THE ROLE OF DIGITAL APPLICATIONS IN SUPPORTING INVESTIGATIVE JOURNALISM INVESTIGATIONS-ANALYTICAL STUDY OF CAPITAL TRACKING TOPICS ON OCCRP SITE

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Article history:		Abstract:
		The problem of research is summarized by the ambiguity of identifying the tools that investigative journalists need to help gather, disaggregate, analyze, and verify the information and thus process it and disseminate it in a simplified and understandable manner to the public. The researcher also aims to demonstrate the most important tools and identify the most important sites that open the windows of in-depth search for information on capital tracking, and find out what applications are available that can help journalists represent data figures and diagnose the most prominent types of data that need to be collected in capital tracking investigations. This research is classified as descriptive research that adopts content analysis as a key tool in data collection. The sample included 49 investigations published on the organization's website. The researcher came up with a set of findings. The main findings were that 53.6% of the research sample investigations were in the category of in-depth investigations overcoming the category of research. (Investigative investigation) which came in second with 46.3% and the liaison officer distributed his interests between tracking money, corruption, tax evasion, organized crime, proscribed trade, and abuse of power in close proportions, Finally, the creator of the communication content deliberately diversified the use of images in investigations between graphically modified images, satellite images, 3D Google Maps, aerial images, and fourth-ranked gifs by 4.5 percent and reached several conclusions, including that computer techniques offer greater opportunities to present journalistic content to achieve the basic objective of the communication process of persuasion, Anecdotal narratives are still inherent in investigative journalism despite the novelty of programs and applications for presenting investigative journalistic content. The investigation requires more effort and time than the in-depth investigation, so its productivity rate is lower than others. The research included three chapters, 12 tables, and one supplement.

INTRODUCTION

The press in general and the data-enriched investigative press in particular witnessed quantitative leaps in the impact of computer access, applications, the Internet, archiving sites and reservoirs on the journalists' information line in today's press, the diversity of sources of information, which constitutes a new burden of information flow vis-à-vis the narrow publishing space, has led journalists, especially those working in the field of investigative journalism, capital tracking and corruption, to adopt new formulas in the organization, processing and presentation of data, using special programs and applications that have mixed statistical and journalistic tasks to create new concepts and terminology, including data journalism, graphic auditors, data auditors, and journalism.

Since the journalist could no longer manage that process alone, investigators had to learn new and accurate skills in tracking, organizing, screening and presenting facts in a simplified and understandable manner, which required mastering new skills.

Given the sector's complexity and modernity, the researcher found it necessary to go into this area in order to reveal the methods involved in this process, including research, screening, analytical, linkage and presentation programmes and applications. This research consists of three investigations, the first of which touched on the methodological aspect, including the problem of research, its identification, its areas, its limits, its procedures and the tools used. The second

examination touched on the theoretical aspect of the research outlining its main and subsidiary variables and demands. Chapter III included the analytical aspect including presentation of findings, conclusions and proposals.

key words: Digital applications, Investigative Journalism, occrp site

First Research/Methodological Framework

The problem of research is reflected in the need of investigative journalists for skills and possibilities greater than those of regular journalists to cover topics of extreme complexity and complexity, requiring in-depth research with non-traditional tools. What tools do investigative journalists need to help collect, disaggregate, analyse and verify information and thus process and disseminate it in a simplified and understandable manner to the public? Based on this, the researcher drew a subgroup of questions that he seeks to find adequate answers to:

1. What tools do investigative journalists need to search for press information?
2. Which sites open in-depth search windows for capital tracking information?
3. What applications are available that can help journalists represent data imaginatively?
4. What types of data do you need to collect in capital tracking investigations?

Second/ Research Objectives

1. Describe the most important tools journalists need in searching for information and evidence.
2. Identify the most important sites that open in-depth search windows for capital tracking information.
3. Find out what apps are available that can help journalists represent data imaginatively.
4. Diagnose the most prominent types of data that need to be collected in capital tracking investigations.

