

THE AFRICAN JOURNAL OF INFORMATION AND COMMUNICATION (AJIC)

ISSUE 32, 2023



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RESEARCH ARTICLES





Framings of colourism among Kenyan Twitter users

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Abstract

Colourism is a form of discrimination where dark-skinned people of colour are perceived and treated less favourably than lighter-skinned people of the same ethnic group or racial classification. Much of the scholarly literature on colourism is focused on the experiences of African-Americans in the United States, but there is also substantial literature examining colourism's impacts for Americans of Latinx, Indigenous, and Asian ancestry, and for people of colour in the Caribbean, Latin America, the UK, Europe, the Asia-Pacific, and parts of Africa. To date, there has not been significant scholarly focus on the phenomenon as it manifests in Kenya. This study sought to address that research gap by: (1) exploring the extent to which colourism is an issue of concern among Kenyan users of the social media platform Twitter; and (2) identifying the main colourism themes present in posts in the Kenyan Twitter ecosystem. The research entailed mining Kenyan Twitter data for nine and a half months in 2022, which resulted in the documentation of 7,726 unique posts on elements of colourism, as posted from 5,094 unique Twitter user accounts. Using inductive frame analysis, three predominant thematic categories were identified across the posts: (1) colourism perceptions; (2) colourism experiences; and (3) colourism influence. The frame analysis also uncovered sub-themes in each of these three broad categories. It was found that most of the Kenyan Twitter users who tweeted on matters of colourism during the period studied both acknowledged the existence of colourism's manifestations and at the same time rejected the manifestations, advocating for a future free from such discrimination.

Keywords

colourism, discrimination, perceptions, experiences, influence, Twitter, Kenya, frame analysis



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1. Introduction

Colourism is the phenomenon where dark-skinned people of colour are discriminated against in ways that are not experienced by light-skinned people from the same ethnic or racial grouping (Hunter, 2013). Hunter (2013) adds that colourism is a discriminatory social process that is experienced in areas such as income level, access to education, criminal justice sentencing, housing, and marriage. The origins of the identification of the concept of colourism are often attributed to the work of African-American novelist Alice Walker, who wrote of "prejudicial or preferential treatment of same-race people based solely on their color" (Walker, 1983, p. 290).

Much of the key scholarship on colourism has, to date, been done by American academics, thus leading to a strong focus on colourism's manifestations for African-Americans and Latinx, Indigenous, and Asian Americans. At the same time, however, important scholarly contributions have looked at the presence and effects of colourism in Latin America, the Caribbean, the UK, Europe, the Asia-Pacific, and parts of Africa (see, for example, Anjari, 2022; Gabriel, 2007; Hall, 2021; Kinuthia et al., 2023; Mishra, 2015; Tekie, 2020).

In reflecting on the presence of colourism on the African continent, US scholar Norwood (2015, p. 587) writes:

My visits to Ghana, to South Africa, and to Zambia in the mid-2000s opened up a whole new world to me. Even there, in a world of Black and shades of brown, lighter was better. I am embarrassed to admit that this shocked me. I did not understand the continued hold and power that the legacy of colonization had on African communities, no longer under colonial rule.

In the Kenyan context, discussions of colourism are increasingly common in the media (see, for example, Kanja, 2020; Obino, 2021; Ongaji, 2019; Simiyu, 2023), but not to a great extent in the scholarly literature (see, as exceptions, Kinuthia et al., 2023; Okango, 2017). To begin to address this gap, this study sought to explore colourism discourses in one particular context where trends in public discussion can be detected: among Kenyan users of the social media platform Twitter (re-named X in July 2023, after the conclusion of the research). The objective of this study was twofold: to determine the extent to which colourism was a topic of discussion on Twitter in Kenya; and to determine the main framings being adopted and used in the tweets related to colourism matters.

In this article, we briefly survey some of the key literature on colourism's sociocultural and socioeconomic dimensions. After that, we explore the frame analysis framework as a methodology, which was applied to the study. Based on the findings of the study, different themes within colourism are discussed and conclusions are offered.

2. Colourism's sociocultural and socioeconomic dimensions

Colourism in the United States has many of its roots in the transatlantic slave trade, where slave owners favoured light-skinned slaves over those with dark skin (Hunter, 2013). Light-skinned slaves were often rewarded by being allowed to work in their slave owners' houses, by being assigned more skilled work, and/or by being accorded more learning opportunities (Hunter, 2004). In the contemporary era, it has been found that African-Americans with mixed ancestry, and, for example, fairer-skinned people of Latin American origin, are often privileged over people perceived to be more purely African or black (Williamson, 1995; Telles & Ortiz, 2008). In their study of employment inequalities and race in the US, Goldsmith et al. (2006) identify wage discrimination where light-skinned black males earn more than their darker-skinned counterparts. Dhillon-Jamerson (2018) identifies the role of colourism as a contributor to class divisions.

Hunter (2004) finds that light skin is associated with beauty, intellectual capability, and likeability, with the result that light-skinned black people are more welcomed in many social spaces than those with darker skin, and light-skinned black women are more likely than those with dark skin to marry high-status spouses. Mathews and Johnson (2015) find that most African-American men would prefer to marry a lighter-skinned African-American woman, so as to elevate their own status, as light-skinned women are seen as attractive and pleasing to society. Hill (2002) finds that light-skinned women are perceived to be more likeable, honest, cooperative, and desirable as romantic partners (Hill, 2002).

Hunter (1998), in examining colourism (“skin color stratification”) as experienced by African-American women, traces its beginnings in the US to “sexual violence against African women by White men during slavery”, which was a form of “social control” and “was part of the beginning of the skin color stratification process itself” (1998, pp. 517–18). One obvious result, Hunter (1998) writes, “was the creation of racially mixed children”, while the sociological effect “was to systematically privilege lighter-skinned Blacks via their connection with the White slave owner and thus their connection with whiteness” (1998, p. 518).

Keith and Monroe (2016, p. 4) write that, in the US context, “[a] well-regarded cadre of scholars presently assert that when African-Americans, Asians, and Latinos/as fare comparably well within their ethnoracial group, they tend to have lighter complexions”. Keith and Monroe (2016) find the roots of the “skin-tone hierarchy in the United States” in white supremacist ideologies and the dynamics of racial mixing during the European colonial era. UK-based writer Gabriel (2007), who explores colourism in the African diaspora settings of the US, Latin America, Jamaica, and Britain, frames colourism as “a manifestation of the psychological damage caused by centuries of enslavement which created social hierarchies based on skin colour [and] maintain an invisible presence in our psyches” (2007, p. 2).

While colourism has been found to be experienced by both women and men, the biases are more harmful to women—chiefly with respect to notions of beauty, the dynamics of spouse selection, and socioeconomic status (Mathews & Johnson, 2015). Mathews and Johnson (2015) find evidence of African-American women desiring dark-complexioned African-American men, and the authors conjecture that “[p]erhaps this is because dark skin as a male attribute has been historically associated with masculinity, strength, and praise” (2015, p. 269). Several studies (Hunter, 1998; Thompson & Keith, 2001; Hill, 2002) have found that an African-American woman’s personal self-esteem can be influenced by the lightness or darkness of her skin.

Van Hout and Wazaify (2021) write of efforts to lighten dark skins through bleaching in African countries such as Tanzania, Burkina Faso, Benin, Cameroon, Mali, Senegal, Rwanda, Ghana, South Africa, and Nigeria, as well as in Asian countries such as India, China, Japan, Pakistan, and South Korea. Anjari (2022) examines the origins and evolution of colourism and skin-lightening practices in South Africa, and also explores the strong opposition to these phenomena from the apartheid-era Black Consciousness Movement (BCM) and, in the contemporary era, by Black Lives Matter (BLM) activists. BLM has its origins in the US but in 2020 it became a global movement as countries joined in the protests against racial injustices. Anjari (2022) states that in South Africa, there is a problematic relationship between skin colour and access to socioeconomic opportunities, where the light-skinned are looked up to, leading, *inter alia*, to a profitable skin-lightening industry.

In a Tanzanian study, Lewis et al. (2011) link women’s use of skin-bleaching to, *inter alia*, self-objectification, Westernisation, and colonialism. A study by Tekie (2020) sets out findings from research into the harmful impacts of colourism on notions of identity and ethnicity among women in Zanzibar. A Kenyan study by Kinuthia et al. (2023) explores the role of family members and peers in imposing notions of colourism and texturism (focused on hair texture) on young women. The family and peer influences are found to be harmful: “Young women had, therefore, internalized the idea that beauty was represented in either light or medium toned skin and soft hair” (2023, p. 41). Another Kenyan study, by Okango (2017), examines the roles played by colonialism, globalisation, technology use, and TV consumption in encouraging bleaching and other chemical methods for lightening skin among Kenyan women.

