The Impetus of (Digital) Billboards - Cyber Risk or Market Power?

Liljana Pecova-Ilieska, North Macedonia

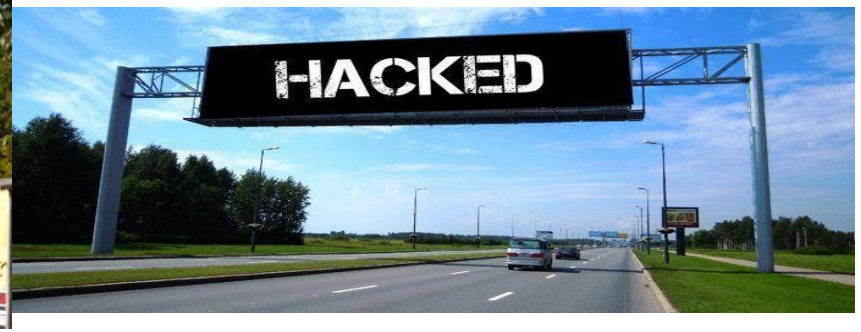
24 November 2022

www.cranfield.ac.uk

© Cranfield University

THE SATURDAY EVENING POST
Drink
Coca-Cola
licious and Refreshing

С РОССИЕЙ НАВСЕГДА!
27 сентября


HACKED

CONTRACT.MIL.RU
СЛУЖИТЬ РОССИИ –
НАСТОЯЩАЯ
РАБОТА
50м

BRITONS
"WANTS"
YOU
JOIN YOUR COUNTRY'S ARMY!
GOD SAVE THE KING

VOTE EMMERSON D. MNANGAGWA
FOR PRESIDENT
DELIVERING THE ZIMBABWE YOU WANT

Case of Zimbabwe

- Use of billboards in political marketing as strategy in Africa in 2018
- The party went to reclaim its two-thirds majority in parliament while its leader Mnangagwa polled 50.64% of votes.

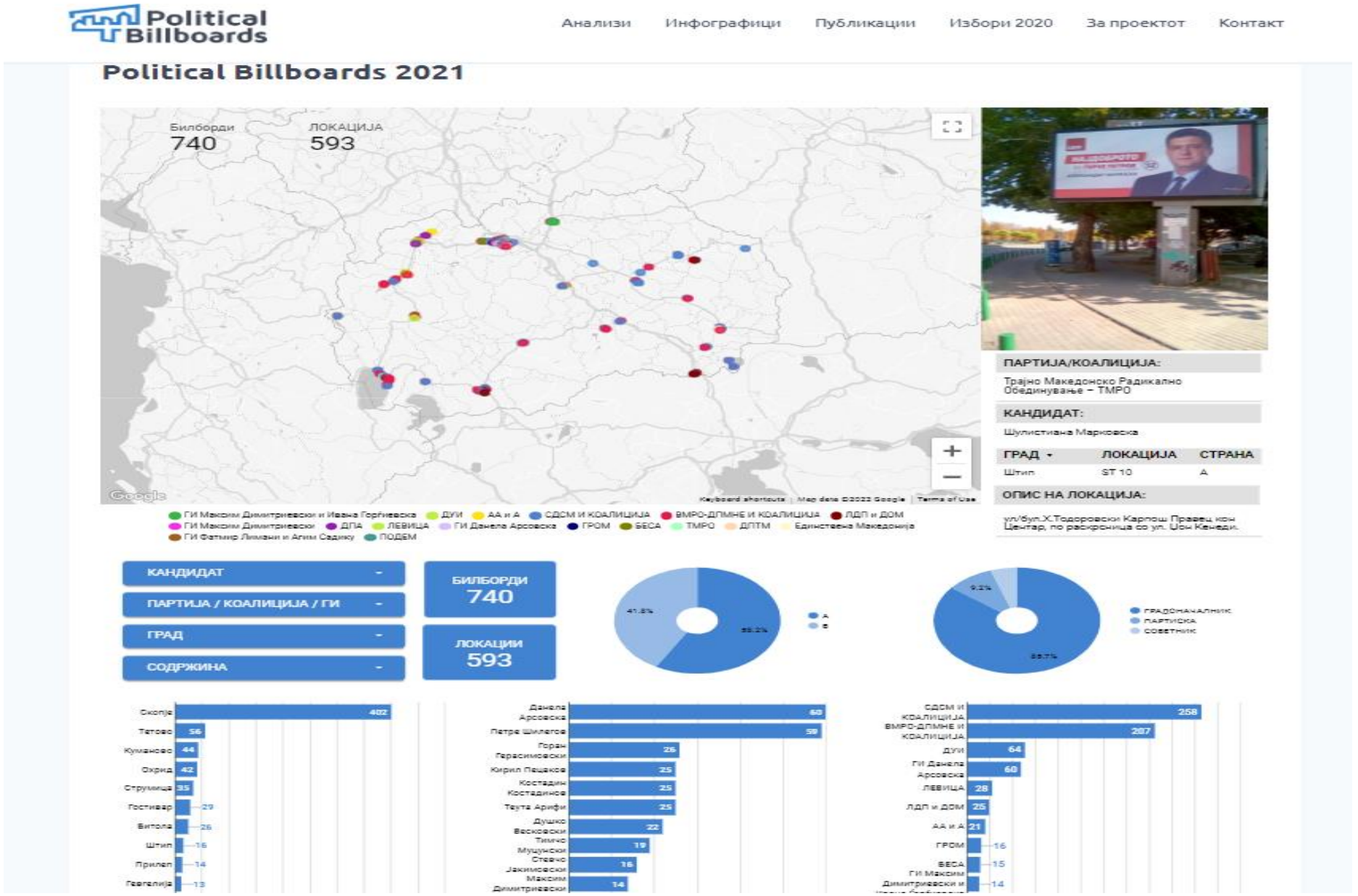
- ZANU-PF sought to clean and cleanse itself or move away from Mugabe's shadow by promising a 'New Zimbabwe' which is inclusive of all regardless of race, ethnicity, and tribe, and did that very successfully using big billboards' narrative.