Third/ Research curriculum

This research falls within descriptive research, adopting quantitative analysis to describe and identify the phenomenon.

Fourth/ Research tools

The researcher adopted a content analysis tool to collect, compile, disaggregate, diagnose and comprehensively capture the phenomenon in question.

Fifth/ Research Community and Its Appointment`

The research community includes all capital tracking investigations and due to time constraints, the researcher has adopted a selected sample of occrp, the official website of organized crime and corruption reporting project on the dissemination of money tracking and corruption cases in English and Russian. project, founded in 2006, specializes in organized crime and corruption and includes a training project and funding for cross-border money tracking investigations, this organization provides as proven on its official website available via the https link: //www.occrp.org/en/Training and development opportunities for journalists and cross-border task forces, covering the Network's support and staff on six continents. It publishes its stories through local media and in English and Russian and supports more than 50 independent media outlets in Europe, Africa, the Caucasus and Central Asia. In 2017, the NGO Advisor ranked it 69th in the world in their annual list of top 500 NGOs (NGO).[1]

Sixth/ Areas of research

1. Time area: Includes full-year surveys from 1-1 2022 to 31-12-2022.
2. Spatial area: occrp website, available at https ://www.occrp.org/en/

Second research/theoretical framework
First/capital tracking - an approach to the concept

Corruption and associated illicit financial flows pose a major challenge to many societies. By eroding the tax base and discouraging public and private investment, they deprive societies of their vital and essential resources for achieving the required structural transformation, economic growth and sustainable development in all countries. Thus, they pose a direct threat to societies' ability to exercise their human rights, including the right to development.[2]

Developed countries are making great efforts to preserve their financial assets and combat illegal practices surrounding money trading domestically and internationally. The crime of money laundering differs from other crimes by making it difficult to detect and prosecute them. The reason is the tricks of camouflage and obfuscation through them. Criminals have benefited from the technological revolution and the Internet. international and regional organizations to enter into conventions and treaties to combat this phenomenon, Among the most important international efforts to combat the phenomenon of money laundering are the United Nations Conventions, which have issued numerous documents to combat money laundering, including:

1. Vienna Convention of 1988.
2. Palermo Convention of 2000.
3. Vienna Convention of 2003.

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[1] The organization's website, available via the link https://www.occrp.org/en/about-us the date of retrieval 11-4-2023

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[2] United Nations High Commissioner for Human Rights Michelle Bachelet, intersessional seminar on the negative impact of the non-return of funds of illicit origin to the countries of origin on the enjoyment of human rights, available at: https://www.ohchr.org/ar/statements/2022/02/combatting-corruption-and-illicit-financial-flows date of recovery 22.4-2023

4. Basel Banking Control Committee 1988, which issued Basel recommendations by the governors of the Group of Ten's central banks and includes their membership (Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Spain, Sweden, Switzerland, United Kingdom, United States) The recommendation came out of Basel, Switzerland, and was aimed at preventing the exploitation of the banking system in money laundering operations.[3]

Capital tracking as an area of investigative journalism

Since its inception and development, investigative journalism has been concerned with the subject of capital tracking and corruption. It has also established capital tracking institutions and observatories, which have undertaken training in various skills for journalists in order to possess research and in-depth thinking tools due to the difficulty of engaging in this complex sector, in addition to hiring technical experts and experts in financial science, finance, statistics and data processing.

Media reports are prepared in general, especially investigative investigations by associated or independent journalists public awareness of corruption ", as these reports and media coverage are a tool for detecting cases of corruption, whether in relation to law enforcement bodies investigating allegations received or companies deciding to conduct internal investigations or self-reports, or anti-money laundering reporting bodies that prepare suspicious financial transaction reports s Rights ", which begins on the basis of investigations or articles in the media and the press relating to corruption[4].