3. Frame analysis methodology

Frame analysis, which originated in the work of Goffman (1974), has its roots in agenda-setting theory, which emphasises the ways in which human beings’ definitions of reality are shaped by framings they encounter in society and culture around them. Goffman (1974) argues that, through a combination of social construction and reliance on existing frames, human beings adopt and develop frames to make sense of realities they encounter and to guide their everyday lives. Frame analysis can be used, *inter alia*, to interrogate the effects of audience exposure to an issue via its media coverage (Price & Tewksbury, 1997).

Tewksbury and Scheufele (2019) state that, in frame analysis, the framing effect occurs when a phrase, image, or statement suggests a certain meaning or interpretation to an audience. These authors add that the framing effect can occur via three processes: information effects, persuasion effects, and agenda-setting effects. The common

aspect across the three effects is exposure to framings through media consumption. Goffman (1974) points to cultural context as a crucial element in framing. When an audience is exposed to a message, the audience's surrounding culture influences their interpretation of the issue. Gamson and Modigliani (1989) describe this phenomenon as "cultural resonance".

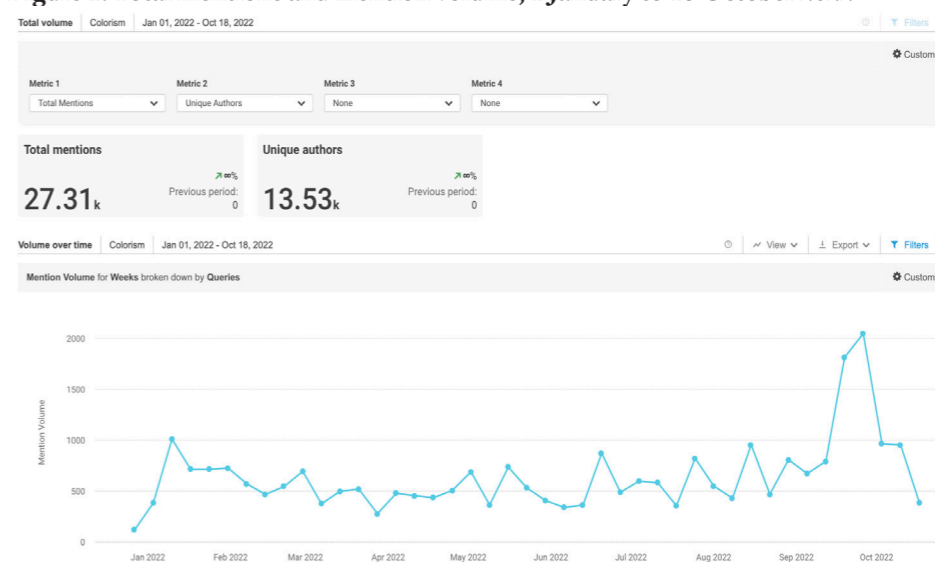
The data for this study's frame analysis of Kenyans' framing of colourism was extracted from the social media platform Twitter. Twitter was selected as a relevant media consumption tool on the grounds that it is, at present, a key media platform for the framing of issues and for audience consumption of, and interaction with, frames (Wasike, 2013). Machine learning was used to mine and analyse the data from Twitter, using the Network Overview, Discovery, and Brandwatch application programming interfaces (APIs). The online data was collected in 2022. In Kenya, internet penetration was estimated at 23.35 million users in January 2022, with an increase of 1.6 million from 2021 to 2022 (Kemp, 2022), meaning that approximately 42% of the Kenyan population was using the internet. The target population for this study was Kenyan-based Twitter users, and there were an estimated 1.35 million such users in January 2022 (Kemp, 2022).

The colourism data was collected between 1 January and 18 October 2022. Keywords and keyword phrases associated with colourism were formulated, resulting in 39 keywords and keyword phrases, such as colorism/colourism, light-skinned, dark-skinned, melanin, brown skin, fair skin, discrimination + color/colour, and Lupita Nyong'o + colorism/colourism, and including Kiswahili phrases such as "*rangi ya thao*" (referring to the colour of the 1,000-shilling note in Kenyan currency), among others, that were likely to be used in the Kenyan context. (The Kenyan 1,000-shilling note is light brown in colour and commonly associated with light skin tone.) The keywords and keyword phrases were queried using Brandwatch, and the location was limited to Kenya. Brandwatch was used because it enables data to be mined for a long period, in this case for nine and half months.

4. Colourism on Twitter in Kenya: Findings and discussion

The colourism data mined from Twitter using Brandwatch contained 27,382 mentions by 13,540 unique authors in Kenya, as shown in Figure 1 below. (In the figure, the Twitter handles of the posts are the actual online handles of the Twitter users on the platform as mined by Brandwatch.)

Figure 1: Total mentions and mention volume, 1 January to 18 October 2022



Note. Data extracted by Brandwatch.

The line graph in Figure 1 shows the monthly volumes of mentions of colourism themes for the study period, with most colourism mentions occurring on 2 October 2022 when there were 2,043 such mentions. On that day, the following tweet was retweeted 229 times:

Sir-Rap-A-Lot @Osama_otero, "Sasa nikisema taste yangu ya madem ni lightskin hiyo ni colourism? So kumaanisha dem akisema hapendi machali wafupi hiyo ni heightism? Mnapenda kuplay victim sana." Twitter, Oct 2, 2022, 11:27 AM

The above tweet, in Kiswahili, translates to: "Now, if I say my taste is light skinned girls, that is colourism? Which means that if a girl says she doesn't like short men, that is heightism? You like playing the victim a lot."

Another tweet on 2 October 2022, which had 196 retweets, was a response to a user seeking to understand the difference between colourism and preference. The response was as follows:

Barry @_barrack_: “Colorism is what dark skinned female[s] feel when they see a dark-skinned man choosing to be with a light-skinned chic [woman]. Preference is when women state the type of man they would consider being with.” Twitter, Oct 2, 2022 12:26 PM

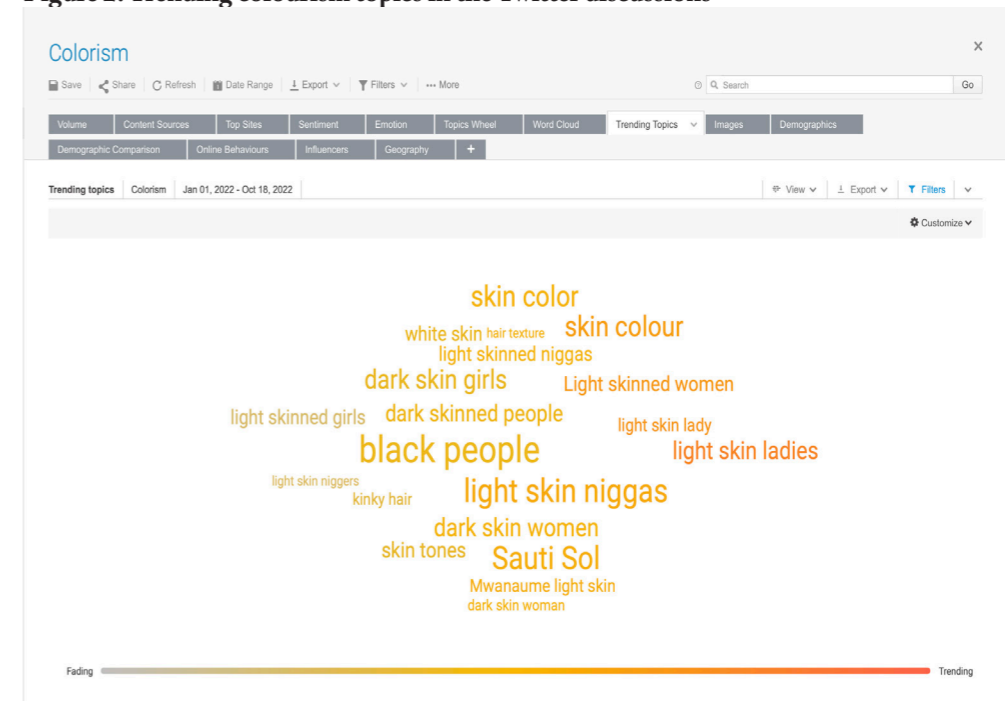
The demographic analysis found that 69% of the originators of the colourism-related tweets self-identified as male, compared to 31% who identified as female. With respect to professions, the top five posters who collectively made 1,567 mentions of colourism themes identified themselves as artists. Executives, scientists and researchers, journalists, and students collectively made 477 colourism mentions. The findings indicate that both the male and female genders, and Twitter platform users from various fields, are contributing to the colourism discussion.