Iran's Ali Vasr

State sponsored propaganda The art installation seemed like an attempt to co-opt recent women's rights protests. It was an obvious attempt by the government to uphold the narrative that wearing a hijab is a high achievement and success, or simply justifying the death in police custody.

Photo: 21.10.2022 Credit: Matthew Petti, Reason.com

North Macedonia – online mapping of billboard



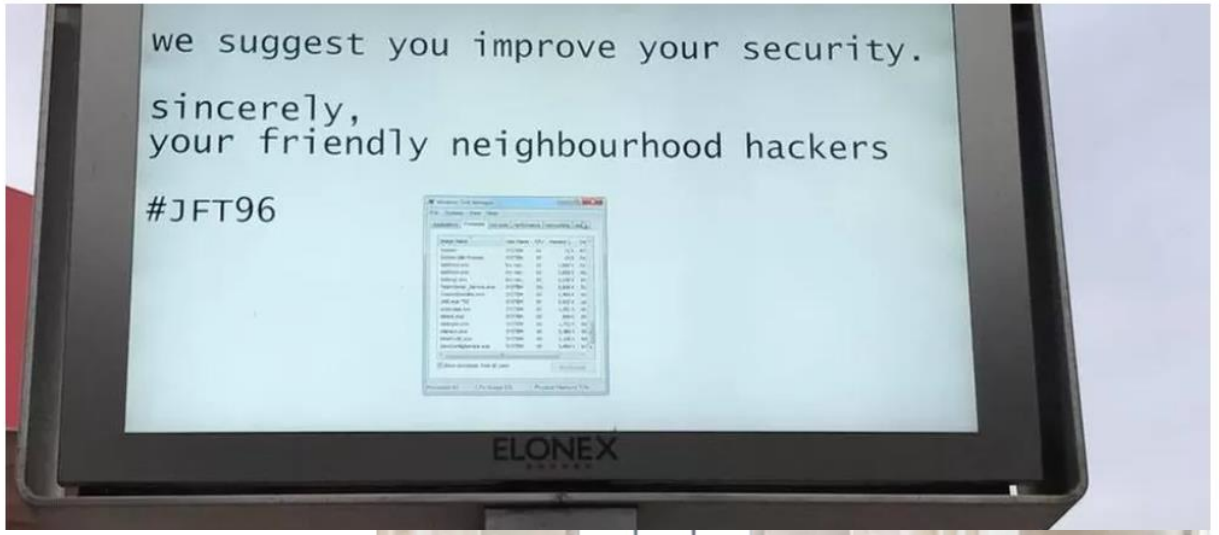
Cornerstone Point I

- Political advertising on billboards remain scant.
- There is no coherent methodological approach.
- Absorbing the information with the blink of an eye as an influence
- Environmental and urban planning affect
- Semiotic narratives all over the place

Cornerstone Point I

Liverpool One shopping centre screen 'hacked'

30 May 2017



DIGITAL SIGNAGE FOR CHURCH

Nurture a well-built community of members and followers by communicating with Digital Signage

Start Your Free Trial

Current standings

- **STRENGTH** The fact that content can be managed either locally on the device or via the network saves effort.
- **WEAKNESS** Lack of digital security knowledge and capacity to content management. Requires a certain level of connectivity in order to be effective. Hardware and software products are increasingly subject to successful cyberattacks.
- **OPPORTUNITIES** Cloud-based digital signage platforms keep upfront costs for digital signage low, minimize the requirement of on-premises infrastructures, and lower the total cost of ownership as there is no requirement of purchasing and maintaining an on-premises server.
- **THREATS**
- 2014, the group hacked multiple electronic billboards in Kiev and replaced advertisements with video's showing graphic images of civilian casualties and portraying Ukrainian officials and anti-Russian activists as war criminals
- 2017 in UK, hackers hijacked the central Cardiff billboard to display swastikas and far right images.
- 2022, Taiwan billboards were hacked with anti-Nancy Pelosi messages during her historic visit.

Detroit Airport – Parallel Reality – customized messaging sensors installed above and below digital displays

What's next?

NO SCREEN NO BUSINESS

IoT developments

The global digital signage market is expected to account for $29.8 billion by 2024, registering a CAGR of 11.2% during the forecast period.

And 80% of brands that use digital signage record a substantial increase in sales, up to 33%

Photo: National Science Museum, Edinburgh

Point II

Attack vector - 4 Dimensions

1. Location (country/infrastructure)
2. Reach/Content (number of users/customers/views/)
3. The product (owner, manufacturer, vendors, suppliers)
4. Business (singular attack)

Ex. September 2022, billboards were hacked across Europe in protest against adverts for airlines and fossil fuel.

	Low Risk	Medium Risk	High risk
Location			
Reach			
The product			
Business			

Figure 6, Credit: Liljana Pecova -Ilieska

Food for thought

The Impetus of (Digital) Billboards

Thank you!

Liljana Pecova-Ilieska, MSc.

liljana-pecova-ilieska

+389 71 276151