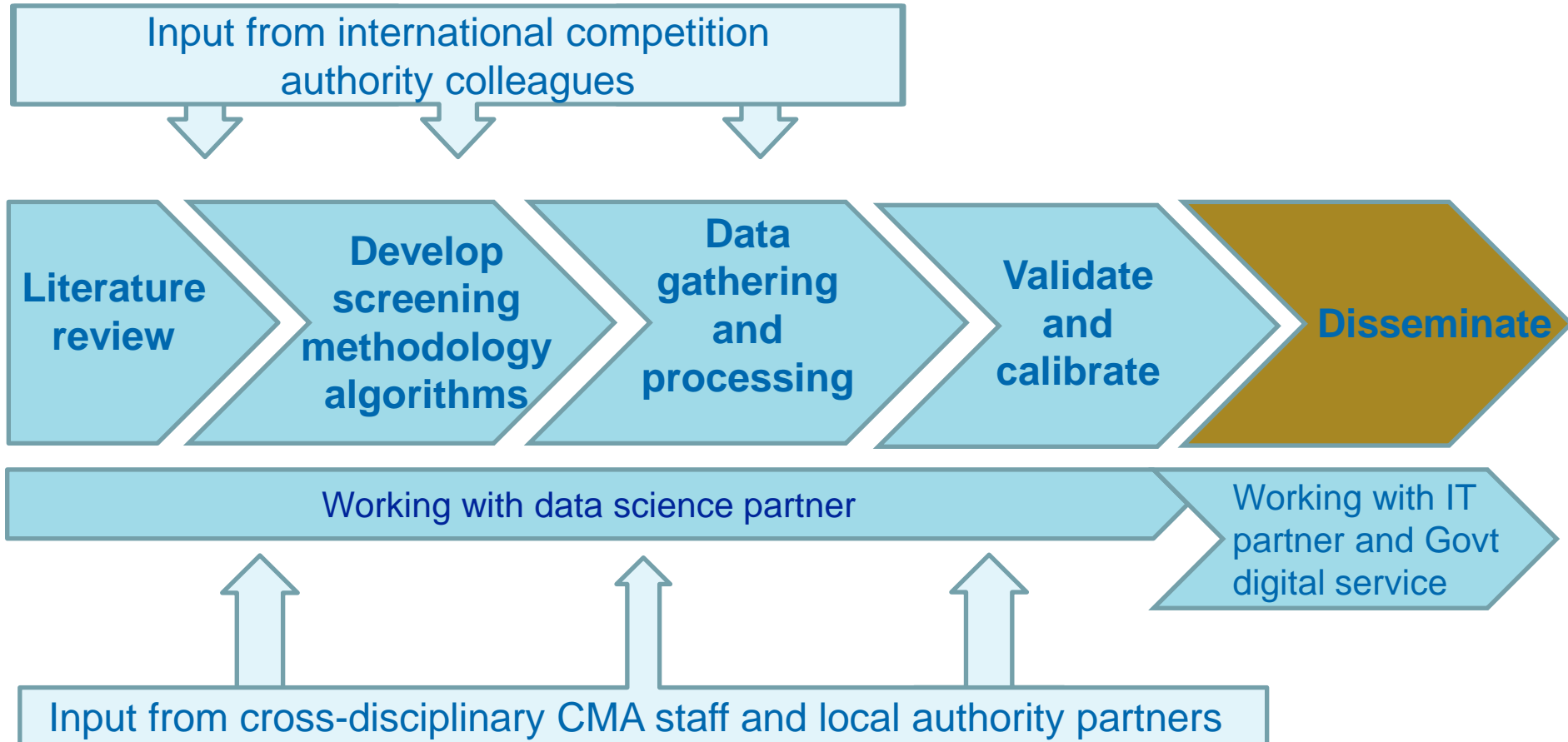


Screening procurement data for signs of bid-rigging The UK's experience to date

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We have engaged with partners through the development process



Our approach has been moulded by the challenges we faced

- The right indicators
 - Data
 - Access
 - Quality
 - Volume
 - Participation
 - What we want to test v What we can test
 - Overcoming legal and policy constraints
 - Getting data that is complete, accurate, in readable format
 - Getting enough data to test and calibrate
 - Generating and sustaining interest
- Pragmatic relative risk approach
- Distributed model
- Embed in awareness campaign

We filtered out indicators we could not test...