The data was then cleaned to exclude retweets and irrelevant tweets such as promotional material. This reduced the colourism mentions to 7,726, by 5,094 unique authors. After the cleaning, the demographic analysis produced similar results, with 65% male posters and 35% female posters mentioning colourism themes. The top five posters remained the same artists, who had made 476 colourism mentions, while the students had made 122 colourism mentions, and the executives, scientists, researchers and journalists, collectively, had made 345 colourism mentions.

The first objective of the study was to establish whether colourism as a topic of discussion exists in Kenya. The mined data indicated that it exists in Kenya, and that Twitter is used as one of the platforms for the conversations. This supports Norwood’s (2015) findings that colourism is prevalent not only in Western countries but also on the African continent. With regard to gender, male users were found to be discussing the subject more than female users. This aligned with the findings from Kiarie’s (2020) study of Kenyans’ use of social networking sites, which found that males spent more time on social media than females.

The trending topics in the colourism discussions are highlighted in Figure 2 below, with the larger fonts indicating the most prevalent topics. These prevalent topics included “black people”, “light skin niggas”, “Sauti Sol” (a Kenyan musical group), “skin color/colour”, “dark skin girls”, and “light skin ladies”.

Figure 2: Trending colourism topics in the Twitter discussions



Note. Data extracted using Brandwatch.

The topic wheel in Figure 3 provides another representation of the topics of conversation on colourism matters among Kenyan Twitter users. A topic wheel indicates the key topics and sub-topics within conversations, which are segmented using unique parameters (Agnew, 2018). In this case, the key topic within the colourism tweets was “skin men”, as shown in the centre of the topic wheel. The sub-topics include “dark skin”, “melanin”, “black skin”, “light skin”, and more sub-topics as one moves to the outer layer of the topic wheel. It should be noted that these words came from the conversations on colourism on Twitter. This shows that the main focus areas of conversations were men’s skin colour, light skin, dark skin, melanin, and black skin.

The final frame under this perception framing theme was *beauty*. One user strongly objected to the frame wherein light-skinned women are regarded as more beautiful than those with dark skin:

Nelly Alili @NellyAlili: “This thing of lightskinned girls are beautiful but darkskins have good personalities is not okay. This kind of thinking still feeds into the narrative of ‘darkskins are ugly’ Someone’s skin color has nothing to do with nothing.” Twitter, Mar 3, 2022, 5:18 PM

Also rejecting the light-skin-is-beautiful framing imposed on black women, one male tweeted the following in respect of his dark-skinned spouse:

Tyrion @Maxwizy: “For my wife I also noticed she admired light skin women and wished that she was also light skin [...] I had to convince her multiple times that she is also beautiful and that light doesn’t guarantee beauty [...] I agree we need to embrace and appreciate dark skin women too.” Twitter, Oct 2, 2022, 2:41 PM

In line with the aforementioned tweets’ rejection of the framing in which light skin is held up as an ideal for beauty in black women, many tweets extolled the virtues of melanin—the pigment whose quantity dictates darkness of skin. One of the tweets, which was widely shared and re-tweeted, provided a video of a white woman applying sunscreen lotion. After the woman in the video is finished applying the lotion on most parts of her body, she shares some of it with a young black boy. The boy applies it only to the palms of his hands and the soles of his feet (signifying that people with black skin do not need to apply any lotion as melanin protects them from sunburn). Most of the comments on the video tweet included the word “melanin”, with mention of melanin’s positive attributes and even some claims that lack of melanin could be associated with certain diseases. Another tweet that was widely re-tweeted referenced the song “Melanin”, a track by Sauti Sol and featuring Patoranking. The song refers to dark-skinned women as “melanin girls” and praises them. One of the tweets extolling the virtues of melanin read as follows:

TonyCaston Mwirigi @TonycastonM: “But we’re all rich in melanin! Proud African!” Twitter, Mar 1, 2022, 5:57 AM

We see here in the tweets falling under the “colourism perceptions” framing theme that there was, among the Kenyan Twitter, predominantly a rejection of, and counter-framing response to, the light-skin-is-beautiful framing experienced by black women. These framings in the Kenyan Twitter users’ tweets acknowledged the framing we saw above in the US findings of the Mathews and Johnson (2015) study, where lightness of skin colour was a powerfully positive factor in African-American men’s perceptions of the attractiveness of African-American women. But, at the same time,

the Kenyan users proposed a counter-framing, in which darker skin is beautiful for black women and also, as expressed through the pro-melanin frame, for black men.

Colourism experiences

In this colourism experiences framing theme, *employment* and *discrimination* were the dominant frames. One element that emerged in the *employment* frame was the Kenyan government’s decision to employ doctors from Cuba, whom the user refers to as having “no melanin”:

gina linetti’s twinflame @winter_emmm: “They’re not any better. Incompetence in our hospitals is because of bad management and low pay. They’re employing Cuban doctors and I’m sure they’re being paid in dollars. Hii imposter syndrome yetu as a country ya kubelieve someone with no melanin knows more than us should stop.” Twitter, May 3, 2022, 1:31 PM

The last sentence in the above tweet translates to: “This is imposter syndrome of ours as a country where we believe someone with no melanin is better than us should stop.” Another user writing within the employment frame criticised the advantages bestowed upon light-skinned black women:

Mabinda @cmabinda: “And studies show that in interviews, light skinned women with straight hair are [more] likely to advance to [the] interview stage and get the job than dark skinned women with kinky hair so this light skin issue colorism is something that is reinforced by white media. <http://mabinda.com>.” Twitter, Jan 20, 2022, 12:41 PM

Also within the employment frame, another user argued that light-skinned black women mistreat their black male counterparts in the workplace:

nickson mwangale @nicksonmwangale: “Miss mandi is just an example of how light skinned pretty women who get preferential treatment at the job bully the hell out of their male counterparts.” Twitter, Jan 20, 2022, 5:33 PM

In respect of the *discrimination* frame, one user rejected and mocked the frame with these words:

Wdxsm @delashoo: “Blacks are hated for having more melanin pigment, crazy!?” Twitter, Mar 4, 2022, 4:45 AM

One tweet approached the discrimination frame through an international lens:

Fred @SirAlfred006: “Light skinned girls have an upper hand almost everywhere compared to black skinned. Kenya and beyond.” Twitter, Apr 3, 2022, 6:22 PM

Another user adopted a defeatist stance in relation to the discrimination frame:

Sewe Saldanha @SeweS_: “As long as Africans are poor (whether it’s a melanin thingie or this misguided black nationalism) nobody will ever want them anywhere and thus will keep dying like flies attempting to swim to Europe. And that is just how things are, melanin notwithstanding.” Twitter, Jul 1, 2022, 5:40 PM

Here, in the tweets falling under the “colourism experiences” framing theme, we see, among the Kenyan Twitter users, a mix of both acknowledgement and critique of colourism framings.

Colourism influence

The frames identified under this framing theme were *children* and *bleaching*. With respect to the *children* frame, one user tweeted as follows:

Nelly Alili @NellyAlili: “Some lightskinned women have attested that there’s pressure to reproduce only lightskinned babies. This kind of pressure is rooted in colorism.” Twitter, Jul 23, 2022, 7:28 PM

The same Twitter user added that:

Nelly Alili @NellyAlili: “Colorism in families, is not that the parent hates the darkskinned child, it’s [that] they treat the lightskinned child better; more care/affection. Which is also a problem.” Twitter, Mar 15, 2022, 7:42 PM

Also addressing the children frame, another user stated:

Carlisle @cryptonait: “A great but weighted question. Most of it has been internalized like growing up dark where all my siblings took after my mom who is extremely light skin. then her & co constantly calling me thin then fat when I started puberty It’s taken me years to be comfortable in my body as is.” Twitter, Jun 24, 2022, 11:42 AM

With respect to the *bleaching* frame, users wrote as follows:

Siennaxgold @luckyredrebel: “People shame girls for bleaching badala mshame [instead shame] the colourists who made fun of their dark skin, called them ugly and made them feel inferior to lightskinned girls which is all just a product of racism juu mliambiwa [because you were told] white skin is superior mkaamua [you decided] it’s the hill you’ll die on lol.” Twitter, Aug 30, 2022, 11:07 AM

Uju Anya @UjuAnya: “Let’s save some of our shock and disgust for the society compelling people to burn and mutilate themselves to lighten skin. Let’s not place all blame on somebody trying to get the better treatment, better jobs, better dating prospects, better life they see attached to light skin.” Twitter, Oct 16, 2022, 6:38 PM

Luna M.N @MphoMoalamedi: “Until you guys are honest with yourselves about how horrible you treat dark skin people in this country, especially women, then leave conversations about skin bleaching alone. From birth, dark skinned peole [sic] are bullied and even profiles [sic] as foreigners and experience so much abuse.” Twitter, Jan 15, 2022, 12:46 PM

Mass . Acceleration @CraigParis7: “Bleaching is not immoral as such. Colorism that forces people to bleach is what’s immoral. Let’s not blame dark-skinned girls who are ostracized in society for dark skin tones that are considered undesirable. This forces them to bleach to be desirable. It is a real problem.” Twitter, Sep 7, 2022, 11:34 AM

Meanwhile, one user, apparently seeking to undermine the anti-bleaching framing, made light of a tweet pointing to the harms of bleaching products:

First Doktor @firstdoktor: “Bleaching can thin your skin! Bleaching can scar your skin! Bleaching can harm your liver! Bleaching can harm your kidney! Bleaching can cause skin cancer! Bleaching can malform your unborn baby!” Twitter, Feb 7, 2022, 2:26 PM

In all but the final tweet cited above under the “colourism influence” framing theme, we see an acknowledgment of, and also defiance towards, the elements of colourism that harm dark-skinned children in Kenyan families and the colourism that makes some Kenyan women seek to lighten their skin.