Financial corruption can be divided into:

1. Corruption of businessmen
2. Commissions
3. Thirst for the Market
4. Money laundering
5. Drug Trade
6. Tax evasion
7. Monopoly
8. Forged Money Printing
9. Commercial Fraud
10. Looting of public money[5]

The Global Anti-Corruption Resource Centre identified the manifestations of financial fraud in the development projects sector:

1. The Government's failure to announce the opening of the door for the submission of tenders and contracts, including the leaking of tendering information in the interest of a particular applicant, or the presentation of difficult terms of the contract detailed to suit a particular applicant.

2. A small group of companies are involved in obtaining contracts in a particular field or area.

3. The contractor shall appoint a subcontractor or local component to take over the task of paying the bribes.

4. Delays in the negotiation and award of contracts. This delay may result from delays in the agreement on bribery.

5. The perceived similarity between tenders and offers made by different parties, indicates that all offers may have been prepared by one party.

6. Different offers the Global Anti-Corruption Resource Centre identified the manifestations of financial fraud in the development projects sector:

come under common addresses, telephone numbers, etc.

7. Provide documents and calculations containing a similar printing line or handwriting or that similar spelling errors appear in two or more presentations.

8. Offers should contain obvious errors or corrections indicating a last-minute price change.

9. Numerous lost offers containing invalid documents, false bank guarantees or purchasers on the same day from the same bank.

10. The appearance of correspondence or evidence that the bidders discussed prices, shared areas or entered into any of the agreements[6].

Specialized centres for tracking money and corruption have been established, including:

1. Organized Crime and Corruption Reporting Project occrp, an international organization based in Serbia that seeks to establish a culture of in-depth verification in the prosecution of financial corruption and abuse of power.

2. Reuters Truth Service, a survey unit attached to the agency's editorial department.

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[3] Saman aljaaf, Analytical Standard Study of the Effectiveness of Actions Taken by the Central Bank to Combat Money Laundering in Iraq, Published Research, Fayoum Journal of Agricultural Research, p. 392

[4] Khlaf Boumkhliye, the role of the press in fighting corruption, published research, standard magazine, vol.: 32 Number: 74 Year: 2019, Algeria, p. 349

[5] Abdussalam Mohamed Aziz, Egyptian Press Handling of Financial and Administrative Corruption Issues, Published Research, Scientific Journal of Journalism Research, Cairo University, MJ: 2022, No. 24, C: 3, P. 98

[6] Your Guide to Investigating Financial Corruption Tracking, ignet is available at the link: https://ijnet.org/ar Retrieval Date 25-4-2023

Third/ Skills required for journalists' capital trackers

There is a range of skills for cross-border money and corruption trackers from specialized journalists:

1. Computer and Internet application skill.
2. Concealment skills via the Internet and information collection.
3. Read tables and matrices for bank accounts.
4. Ability to analyse and classify financial statements.
5. Liaise with a network of investigative journalists from outside the country to inform cross-border investigations.
6. Use applications to view press releases such as interactive maps and excel tables.
7. Control of procedures for information security and protection.
8. Master the skills of organizing press releases or what is known as data journalism.[7]

Fourth/ Programs and Applications that Assist Journalists in Producing Capital Tracking Investigations

Some of the tools for analysing and presenting the financial statements are:

1. Detailed mapping tool, which is ideal for understanding data google spread sheets.
2. Interactive map: Provides interactive reports on databases disaggregated by areas of legal authority.
3. Excel files are a useful tool for anyone who wants to compare certain data across multiple legal powers. interpret the bank's confidentiality structure[8].

Another set of tools for presenting data on tracking money and corruption is:

1. Canva provides attractive templates for social media posts, website signs, flyers, posters, etc. It can also be used to create logos and brands. Canva also gives many users the ability to collaborate on a real-time project.
2. Datawrapper: The data imaging tool has the ability to create a large number of display formats, including: graphs, charts, maps, and thermal maps. This tool can be automated when connected to live data, and does not require any code programming.
3. Easel.ly: Allows the user to create graphs across a number of free and usable templates, which can be downloaded in a number of formats.
4. Florish features the creation of vital charts - such as animated bar charts, scattered charts, or maps showing change over time. The tool can be used by developers and individuals who want to upload a spreadsheet and create a simple graph. The graphs can be included on the site, and will automatically correspond to the size of the device used by the end user to view the content. Although it is a Fermium product, the final product is available free of charge to "mainstream and publicly oriented news press" organizations via Google News Initiative.
5. Infogram is a tool that allows for the creation of interactive and embeddable graphs. The tool has more than 30 adjustable charts, allowing users to create illustrative maps and animations. Users can easily upload their data in CSV or Excel formats and post the resulting fees directly on the site or on social media. Infogram is also available as a WordPress plugin.
6. Odyssey is an open source data imaging tool created by CartoDB, a geographic information systems software. The tool allows users to publish interactive map-based articles, with text and media linked to specific sites on the map, and a smooth transition between different sites associated with the story.
7. Over is a simple layering tool by making it possible to add, mix and edit superimposed texts and images. The app is specifically designed to make content for phone devices, be it ads, social media posts, or Instagram stories. Paid copies have additional lines and templates, and the ability to add files to a common folder.

Knight Lab at Northwestern University has produced a number of user-friendly tools to create article illustrations. Timeline creates interactive timetables, StoryMap creates illustrative maps, while StoryLine creates written graphs of change over time and then the software publishes the results directly on the web. StoryMap requires some extra work, but it can be used by individuals who do not have a background in the codes.[9]

The third section - the practical framework

First / Analysis of capital tracking investigations on the OCCRP website

Table (1) shows the types of investigations during the research period

Rank	% Percentage	Repetition	Category	n
First	53.6	22	In-depth	1
Second	46.3	19	Investigative	2
	99.9	41	Total	

According to the analytical study, the category (in-depth investigation) fell to 53.6%, beating the category (in-depth investigation), which came to 46.3%. Thus, the investigative investigation requires more effort and time than in-depth investigation, so its productivity rate is lower than others.

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[7] Advanced course on deep investigative skills, Miranda Patrosk, course date 11-3-2022

[8] Your guide to investigating financial corruption tracking, a source mentioned above

[9] Survey Data Viewing Tools, International Network of Investigative Journalists, gijn, available at: https://2u.pw/hk61DGR
Retrieval Date: 8-4-2023

Table (2) Topics of investigations

Rank	Percentage%	Repetition	Category	n
First	21.9	9	Tracking money and corruption	1.
Second	17	7	Tax evasion	2.
Third	14.6	6	Organized crime	3.
Fourth	12	5	Prohibited Trade	4.
Fourth	12	5	Abuse of authority	5.
Fifth	7.3	3	Money laundering	6.
Sixth	4.8	2	Suspicious partnerships	7.
Sixth	4.8	2	Embezzlement	8.
Seventh	2.4	1	Violations	9.
Seventh	2.4	1	Abuse of authority	10.
	99.2	41	**Total**	

According to the analytical study, the category of tracking money and corruption fell to 21.9 per cent. First, followed by the category of tax evasion to 17 per cent. Second, the category of organized crime to 14.6 per cent. Third, the categories of prohibited trade and abuse of power to. Fourth, 12 per cent, the category of money laundering to. Fifth, 7.3 per cent, and the categories of suspicious companies to 4.8 per cent. s concerns on the various subjects of investigations, reflecting a desire to cover the various affairs and details of life

Table (3) Scope of coverage of investigations

Rank	Percentage%	Repetition	Category	n
First	41.6	17	Eastern Europe	1
Second	21.9	9	Middle East	2
Third	19.5	8	Americas	3
Fourth	17	7	Africa	4
	100	41	Total	

According to the analytical study, the scope of investigation coverage in the research sample was distributed among Eastern Europe, with this category ranked first at 41.6%, the Middle East category at 21.9% and the American category at third at 19.5%, and the Africa category at fourth at 17%. This is why the site has focused heavily on eastern Europe, which continues to suffer corruption in several joints, especially in post-conflict areas.

