me two hours a day. Using robo-news to do that would give me more time to do things that readers are going to care about”.

- Journalist/editor (personal communication, May 2016)

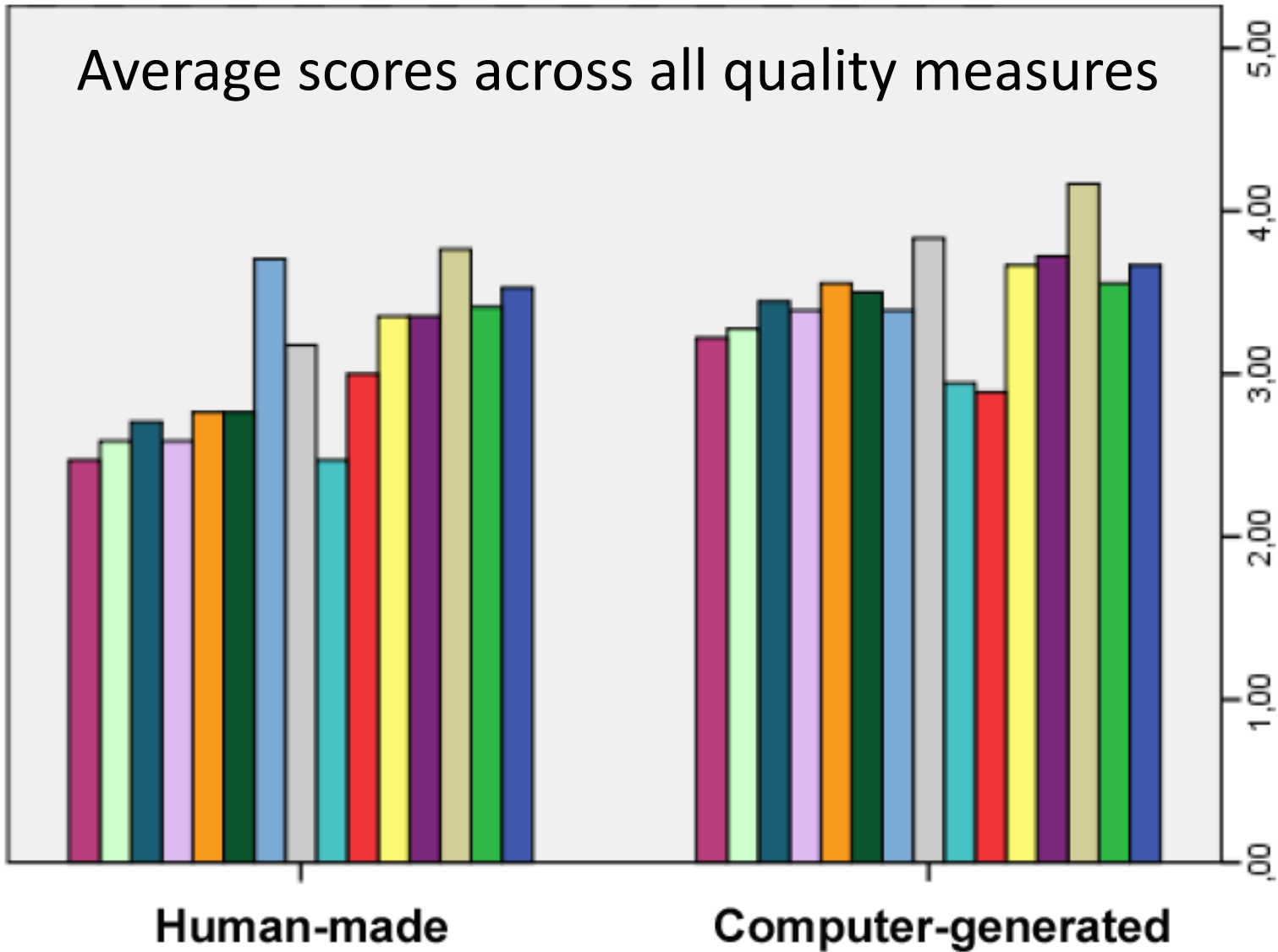


# Methodology

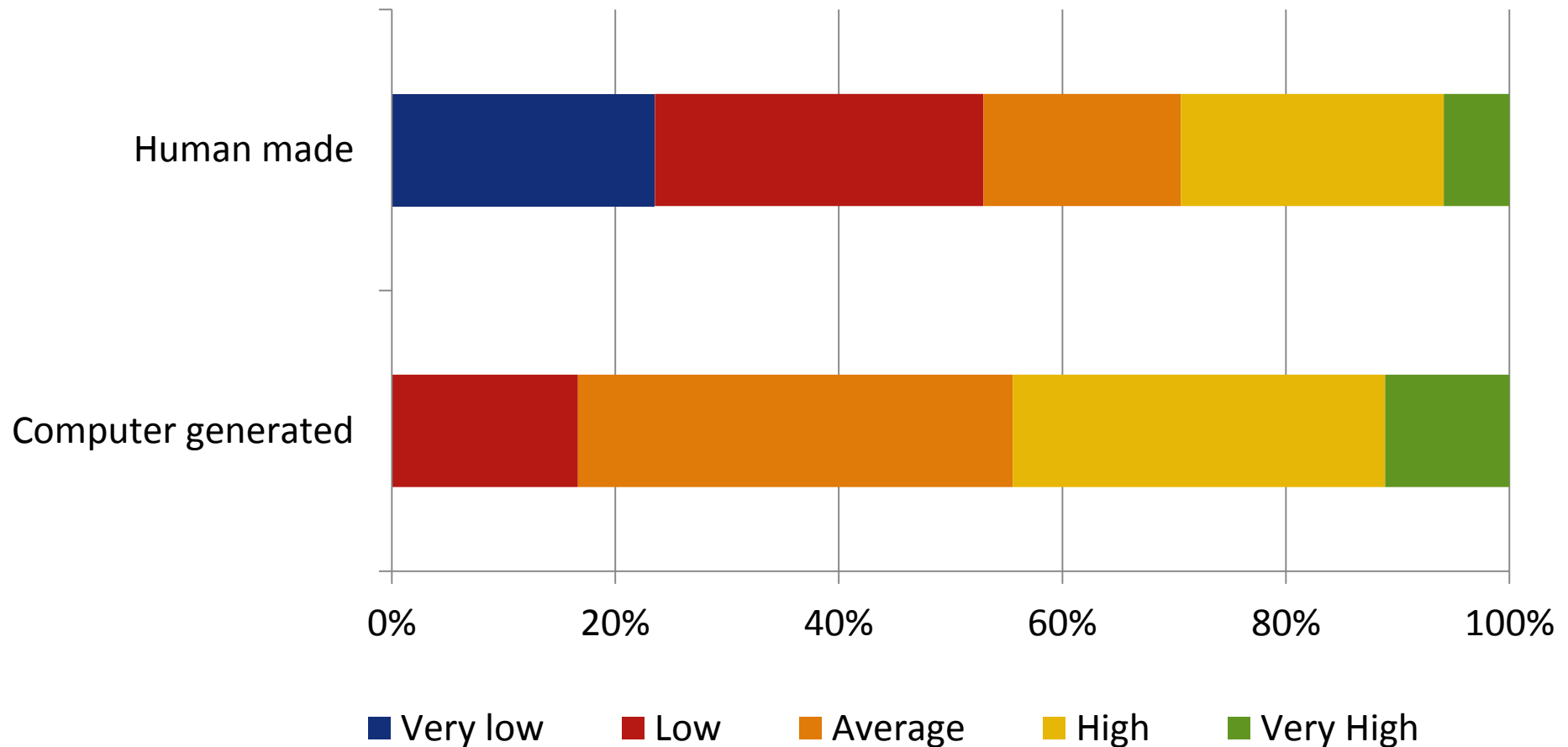
- Measure message quality by not disclosing the video source
- Quality in news videos defined as:
  - Journalistic experience: coherence, concision, etc
  - Watchability: entertaining, interesting, etc
  - Credibility: accuracy, trustworthiness, etc



## Average scores across all quality measures



# Viewers' perceptions of trustworthiness





**JENNIFER LAWRENCE SAYS CELEBS SHOULD BE  
ALLOWED TIME OFF FROM FAME**

“the capabilities for scale are most interesting for me”.

- Editor, global news organisation

“it’s an opportunity. We could write one template and produce 15 different stories to put across the regional outlets rather than having one person in every office doing that work”

- Data journalist, major UK regional news publisher

“using this technology we can grab massive amounts of data and package it up in a way our clients can use and sent it out to them”

- Editor, global news organisation

“I see this as a threat to people whose skillset does not extend beyond doing basic factual reporting”

- Editor, global news organisation

“media owners will say ‘you know something’ this can now replace human beings”

- Editor, global news organisation



- Means through which young journalists are trained?
- Editorial oversight?
- News sources delivering data in structured form gain more exposure?

technology in journalism has a history of “being used by owners and managers to ... make journalistic labor cheaper...to reduce costs, while increasing productivity and maximizing profit”

- Spyridou and Veglis (2016)

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