5. Conclusions

This study explored the extent to which colourism is a topic of discussion among Kenyan Twitter users, and it also identified, via frame analysis, the main thematic elements in Kenyan Twitter users' discourses on colourism matters. The fact that during the nine and half months studied in 2022, there were 7,726 unique Kenyan posts linked to elements of colourism, and 5,094 unique Twitter user accounts linked to these posts, indicates that colourism is indeed a prominent topic of discussion in the Kenyan Twitter ecosystem. Through frame analysis of the posts, it was found, through an inductive approach, that the discussions could broadly be broken down into three predominant thematic categories: (1) colourism perceptions; (2) colourism experiences; and (3) colourism influence. Across all three themes, it was notable how much passion, and oftentimes pain, was elicited by discussions of colourism.

The frame analysis of the tweets indicated a strong presence of perceived and/or directly experienced colourism among many Kenyan Twitter users, with effects identified in areas such as employment, procreation, and skin bleaching. However, the framings were by no means monolithic. For instance, while some of the Twitter users framed colourism as a form of harmful discrimination, others framed it more benignly as merely an element of preference. Most significantly, among the Kenyan Twitter users active during the period studied who addressed colourism issues, there was a predominant current of rejection and defiance in response to manifestations of colourism in Kenyan society.

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Mergers and acquisitions between online automobile-marketplace platforms: Responses by competition authorities in South Africa, Australia, and the United Kingdom

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Abstract

This study explores how competition authorities in three jurisdictions—South Africa, Australia, and the United Kingdom—have responded to proposed corporate mergers and acquisitions involving online intermediation platforms that provide automobile marketplaces. The article examines the notified (and ultimately prohibited) MIH eCommerce Holdings acquisition of WeBuyCars in South Africa; the notified (and authorised) Gumtree acquisition of Cox Media in Australia; and, in the UK, the notified (and authorised) eBay acquisition of Motors.co.uk. The author evaluates the competition considerations that came to the fore in each of these three cases and, based on these determinations, the competition authorities' decisions. The article then highlights some of the complexities that digital online intermediation platforms pose for competition authorities, and some of the possible ways in which the complexities can be managed.

Keywords

online intermediation platforms, automobile marketplaces, digital platform markets, mergers and acquisitions, competition, market definition

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1. Introduction

Competition authorities worldwide are increasingly dealing with mergers and acquisitions involving online intermediation platforms. The relevant authorities are finding it challenging, inter alia, to define the relevant markets and, within these market definitions, to account for potential competitors. Such matters are of increasing concern because, in today's global, regional, and national economies, the vast majority of firms involve a digital platform element, often with an element of intermediation. The often-complex features of intermediation-platform markets need to be accounted for, and the repercussions considered, when the applicable market is assessed for the purposes of a competition authority's decision on a notified acquisition.

Online intermediation platforms present competition challenges, specifically in respect of merger control. Competition in digital markets often features "winner-takes-most" dynamics, making dominance a relatively inevitable outcome in these types of markets, which is reinforced through dynamics such as the economies of scale and strong network effects. Dominant platforms in these markets enjoy the benefits of network effects in that the more customers are attracted to their platform, the more other customers use the platform. This in turn feeds off market inertia where customers develop a propensity to use the larger platform to the disadvantage of smaller and/or newer entrants to the market. However, it may not necessarily be the case, in these markets, that firms with a large share of the market are detrimental, provided the mechanisms for market entry, and innovation by both incumbents and newcomers, are upheld (OECD, 2022, p. 19).

This study explores three cases of proposed corporate acquisition of an online automobile-marketplace platform. The cases examined were from three jurisdictions: South Africa, Australia, and the United Kingdom. Specifically, this study examined the proposed MIH eCommerce Holdings acquisition of WeBuyCars in South Africa; the proposed Gumtree acquisition of Cox Media in Australia; and, in the UK, the proposed eBay acquisition of Motors.co.uk. The focus of the South African

case was primarily on the elimination of potential competition and the importance of good data to inform pricing decisions, while in Australia, the merging parties were not close competitors, and it was decided that the transaction would result in a strengthened merged entity better placed to compete against other larger rivals. The case in the UK found that merging firms were not close competitors, and thus there was no evidence that the merger would cause a significant lessening of competition.

2. Online automobile-marketplace platforms

Online automobile-marketplace platforms are used to advertise and facilitate opportunities for potential trade in automobiles between private sellers, private buyers, and vehicle dealers (seeking to both buy and sell). Some sites operate primarily as match-making platforms between sellers and buyers, while others (as in the South African case discussed in this article) go as far as buying vehicles from sellers and warehousing them while waiting for a buyer. The platforms typically charge subscription fees to dealers wanting to list multiple vehicles, and per-listing fees to private sellers who want to use the platform only once.

Intermediation platforms and multi-sided markets

In the final report of its Online Intermediation Platforms Market Inquiry, the Competition Commission South Africa (CCSA, 2023, p. 16) defines online intermediation platforms as platforms that

facilitate transactions between business users and consumers (or so-called "B2C" platforms) for the sale of goods, services and software, [including] eCommerce marketplaces, online classifieds and price comparator services, software application stores and intermediated services such as accommodation, travel and food delivery.

The platform facilitates an interaction between the buyer and seller that results in the most beneficial outcome for either side (Evans & Schmalensee, 2016). The OECD (2018, p. 10) defines a platform market as one "in which a firm acts as a platform and sells different products to different groups of consumers, while recognising that the demand from one group of customer depends on the demand from the other group(s)". The OECD (2018) also points to the fact that demands from either side of the platform market are linked to one another through indirect network effects. The platform is aware of these indirect network effects, but the buyers participating in the market are not (2018, p. 37). However, there may be additional direct network effects across the platform whereby it attracts more customers as a result of other customers using the platform.

Online automobile-marketplace platforms facilitate multi-sided markets. On the selling side, they facilitate participation by private sellers (often wanting to sell a single vehicle) and dealers (wanting to sell multiple vehicles). In many such platforms, the

dealers also operate on the purchasing side (alongside private purchasers), searching for specific cars on behalf of clients and/or seeking to increase their own stock of specific vehicles that they know are popular and will sell on easily. The Australian Competition and Consumer Commission (ACCC, 2020a) determined that such markets are characterised by two main segments: private sellers and dealers, each representing distinct entities within the market.

It is important to recognise that firms can operate exclusively on either the supply side or the demand side of the platform, exerting influence that may impact market participants. Even if a firm is positioned solely on one side of the market, its actions can have cross-market effects, constraining other entities within the same market. These cross-market effects represent the potential impact that a single-side firm can impose on others, highlighting the interconnected dynamics that shape the market ecosystem.

An intermediary is a form of platform that follows “a horizontal model of the platform as a mediatory device enabling third party transactions to take place” (Steinberg, 2022, p. 1072). This definition requires a slight adaptation for application to the South African case discussed below, where the platform firm takes ownership of the vehicle before it is transferred over to the seller. In this case, the platform is taking a more integrated approach to involving itself in the process of matching buyers and sellers.

The role of data

Intermediation-platform firms make use of numerous types of data, including membership data, transaction data, customer behaviour data, web server data, and search engine optimisation data (OECD, 2018, p. 77). The data-based pricing mechanisms employed by online automobile-marketplace platforms account for vehicle characteristics such as make, model, year, mileage, added features, colour, and transmission type, which all influence the ultimate asking price for the vehicle. The larger players in platform markets use pricing models guided by vast amounts of data. When two large firms in the same market merge, and thus their databases merge, there is the potential for the merged firm to have a high degree of market power, because the remaining competitors in the market may simply not have access to as much data and thus may struggle to determine effective prices on the basis of which to compete.