Table (4) showing cross-border investigations

Rank	Percentage%	Repetition	Category	n
First	82.9	34	Cross-border	1
Second	17	7	In one country	2
	99.9	41	Total	

According to the analysis, a large proportion of cross-border investigations were carried out by press teams, with this category ranked first at 82.9%, and the category of investigations in one country at 17%.

Table (5) shows the nature of the convicted persons' investigation

Rank	Percentage%	Repetition	Category	n
First	51.2	21	Capital holders and companies	1
Second	21.9	9	political systems	2
Third	14.6	6	members	3
Fourth	12	5	extremist groups	4
	99.7	41	Total	

According to the analytical study, more than half of the investigations in the research sample followed venture capitalists and companies, with 51.2 per cent in first place, 21.9 per cent in second place in political systems, 14.6 per cent in third place and 12 per cent in fourth place in extremist groups. The majority of corruption crimes are committed through capital owners, i.e. organized crime carried out by networks of collaborators.

Table (6) Showing sources of information in investigations Sample search

Rank	Percentage%	Repetition	Category	ت

First	39	16	Exclusive (leaked documents)	1
Second	26.8	11	Internet (archive)	2
Third	24.3	10	Eyewitness	3
Fourth	9.7	4	Other	4
	99.8	41	Total	

According to the analytical study, 39% of the sources of information in the research sample were in the form of leaked and exclusive documents, with this category ranked first, while the Internet category was ranked second with 26.8%, the category of eyewitness was third with 24.3% and the category (other) was finally ranked fourth with 9.7% including dispersed sources of information. Hence the importance of documents and press leaks in providing journalists with evidence and documents that are a first-class conviction tool.

Table (7) shows the technical structure of the investigation

Rank	Percentage%	Repetition	Category	n
First	68.2	28	Anecdotal	1
Second	31.7	13	Reporting	2
	99.9	41	Total	

According to the analysis, 68.2 per cent of the investigations were drafted according to the anecdotal template, with 68.2 per cent in first place, and 31.7 per cent in second place in the reporting template. Thus, the creators of the communication content in the investigative press turn to the anecdotal narrative required by the investigative press from its inception to our present time because of its impact on the recipient.

Table (8) shows patterns of evidence presentation in investigations

Rank	Percentage%	Repetition	Category	ت
First	30	33	Maps	1
Second	25.6	28	Tables	2
Third	20	22	Images	3
Fourth	11.9	13	Timeline	4
Fourth	11.9	13	Graphics	5
	99.4	109	Total	

In the light of the analysis, the distribution of the patterns of evidence presentation in the investigation within the research sample was shown, with the category of maps in first place at 30%, the category of tables in second place at 20% and the category of images in third place, and the categories of time line and graphics in fourth place at 11.9% each.

See here the use of more than one pattern in one investigation since the patterns were used at a rate of 2.6 in the natural unit (investigation).

Table (9) showing the types of maps used to display data

Rank	Percentage %	Repetition	Category	n
First	33.3	11	Detailed maps	1.
Second	30.3	10	Interactive maps	2.
Third	27.2	9	Graphics Maps	3.
Fourth	9	3	Fixed maps (image)	4.
	99.8	33	Total	

According to the analytical study of the mapping category, the category (detailed maps) was ranked first by 33.3%, the category of interactive maps was second by 30.3%, the category of graphics maps was third by 27.2%, and finally the category of fixed maps (photo) was fourth by 9% of the total category of 33 duplicates within the total sample.

Table (10) showing images used in investigations

Rank	Percentage%	Repetition	Category	n
First	31.8	7	Graphically modified images	1
Second	22.7	5	Satellite images	2
Second	22.7	5	3D Google Maps Images	3
Third	18	4	Aerial images	4
Fourth	4.5	1	Animation	5
	99.7	22	Total	

According to the analytical study, the creator of communication content deliberately diversified the use of images in investigations. The graphically modified image category was first at 31.8%. The categories of satellite imagery and 3D Google Maps were second at 22.7% each. The category of aerial images was third at 18% and finally the category of

motion images was fourth at 4.5%. Here, the role of digital imaging technologies in making robust evidence available to journalists is reflected in the phenomenon's briefing and data collection.