Theme	Indicators chosen	Indicators rejected	Reasons for rejections
Number and pattern of bidders	Low no of bidders Single bid	Submission timing Withdrawn bid Tender based competitiveness	Data unlikely to be consistently available Impossible to benchmark
Suspicious pricing patterns	Outlier pricing Similar loser pricing Costs appear to be made up (Benford's Law)	Losing price data Price stickiness	Require multiple tender and cross area data - unlikely to be consistently available
Suspicious document origin	Metadata check for authorship Low effort submission Text similarity	Language patterns Online entry logs Losing bid quality Submission source	Hardest to test metrics unlikely to improve on easiest to test
Suspicious award pattern		Awards to incumbents Taking turns Supplier dominance	Require time series and cross area data - unlikely to be consistently available

The tool is based on 8 indicators and 4 combination tests

Theme	Indicators chosen
Number and pattern of bidders	<ul style="list-style-type: none">• Low number of bidders• Single bid
Suspicious pricing patterns	<ul style="list-style-type: none">• Winning price is outlier• Similar pricing across bids• Costs appear to be made up
Low effort submissions	<ul style="list-style-type: none">• Same authors in two or more bids• Low endeavour losing bids (number of edits/time spent editing)• Similar text in losing bids
Combination tests	<ul style="list-style-type: none">• Similar text and word count in losing bids• Low number of bidders and made up prices• Winning price is outlier and made up prices• Low endeavour losing bids and made up prices

The tool is easy and straight forward to use

INPUTS

Folder path: C:/Users/kate.bridge/OneDrive - Competition & Markets Authority/Desktop/kate/screening for cartels tool

Input data summary

Doc Type	Date	Buyer	Supplier	Tender	Text	Price	Winner	Metadata	Time Editing	Number Of Edits	Author Name	Suspicious Ben
Tender	01/01/2001	Buyer 1		Tender 1	Y							
Bid	01/01/2001	Buyer 1	Bidder 1	Tender 1	Y	63110	N	Y	0	2	Mr A	Y
Bid	01/01/2001	Buyer 1	Bidder 2	Tender 1	Y	89230	N	Y	435	20	Mrs B	Y
Bid	01/01/2001	Buyer 1	Bidder 3	Tender 1	Y	87230	N	N	129	46	Dr C	Y
Bid	01/01/2001	Buyer 1	Bidder 4	Tender 1	Y	144531	Y	Y	151	61	Prof D	Y
Tender	01/01/2001	Buyer 1		Tender 2	Y							
Bid	01/01/2001	Buyer 1	Bidder 1	Tender 2	Y	63110	N	Y	0	2	Ms E	Y
Bid	01/01/2001	Buyer 1	Bidder 2	Tender 2	Y	69230	N	Y	535	28	Mr F	Y
Bid	01/01/2001	Buyer 1	Bidder 3	Tender 2	Y	75000	N	N	400	45	Sir G	Y
Bid	01/01/2001	Buyer 1	Bidder 4	Tender 2	Y	78264	Y	Y	151	61	Mr H	Y
Bid	01/01/2001	Buyer 1	Bidder 5	Tender 2	Y	5644	N	N	96	34	Miss I	Y
Tender	01/01/2001	Buyer 1		Tender 3	Y							
Bid	01/01/2001	Buyer 1	Bidder 3	Tender 3	Y	89230	N	N			Mr J	Y
Bid	01/01/2001	Buyer 1	Bidder 4	Tender 3	Y	144531	Y	Y	151	61	Master K	Y

Tests, thresholds and weightings

Description	A	B	C	D	E	F	G	H	Adjustable Weightings
1) 3 Bidders Or Less	0.3								20
2) Only 1 Bidder	1								30
3) V. High Text Similarity			10						200
4) Winning Outlier				1					20
5) Made-up Prices					6				0
6) Same Author						1			200
7) Low Effort							50		40
8) Similar Prices			10						20
9) Similar Text & Word Count				2				25	50
10) Typical Cartel	0.2				4				20
11) Fake Prices & Outlier					1	4			100
12) High Prices & Low Effort						4	40		10

OUTPUTS

Results

Tender	1) 3 Bidders Or Less	2) Only 1 Bidder	3) V. High Text Similarity	4) Winning Outlier	5) Made-up Prices	6) Same Author	7) Low Effort	8) Similar Prices	9) Similar Text & Word Count	10) Typical Cartel	11) Fake Prices & Outlier	12) High Prices & Low Effort	suspicion
Tender 3	Fail	Pass	Pass	Pass	Fail	Pass	Fail	Pass	Pass	Fail	Pass	Fail	90
Tender 1	Pass	Pass	Pass	Pass	Fail	Pass	Fail	Pass	Pass	Fail	Pass	Fail	70
Tender 2	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Fail	Pass	Fail	30

Input data


Folder path

Adjustable thresholds and weightings for the individual tests

Results table and suspicion score

The thresholds and weightings can be adjusted to fit circumstances

[Export](#) [Print](#)