Data can be harnessed to generate “data powered economies of scale” wherein firms with large customer bases are able to amass much more data than firms with smaller customer bases; these larger swathes of data can be used to improve the services offered by the firm; and the improved service levels encourage more customers to engage with the firm (Calvano & Polo, 2020, p. 23). One would need to consider the difference between a firm having access to or ownership over their data, as the latter

could result in market failures or anticompetitive outcomes in merger and acquisition deals. Efficiently obtaining data plays a crucial role in a firm’s ability to determine equilibrium prices that cater for both sellers and buyers on a platform. By gathering more data, a firm enhances its ability to accurately estimate the equilibrium price, aligning with the minimum price that is acceptable to sellers and the maximum price that buyers are willing to pay. Navigating the online automotive platforms markets may pose a challenge for firms, particularly those that may not be able to overcome barriers that could arise from needing to develop proprietary databases.

In the South African case, WeBuyCars has successfully built its databases by consolidating sales data and leveraging its control over both sides of the operational platform. With respect to data collection, while competitor firms to WeBuyCars do list the prices of vehicles online, and are able to collect that data, the data collected by the platform is not equal to the quantity and quality of data provided to the dealers and buyers of the vehicles. In the WeBuyCars platform model, the data collection and dissemination process is contained within one entity, but with alternative firms, the platform relies upon the seller or dealer providing as much factual information as possible when it may not always be in their best interest to do so. For example, when listing a vehicle that is damaged or needs a major service, dealers and private sellers will try to minimise the severity of these facts in their descriptions of the vehicle. Thus, the data that WeBuyCars can collect through its process of accepting ownership of a vehicle and providing restoration services where needed before selling to the final consumer gives it an outward appearance of trustworthiness to these final consumers. In contrast, other automotive intermediary platforms in South Africa typically offer listings without assuming ownership of the vehicles or actively participating in financial transactions, leading some consumers to doubt their trustworthiness.

Regulating competition in platform markets

In competition authority decisions, a proposed merger can receive approval if it is determined that the merger will not diminish competition in the relevant market or raise additional barriers to entry. According to Yu (2020), a central challenge for regulators evaluating mergers in platform markets is the difficulty in outlining a counterfactual scenario. Regulators are currently struggling to formulate cohesive theories of harm that accurately delineate the mechanisms causing harm to competition and also to grapple with a consistent application of economic principles to the facts of the market that they are required to assess. The capacity of a firm to impact a market is often shaped by strategic decisions regarding market entry or threat of entry. When it comes to digital platforms, the impacts of these strategic moves can be difficult to evaluate. Prohibiting firms from developing their business strategies, especially in cases where they have not yet entered the market, can be deemed unreasonable and over-reaching.

In setting out recommendations for improved merger control in digital platform markets, Calvano and Polo (2021) call for greater focus on foreclosure strategies that may be attempted by larger incumbents in relation to smaller potential competitors. These authors also recommend that competition authorities keep a more watchful eye on matters of data mobility, interoperability, open standards, and data openness in their evaluation of proposed merger transactions (Calvano & Polo, 2021). Following such recommendations could allow for better identification of potential competition concerns during the merger evaluation process and greater prevention of unilateral effects.

Cabral (2020) recommends shifting the burden of proof onto the acquiring firm to indicate the pro-competitiveness of the merger or acquisition. This reversal of the burden of proof from the authorities onto the merging parties could have the necessary effect of raising the merger-approval bar considerably. It would also allow competition authorities to engage more efficiently with the core competition matters before them in each case, rather than devoting exorbitant amounts of time to understanding the market in question. The authorities can focus on evaluating the soundness of the arguments put forward by, and seeking information from, the acquiring firm, which will always be the best-placed entity to explain the market(s) in which it is operating.

In the realm of intermediary platform markets, where the dynamics are intricate, competition authorities must tread carefully. Rather than stifling potential entrants, the focus should be on ensuring that post-merger scenarios do not create overwhelming hurdles for firms looking to gain the scale necessary to effectively compete against the incumbent(s). Consequently, decisions need to be guided by a nuanced understanding of how strategic decisions and mergers impact the competitive landscape within the intermediary platform market. Competition must be fostered, not hindered, if the market is to be dynamic and innovative.

Merger control is sometimes undermined by firms not meeting the turnover thresholds that trigger mandatory notifications to the authorities—i.e., in the platform context, when the acquired firm operating a platform is not generating significant revenue but has great potential to do so at some point in the future (Motta & Peitz, 2020). In recent years, notification thresholds have been amended in many jurisdictions, with some authorities requiring notification based on the price paid for the acquisition or based on the share-of-supply criterion, thus allowing more mergers to be assessed (Motta & Peitz, 2020).

3. Regulatory responses

South Africa: MIH eCommerce Holdings and WeBuyCars

In this case, MIH eCommerce Holdings (MIH) intended to acquire 60% of the share capital of the WeBuyCars platform.¹ As MIH was controlled by the Naspers Group, the competition authorities brought into consideration other firms within the Naspers portfolio. The Naspers group already included the online automobile-marketplace platform AutoTrader,² and another leading digital platform, Media24³ (Competition Tribunal, 2020b).

South Africa's Competition Tribunal ultimately decided to prohibit the proposed merger on the grounds that it would lead to significant unilateral effects through the removal of potential competition, and that it would additionally give rise to conglomerate effects (Competition Tribunal, 2020a). The Tribunal found that these conglomerate effects would ultimately further entrench WeBuyCars' existing dominance, because they would raise barriers to entry for any other actual or potential competitors. A barrier to entry existed as the merged entity would have the potential to leverage the data of the combined entity to extract maximum advantage from it, while the competing firms would not have access to this type of data at all. It was also found that there might be reciprocal benefits, flowing between the Naspers Group and WeBuyCars, which would entrench the dominance of WeBuyCars in its market (Competition Tribunal, 2020a).

The WeBuyCars platform follows a hybrid model whereby it buys vehicles from private sellers and then warehouses them until they are sold to car dealerships and private buyers. WeBuyCars was, at the time of its proposed acquisition by Naspers via MIH, also found to be making progress towards a direct business-to-customer route, facilitating direct sales to the final consumer (Competition Tribunal, 2020a).

The growth of WeBuyCars can be attributed to the rapid and early adoption of digitalisation for its platform and operations. Digitalising inventory management systems created opportunities for the business to rapidly expand and produce instantaneous statistics to guide business decision-making (PwC, 2019). It is unclear whether any other competing firms to WeBuyCars adopted similar mechanisms or digitalisation methods during this time.

In its recommendation that the merger be prohibited, the Competition Commission South Africa (CCSA) found that if the market was defined solely as a “car-buying

1 <https://www.webuycars.co.za>

2 <https://www.autotrader.co.za>

3 <https://www.media24.com>

service” then WeBuyCars had a market share above 80% (Competition Tribunal, 2020a). The Commission generated this calculation by “dividing the number of used cars that WeBuyCars purchases per month by the total number of used cars purchased across a number of competitors” (Competition Tribunal, 2020a, p. 43). Naspers, via MIH, advocated for a more broadly defined market that included all used-car dealers, traditional vehicle dealerships, and car-buying services.

In the online automotive-marketplace platform industry, the market power of a firm can to some extent be measured in terms of the number of unique leads generated by its specific platform. A unique lead arises when an individual exhibits a level of engagement with a platform that distinguishes the user from all others engaging with the same site. However, a consumer’s ability to switch between different platforms skews the calculation of each platform’s share of the audience, as a single viewer may be counted as a unique lead on multiple platforms. Also, it is difficult for the number of individual users on any specific platform to be calculated because the firms tend to make use of aggregated data.

In its investigation of this case, the CCSA sought to identify actual and potential competitors, and to determine the potential external constraining effects that each firm may have been imposing or may be able to impose. Identifying competitors in an online automotive classifieds market requires, inter alia, consideration of the model that each firm employs to move its stock. It was found that competitors to WeBuyCars in the South African market were offering platform services for buying and selling vehicles online, but without taking vehicles into their possession. As there were no other identical offerings in the South African market at the time of this decision, the CCSA did not comment on the constraining effects that the existing online automotive platform firms in South Africa posed to WeBuyCars.

One of the main considerations with respect to this element of the case was the volume and quality of leads. Leads are interested parties looking to buy or sell in the case of the WeBuyCars platform, or to list on one of the competing online automotive platforms available. Consumers were more likely to approach the platform that they believed would generate the larger volumes and higher quality leads to ensure they would be able to sell their car to interested buyers or have sufficient stock or listings to be able to purchase the car that they were interested in.

A critical success factor for the WeBuyCars platform, which the CCSA identified in this market, was the model in place to price vehicles. Competitors to WeBuyCars in the South African market do not have access to the same sales history, and are thus disadvantaged by the scale of data that WeBuyCars has amassed. Access to sales history enables more accurate pricing and thus higher profit margins. Weelee,

a competitor to WeBuyCars, asserted that access to large amounts of pricing data was central to the case, as such access provided a competitive edge (Competition Tribunal, 2020a) and provided the first-mover with scale and network advantages over new or newer entrants (Competition Tribunal, 2020a). The sales history provides an advantage to the firm as it allows it to gain a deeper understanding of the overlap between the lowest price that the seller is willing to accept for their specific vehicle, given its specifications, and the highest price that a buyer is willing to accept to take ownership of the vehicle. A firm that has a sales history with these prices will be much more likely to accurately meet the equilibrium price that would be acceptable to both parties on either side of the platform.