Table (11) Modalities for presentation of press content in investigations

Rank	Percentage%	Repetition	Category	n
First	46.3	19	Data-enhanced text	1
Second	39	16	Multimedia	2
Third	14.6	6	Text only	3
	99.9	41	Total	

According to the analytical study, 46.3 per cent of investigations were presented in data-enhanced text, with this category ranked first, while the multimedia category was second with 39 per cent and the abstract category was third with 14.6 per cent. Hence, the role of computer techniques in providing multiple methods for presenting journalistic content in order to achieve persuasion.

Table (12) Programmes used to analyse and present facts

Rank	% Percentage	Repetition	Category	ت
First	31.7	13	Excel	1
Second	29.2	12	Interactive Google Maps	2
Third	26.8	11	Detailed Mapping Tool	3
Fourth	12	5	Satellite Image Analysis Software	4
	99.7	41	Total	

In the light of the analytical study, the software used in the analysis and presentation of the facts showed that the Excel category was first ranked 31.7%, the Google Interactive Maps category was second ranked 29.2%, the Detailed Mapping Tool category was third ranked 26.8% and the Satellite Image Analysis Software category was fourth ranked 12%. Hence, the role of computer technologies and applications in making available the means of analysing and presenting data and ensuring its credibility.

SECOND/RESULTS

1. 53.6% of the research sample investigations were in the category of in-depth investigations, beating the category of "investigative investigation", which ranked second with 46.3%.

2. The contact person distributed his or her interests between tracking money, corruption, tax evasion, organized crime, prohibited trade and abuse of power in close proportions.

3. The scope of investigation coverage is distributed within the research sample between Eastern Europe, the Middle East, the Americas and Africa.

4. 82.9% of the total sample was cross-border implemented by press teams while 17% were completed in one country.

5. 39% of the information sources in the search sample were in the form of leaked and exclusive documents, followed by the Internet and then witnesses.

6. 68.2% of the investigations were formulated according to the anecdotal template followed by the reporting template

7. The contact person distributed patterns of evidence presentation in survey investigations between maps, images, timeline and graphics.

8. 33.3% of the search sample included detailed maps followed by interactive maps and then graphics maps and fixed maps.

9. The creator of the communication content has diversified the use of images in investigations, with the graphically modified image category being first ranked 31.8%, the satellite photo and Google Maps three-dimensional categories being second ranked 22.7% and the aerial photo category being third ranked at 18%, and finally the motion picture category being fourth ranked at 4.5%.

10. 46.3% of investigations were presented in data-augmented text, followed by multimedia at 39% and the category of abstract text at third place at 14.6%.

11. Software used in fact analysis and presentation with Axel's first ranking varied by 31.7% followed by Google Interactive Maps by 29.2%, hence Detailed Mapping Tool by 26.8% and Satellite Image Analysis Software by 12%.

Third/Conclusions

Investigative investigation requires more effort and time than in-depth investigation, so its productivity rate is lower than others.
1. The distribution of the contact person's interests on the various subjects of investigations reflects the desire to cover the various affairs and details of life.
2. Areas emerging from conflict in eastern Europe receive the attention of the investigative press.
3. Surveys are often not carried out by a single journalist and most cross-border corruption cases.
4. Anecdotal narratives remain inherent in investigative journalism despite the novelty of programmes and applications for presenting investigative journalistic content.
5. Liaison in the use of more than one pattern of investigation.

6. Computer techniques offer greater opportunities to display journalistic content in order to achieve the primary goal of the communication process of persuasion.

Fourth/Proposals

Based on the above research the researcher suggests:

1. Training journalists in the Arab region and the Middle East in the use of data analysis and presentation techniques to strengthen their journalistic content.
2. Introduction of the function of communication fact-checkers in Arab press sites to trade relatively advanced western sites.
3. Interaction between statistical, programming, design and journalism disciplines to facilitate handling of journalistic materials with precise detail.

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