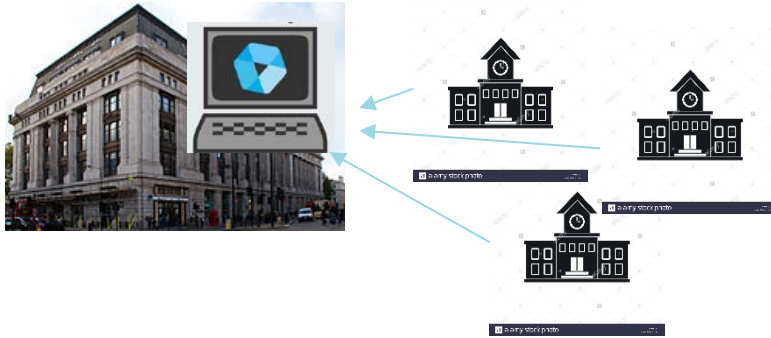
Description	A	B	C	D	E	F	G	H	Adjustable Weightings
1) 3 Bidders Or Less	0.5								20
2) Only 1 Bidder	1								30
3) V. High Text Similarity			10						200
4) Winning Outlier				1					20
5) Made-up Prices					7.6				40
6) Same Author						1			200
7) Low Effort							75		40
8) Similar Prices		15							20
9) Similar Text & Word Count			5					6.7	50
10) Typical Cartel	0.3				7.6				20
11) Fake Prices & Outlier				1	7.6				10
12) High Prices & Low Effort					7.6		50		10

The results show which (if any) of the tenders are most suspicious

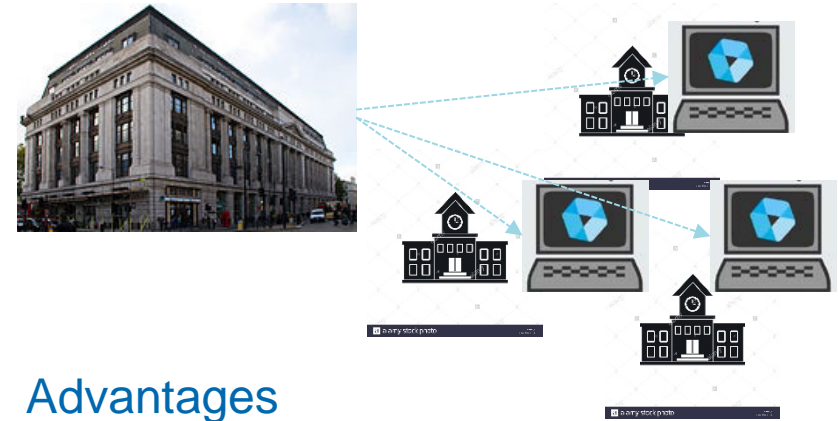
Export Print

Tender	1) 3 Bidders Or Less	2) Only 1 Bidder	3) V. High Text Similarity	4) Winning Outlier	5) Made-up Prices	6) Same Author	7) Low Effort	8) Similar Prices	9) Similar Text & Word Count	10) Typical Cartel	11) Fake Prices & Outlier	12) High Prices & Low Effort	suspicion
Tender 3	Pass	Pass	Fail	Fail	Pass	Fail	Fail	Pass	Pass	Pass	Pass	Pass	460
Tender 6	Pass	Pass	Fail	Fail	Fail	Pass	Pass	Fail	Pass	Pass	Fail	Pass	290
Tender 1	Pass	Pass	Fail	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	240
Tender 5	Pass	Pass	Pass	Fail	Fail	Pass	Fail	Fail	Pass	Pass	Fail	Fail	140
Tender 4	Fail	Fail	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Fail	Pass	Pass	110
Tender 2	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	0

We have distributed a tool rather than run a screening programme



- Advantages
 - Maintain control over tool development
 - Easy to capture and build on learning
 - Ease of cross-authority comparison
- Requires
 - Ongoing resources from competition authority
 - Authorities to be willing and able to share data



- Advantages
 - No need to share data
 - Builds a user community
 - Spreads awareness
 - Creates deterrence
 - Better prospects of innovation, development, dissemination
- Requires:
 - IT Risk management
 - Winning hearts and minds

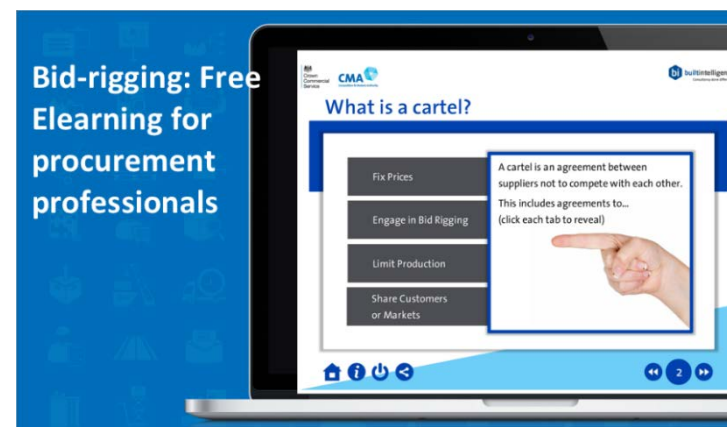
The tool is only one part of our efforts to tackle bid rigging

- In addition to the tool at:

<https://www.gov.uk/government/publications/screening-for-cartels-tool-for-procurers/about-the-cartel-screening-tool>

- We have a suite of information on bid rigging detection and prevention, including:

- access to an e-learning tool
- a 60 second summary
- a video



- Available at <https://www.gov.uk/government/news/procurement-tool-targets-bid-rigging-cheats>
- Successful procurement events; more being planned