In this case, it was also found that, prior to the proposed MIH acquisition of WeBuyCars, the Naspers group, controller of MIH, had taken a controlling interest in Frontier Car Group (FCG), a German-based automobile-marketplace firm. FCG had successfully entered online automotive markets in several emerging economies. It was found that, at the time of the Naspers acquisition of FCG, the Naspers recommendation committee had evidence showing FCG’s intention to enter the South African market (Competition Tribunal, 2020a), which would have constituted the entry of a strong potential competitor to Naspers’ MIH. The CCSA decided, and the Tribunal confirmed, that FCG would have been able to enter the South African market had it not been acquired by Naspers (Competition Tribunal, 2020a).

This acquisition was prohibited in order to prevent the entrenchment of Naspers’ dominance. This case reveals that an acquiring firm’s potential dominance of a market through an acquisition, coupled with evidence of the acquiring firm’s removal of a potential entrant to that market, can compel a competition authority to prohibit a merger or acquisition.

Australia: Gumtree acquisition of Cox Media

In this case, Gumtree AU⁴ sought authorisation to acquire Cox Australia Media Solutions. Both Gumtree and Cox Media (through its online platforms Carsguide⁵ and Autotrader⁶) offered online vehicle marketplaces, and, as an additional service, both offered third-party display advertising on their platforms. The ACCC found this transaction could result in increased market concentration and the removal of competition between the parties to the transaction (ACCC, 2020a). The core question in this matter was, thus, the extent of the anti-competitive effect that this merger could impose on the market as a whole. The ACCC authorised the merger (ACCC, 2020a).

4 <https://www.gumtree.com.au>

5 <https://www.carsguide.com.au>

6 <https://www.autotrader.com.au>

The ACCC found that the market leader, Carsales,⁷ had significantly more total page views and time spent on its platform than did Gumtree or Cox Media. Carsales also maintained the largest inventory of total listings and generated significantly more revenue compared to its competitors. Additionally, Facebook Marketplace⁸ had recently entered the market and gained market share in a very short space of time, becoming increasingly competitive relative to the incumbents in the market (ACCC, 2020a, p. 24).

Vehicle dealers are incentivised to list vehicles across more than one platform in order to ensure the widest reach possible. Thus, numerous platforms seek to be one of the platforms for sellers to use alongside the market leader(s). The proposed Gumtree acquisition of Cox Media was found to place the merging parties in a better position to be dealers' secondary choice, thus making the merged entity a more effective competitor to Carsales (ACCC, 2020a). Gumtree claimed that it and Cox Media were not close competitors as Gumtree catered more for private sellers, while Cox Media's platforms (Carsguide and Autotrader) catered more for dealers' listings.

The ACCC found that Carsales, as the clear market leader, and Facebook Marketplace, as an emerging competitor, would both remain strong competitors to the merged Gumtree–Cox Media entity, and that the threat of entry would remain from other entities operating internationally. The ability of consumers to switch easily between competing platforms would also constrain rivals and encourage a competitive environment. The ACCC determined that the Gumtree acquisition of Cox Media would result in the removal of only one of the five main competitors in the market, and thus would not substantially lessen the level of competition. The ACCC also found that the merger of the two entities' online display advertising operations was unlikely to undermine competition because of, inter alia, the wide range of entities offering such services (ACCC, 2020a).

The main concern in this case was how to determine the potential anti-competitive effects of the merger. The authority had to consider how the loss of each firm's pre-merger competitive constraint would affect the market, and whether the constraining effect of the merged entity would outweigh the pre-merger effects. As neither firm in this transaction was the market leader, it was determined that the pro-competitive impact and constraining effect that the merged entity could impose on the market leader post-merger would be greater than the constraining effect that either firm could impose alone within the pre-merger market.

⁷ <https://www.carsales.com.au>

⁸ <https://www.facebook.com/marketplace>

UK: eBay acquisition of Motors.co.uk

In this case, the Competition and Markets Authority (CMA) noted that the two merging entities, eBay and Motors.co.uk,⁹ would not be distinct from one another post-merger. At the same time, it was noted that neither firm was the other's closest competitor, and that there were no indications that the merger would result in a substantial lessening of competition—due to the strong constraints imposed by rivals in the market and the limited increment in market position by the newly merged entity. For these reasons, the Authority approved the acquisition (CMA, 2019a).

In its evaluation of this merger, the CMA elected, in determining the closeness of competition in the market, to review service propositions, lead quality, and customer overlap. In terms of service proposition, both firms were found to be offering similar automobile-marketplace services, but with differences in their pricing models. In respect of lead quality, both firms were found to be highly established, with strong brand recognition. On the matter of customer overlap, the CMA found that each party's customer base had a greater overlap with that of AutoTrader,¹⁰ the market leader, than with each other's.

It was found that both parties to the merger had regularly referred to AutoTrader in internal documents as their main rival, with CarGurus¹¹ referred to as the next closest competitor. The CMA's access to AutoTrader's internal documents led the Authority to understand that AutoTrader considered CarGurus a key threat. The CMA also found that the market appeared to be saturated, with many firms offering similar services. In its decision document (CMA, 2019a), the CMA provided a table of market-share estimates (reproduced below) for all the players in the sector.

Table: Parties and rivals' estimated shares, 2018

Provider	Shares by listing revenue (%)	Shares by number of unique visitors (%)	Shares by number of dealer users (%)
Gumtree Motors	[0-5]	[20-30]	[5-10]
eBay Motors	[10-20]	[10-20]	[10-20]
Motors	[0-5]	[5-10]	[10-20]
Combined	[20-30]	[40-50]	[30-40]
AutoTrader	[70-80]	[30-40]	[30-40]
CarGurus	[0-5]	[5-10]	[20-30]
Pistonheads (now part of CarGurus)	[0-5]	[10-20]	[5-10]

Note. Sourced from CMA (2019a, p. 10)

⁹ <https://www.motors.co.uk>

¹⁰ <https://www.autotrader.co.uk>

¹¹ <https://www.cargurus.co.uk>

The CMA table demonstrates the difficulty of discerning market shares for online automobile-marketplace platform firms, as individual measures of market share tend not to align. This complexity is pronounced in situations where consumers have the flexibility to switch between platforms. The merging parties' individual shares of listings revenue were found to be moderate in comparison to what was earned by AutoTrader, whereas the market shares in terms of number of dealer users suggested an oligopolistic market. The CMA found that the shares by revenue provided a limited amount of insight into the competitive conditions within the market (CMA, 2019a). It is evident from the figures presented above that no single measure of concentration provided a perfectly accurate reflection of the state of the market.

The CMA found that while the parties to this merger were differentiated, they were nevertheless competitors to one another pre-merger. The incremental increase in market position resulting from this acquisition would thus presumably help the merged entity to maintain competitive pressure on market leaders AutoTrader and CarGurus. The CMA also noted that buyers, dealers, and sellers found that AutoTrader was expensive to list on, thus potentially encouraging the use of other platforms (CMA, 2019a).

The CMA found AutoTrader to be the main competitive constraint on the merging parties, based on dealers allocating the largest portion of their spending to its platform, with the remainder of their spending divided among the other players in the market. The CMA concluded that if the dealers felt that firms in the remainder of the market could generate sufficient leads from consumers, they might be inclined to divide their spending more evenly among the competing firms (CMA, 2019a). The CMA thus determined that the loss of potential competition that each of eBay and Motors.co.uk could impose on the market individually was outweighed by the gain in competitive constraint that the new merged entity could impose (CMA, 2019a).

4. Analysis

The South African case demonstrates a finding that a firm attempting to enter a market that it could reasonably enter and compete in by itself should not be allowed to acquire the incumbent leader of that market, as such an acquisition would result in a reduction of the constraining effect that potential competition imposes on a market. This case focused on the dominant position of the target firm in light of the position of the acquiring firm. Several questions were also raised about the importance and advantage of access, post-merger, to strategically important data. The other two cases, in Australia and the UK, demonstrate findings that even though the potential competition that each of two merging firms could impose on the market will be lost, it will not have an anticompetitive result due to the newly merged entity being able to provide a greater constraining effect on the market leader. This shows how the potentially anti-competitive effect of an increase in market concentration caused by

a merger can be outweighed by the heightened competitive constraint resulting from the merger. Authorities' concerns around increased levels of concentration tend to be subdued in cases where a merged entity will provide a more effective competitor to a dominant market leader.

From the review of the three cases presented above, two different types of transactions emerge. In the South African case, there was an acquiring firm attempting to purchase the leading incumbent in the market so as not to exert the effort and capital required to enter the market based on competitive merits. In the Australian and UK cases, two firms that already operated within the same market merged with one another in an effort to provide a stronger competitor to the market leader, thus potentially increasing the level of competitive constraint they could exert on the market leader, relative to their competitive significance as individual firms.

Given the rapid increase in digital or technological firms merging or acquiring one another, many new competition elements are arising. Policies and regulations are not able to evolve as rapidly as digital intermediary platforms. Thus, courts and competition authorities are finding it challenging to address the competition issues that arise in technology-driven markets. Yu (2020) warns that decisions, made in potential competition cases, that are based on purely legal standards result in under-enforcement. This under-enforcement, as a result of legal standards not being able to keep pace with the growth of technology and new technology-enabled markets, results in a reduction of consumer welfare.

There is a great need to integrate platform economics more robustly as authorities assess these transactions. In the three cases considered here, the decisions were based on the established consideration of the loss of potential competition; the closeness of competition between the merging firms; and the state of competition in the market post-merger. The South African case introduces a data perspective that prompts significant economic questions, yet to be fully explored. The competition authorities should keep in mind the crucial role that extensive datasets play in mitigating uncertainty related to the pricing dynamics of a platform business.

Across the three cases discussed above, we see competition authorities apparently succeeding in adapting to the new digital-platform market environment. But there can be little doubt that there are numerous potentially anti-competitive merger and acquisition cases involving digital platform markets, in various national jurisdictions around the world, that have received sub-optimal scrutiny, or no scrutiny at all, from competition authorities.

5. Conclusions

As globalisation and technological advancements persist, an increasing number of industries are incorporating digital elements into their service or product offerings. This trend is giving rise to heightened digital competition issues. To address this evolving landscape, regulatory authorities must anticipate and understand the challenges that are present.

This study has focused on contributing to the comprehension of the regulatory dimensions related to competition dynamics in online intermediation platform markets. The findings reveal two distinct scenarios. The first, exemplified by the WeBuyCars case in South Africa, involved the competition authorities blocking a holding company associated with an existing firm from entering the market, foreseeing potential competition deficiencies. In the second scenario, observed in the Australian merger of Gumtree and Cox Media, and the UK merger between eBay and Motors.co.uk, competing forces were allowed to merge so as to enhance their competitiveness against the market leader(s).

Going forward, it can be anticipated that there will be an increased frequency, of competition investigations regarding digital platform markets. In those investigations, control of data held by merged firms will no doubt be a core dimension requiring close scrutiny—and requiring effective remedies from competition authorities when data control has the potential to enable anti-competitive behaviour.

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Ghana's Right to Information (RTI) Act of 2019: Exploration of its implementation dynamics

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Abstract

After extensive advocacy and lobbying by the media, human rights campaigners, and civil society organisations (CSOs), Ghana's Right to Information (RTI) Act (Act 989) became law in 2019 and went into effect in January 2020. The Act sets out the procedures for access to information held by Ghanaian public institutions, with oversight by the Right to Information Commission (RTIC). The purpose of this study was to explore the dynamics of initial implementation of the law, in the years 2020-22, and to identify potential obstacles to optimal execution during that initial period. The core research data was collected via semi-structured interviews, between April and August 2022, with 10 individuals possessing deep knowledge of the Act and its implementation dynamics. This interview data was qualitatively analysed, through the lenses of the principal-agent conceptual model and the objectives of the Act, in order to determine the key themes emerging from the data. It was found that realisation of the Act's objectives was being hampered to some extent by a lack of public awareness, and to a more substantial extent by bureaucratic blockages resulting from a mix of entrenched administrative culture and a lack of knowledge of the requirements of the Act. Based on these findings, the author recommends improved public education by the RTIC in cooperation with CSOs; strong RTIC engagement with public institutions to ensure a sufficient number of fully trained information officers (IOs); continued CSO cooperation with the Ministry of Information towards ensuring optimal implementation of the Act; CSO monitoring of the work of the RTIC; and CSO support for information access applications by journalists and other civil society actors.

Keywords

right to information (RTI), access to information, public information, media, human rights, civil society organisations (CSOs), principal-agent framework, Ghana, Right to Information (RTI) Act, Right to Information Commission (RTIC)

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1. Introduction

Transparency is a core tenet of democracy, serving as a potential antidote to corruption and a mechanism for accountability (Mendes, 2020). One element of transparency is the right of access to government-held information, which is a right grounded in the notion that public agencies hold information not for themselves but on behalf of the public. As a result, right to information (RTI), or freedom of information, laws are present in most democratic countries, including Ghana. Under such laws, government and state records are presumed to be public unless expressly exempted by the law itself (Ackerman & Sandoval-Ballesteros, 2006).

Ghana's 1992 Constitution contains important references to the public's right to know(ledge). The Constitution affirms in Articles 21(1)(a) and (f) that citizens have the right to "(a) freedom of speech and expression, which shall include freedom of the press and other media" and "(f) information, subject to such qualifications and laws as are necessary in a democratic, society" (Republic of Ghana, 1992). These provisions recognise that transparency through access to information is an important prerequisite for accountability of public office holders whose authority is entrusted by the citizens' sovereign will. In line with these constitutional provisions, Ghana's Right to Information (RTI) Act was passed by Parliament in March 2019, assented to by President Nana Akufo-Addo in May 2019, and came into effect in January 2020 (Republic of Ghana, 2019). It was the result of nearly three decades of advocacy, protracted political scrutiny, and significant legislative manoeuvring (Abdullah, 2021).

The purpose of this study was to evaluate the initial implementation of the RTI Act, with a specific focus on any obstacles to its execution and use. The study's evaluation data was drawn from interviews with 10 individuals who are knowledgeable about the Act and its implementation. The data was qualitatively analysed through the lens of the principal-agent conceptual framework and with reference to the objectives of the Act.

2. Literature review and conceptual framework

The right of access to information

The right of access to information is established by both national and international instruments. An important instrument in the African continental context is the 2019 Declaration of Principles on Freedom of Expression and Access to Information in Africa, as developed by the African Commission on Human and Peoples' Rights (ACHPR, 2019). The right of access to information is a form of human rights protection falling within the right to free expression, and it comprises two parts: the individual right of any person to seek information; and the state's affirmative obligation to ensure the individual's right to receive the requested information (Mosquera, 2014). The right to information erodes the horizontal and vertical information asymmetries that frequently result from inadequate information-sharing (Clarkson et al., 2007). The right to information is necessary to ensure that public office holders are held accountable, to foster government transparency, and to combat corruption (Martini, 2014).

The numerous lobbying and advocacy efforts by various organisations around the world, notably civil society organisations (CSOs), serve as evidence of the importance of the right of access to information. A good example of this is Jamaica, where a coalition of CSOs, media actors, human rights advocates, and private associations worked together to seek amendments to the country's proposed RTI law, so as to make the legislation more robust (Neuman & Calland, 2007). A similar situation occurred in South Africa, where the Open Democracy Campaign Group pushed, from 1995 to 2000, for a strong law to implement the right of access to information enshrined in the nation's Constitution (Neuman & Calland, 2007). In Ghana, CSOs, media professionals, and human rights campaigners were instrumental in the process leading to the RTI Act (Abdullah, 2021).

Nations implementing access to information laws often encounter obstacles such as a lack of knowledge and awareness, capacity issues, a lack of political will, and established bureaucratic cultures characterised by, inter alia, secrecy and poor record-keeping (Neuman & Calland, 2007; Dokeniya, 2013). "Proactive transparency" (Darbishire, 2010, p. 9) is a key driver of RTI implementation, and bureaucratic culture has been found to often be at odds with proactive disclosure requirements. Effective implementation of RTI laws requires strong political will; the creation of independent, well-funded oversight institutions; a clear legal framework and appeals processes; capacity building for public servants; public awareness-raising initiatives (Martini, 2014); and a conducive political economy (Dokeniya, 2013).

In the case of Ghana, the RTI Act provides for the Right to Information Commission (RTIC), an oversight organisation that has the power to impose fines for non-compliance with the Act (Cooper, 2022). The development of public information systems that educate citizens on the significance of the right to information, and how they can access their legal rights, is a crucial element in ensuring that RTI laws fulfil their objectives (Daruwala & Nayak, 2008). In addition, CSOs are often crucial in ensuring an RTI law's success during its implementation phase because they engage in the creation of collaborative governance for public policies (Lopes, 2021).

Conceptual framework: Principal-agent model

Viewed through the principal-agent conceptual lens, the information economy can be seen as one that is characterised by information imbalances between the *principal* (society) and the *agent* (state) (Shapiro, 2003). Ultimately, the contract of demand and supply of public information should not adversely affect the principal, which has delegated authority to the agent. This is because the contract is founded on the premise that the expertise and professionalism of the agent—who, according to Weber (1946), may be a politician or public servant—allows them to serve the principal's interests.

This representation contract, however, does not allow for complete delegation of power to the agent (O'Donnell, 1994). It also requires a degree of monitoring of the agent by the principal. The goal of the monitoring is to ensure that the agent (as represented by, e.g., a public official, politician, or civil servant) conforms with the contract and promotes public interests rather than private ones. In the absence of this, there is a moral hazard (Arnott & Stiglitz, 1986), which results from knowledge asymmetry between the principal and the agent in a situation where the agent handles closed, privileged information. Among the elements of this hazard is that a public official can use the state's power and knowledge for personal gain rather than for resolving public concerns in compliance with the principal-agent contract, resulting in undesirable social effects (Mosquera, 2014).

For the purposes of this study, a public institution (an agent) can be a state or government entity, or, as per the definition provided in Ghana's RTI Act, any entity, including a private organisation, that is mandated or funded to serve the public. The principal-agent model, when applied to the right to information, suggests that data or information that is held by public institutions is public. Information that pertains to the conduct of public institutions is, as a default, not private or confidential but rather for the public, and therefore should be accessible by the public when requested (except when subject to a justifiable exemption in an RTI statute or regulation). A largely free flow of public information is necessary to ensure accountability of the agent to the principal.

3. Core provisions of Ghana's RTI Act, 2019 (Act 989)

The RTI Act of Ghana seeks to facilitate the implementation of the country's aforementioned constitutional right to information, with the ultimate objectives being to encourage transparency and accountability in public affairs and to protect the public interest in a democratic society. In addition to state/public entities and agencies, the Act's provisions also apply to any "private institution or a private organization that receives public resources or provides a public function" (sec. 84). Under the Act, any individual or entity in Ghana can make a written request for information held by a public institution.

The core elements of the Act cover the obligations of Ghana's public institutions; the categories of exempt information; access procedures; reviews and appeals processes; and the roles of the aforementioned RTIC. According to the Act, the state is required to engage in proactive information disclosure, while also granting access to information that is requested. However, the law specifically lists 13 categories of information that are exempt from disclosure (secs. 5 to 17). The key categories are: information prepared for the President, Vice President, or Cabinet; information related to certain elements of law enforcement, public safety, international relations, security of the state, economic interests, tax, internal operations of public institutions, and trials; and information which, if made public, would "(i) prejudice the effective formulation or development of government policy; (ii) frustrate the success of a policy by premature disclosure of that policy; (iii) undermine the deliberative process in Cabinet; or (iv) prejudice national security" (sec. 6(c)(i-iv)).

The RTI Act requires each Ghanaian public institution to establish "an information unit headed by an information officer who shall facilitate access to information" (sec. 3(3)(b)). Each public institution is also required to publish, and update every 12 months, an information "manual" that outlines precisely which information can be requested from the institution (sec. 3(1)). The manual must include a list of the departments or agencies that make up the institution, and the name and contact information of the institution's information officer (IO).

In terms of access processes, a public institution's IO has 14 days to process a request and notify the applicant of a granting or denial of access (sec. 23). If the institution is unable to process the request because the information sought is not in its custody or control, the IO is required to transfer the application to the appropriate entity within two days of receiving the information request, and to write to the applicant to inform them of the transfer (sec. 20). The law also specifies that the only fees that can be charged for release of information are those necessary to cover the costs of photocopying or other means of reproduction of the material (sec. 75).

The Ministry of Information has established an Access to Information (ATI) Division that is responsible for training IOs and assigning them to government ministries, departments, and agencies so that they can respond to access requests. IOs also gather and store data generated by the organisation's operations on the organisation's behalf. The ATI Division supports IOs' tasks via designated officers with oversight responsibilities for the six segments of the public sector: infrastructure, economics, administration, public, social, and local government (metropolitan, municipal, and district assemblies). As of the end of 2021, 446 IOs had been assigned to public institutions throughout the nation (RTIC, 2021). In 2022, 250 assistant IOs were trained and assigned to various public institutions (RTIC, 2022).

Provisions for the Right to Information Commission (RTIC)

As provided for in the Act, the RTIC has seven members, handles appeals if an applicant is dissatisfied with a public institution's response to an information application, has the authority to ensure that the law is fully implemented (sec. 40), and, as mentioned above, can issue fines for non-compliance by a public institution. In terms of section 41 of the Act, the Commission is mandated to "(a) promote, (b) monitor, (c) protect, and (d) enforce the right to information" provided by the Constitution's aforementioned Article 21(1)(f).

The Commission is mandated to uphold the rights of applicants for information access; to establish the fees (for parliamentary approval) that public institutions can charge for reproducing information to be provided to an applicant; and to ensure that citizens are aware of the law and know how to access information. The Commission may, among other things, decide what is reasonable and equitable in the outcome of a complaint; settle it through discussion, conciliation, or arbitration; and issue broad instructions for the matter's hearing, including notice to other parties (sec. 43).

Where persons are dissatisfied with a review decision by the RTIC, the Act provides for applications to the High Court for judicial review (sec. 66(b)). Section 85 of the Act makes it clear that the provisions of other previously enacted laws providing for the disclosure of information—for example, the State Secrets Act, 1962, (Act 101)—are subject to the RTI Act.

4. Study design

Research questions

The study was guided by the following research questions:

- How does the RTI Act currently stand in terms of its overall implementation, its procedures for obtaining information, and its bottlenecks?
- What types of information are accessible and inaccessible to the different sections of civil society?
- How has the implementation of the RTI law impacted citizens' access to information?

Methodology

The study was qualitative. In-depth interviews were used to elicit the perspectives of individuals who were deeply familiar with the law. These interviewees comprised representatives of CSOs, a journalist/lawyer, and representative of a state entity. These key informants were purposefully chosen. Respondents were interviewed through the use of video conferencing technology and, for some respondents, telephone interviews. A total of 10 semi-structured, in-depth interviews were conducted between April and August 2022. Each interview lasted approximately 45 minutes. Interviewees' responses were recorded, transcribed, and subsequently thematically analysed. Interviewees were assigned codes (see Table) to anonymise their responses. I supplemented findings from the interviews with scrutiny of the RTIC's 2021 and 2022 Annual Reports.

Table: Interviewees

Code assigned	Description	Interview date
Respondent 1	Programmes Manager, CSO focused on socio-environmental advocacy	15 April 2022
Respondent 2	Head of Programmes, CSO focused on anti-corruption and good governance	26 April 2022
Respondent 3	Executive Director, CSO focused on fighting corruption and poverty	27 April 2022
Respondent 4	Executive Director, CSO focused on education for children with disabilities	7 May 2022
Respondent 5	Programmes Officer, CSO focused on press freedom	20 May 2022
Respondent 6	Executive Director, CSO focused on addressing corruption	20 June 2022
Respondent 7	Journalist and legal practitioner	4 July 2022
Respondent 8	Representative of a state entity	17 July 2022
Respondent 9	Executive Director, CSO active in numerous sectors	27 July 2022
Respondent 10	Programmes Manager, CSO focused on socio-environmental advocacy	8 August 2022

Interview guide

The semi-structured interview guide comprised open-ended questions that sought respondents' inputs and views on: the implementation of the RTI Act; categories of exempt information; impact on citizens' access to information; impact on holding public officials accountable; types of information becoming more accessible; types of information still not easily accessible; constraints on the implementation of the law;

aspects of implementation that need to be strengthened; elements to be included in effective public awareness campaigns on the law; and how the media, civil society, and citizens can build political will for the implementation of the law.

Data analysis

The study adopted Creswell's (2013) steps for qualitative data analysis, which comprise "organizing the data, conducting a preliminary read-through of the database, coding and organizing themes, representing the data and forming an interpretation of them" (2013, p. 179). The principal-agent model, and the objectives of the Act, provided framing for the thematic analysis of the data.

Ethical considerations

According to Schinke and Gilchrist (1993), all human-centred data collection processes should be conducted with participants' consent, guided by three dimensions: "participants must be competent to give consent; sufficient information must be provided to allow for a reasoned decision; and consent must be voluntary and uncoerced" (Schinke & Gilchrist, 1993, p. 220). I complied with these criteria by properly identifying myself, briefing participants on the purpose and relevance of the study, and receiving their informed consent before conducting the interviews. The participants received no incentives to take part in the study. All the information obtained from respondents was kept anonymous, and participants were made aware that they could voluntarily end their involvement at any time without facing any consequences.

5. Findings

Use of the law

In 2020, after the passage of the Act, 23 RTI applications were received across 13 public institutions, and 16 were approved (RTIC, 2021). In 2021, 159 of the 247 applications received were approved (RTIC, 2021). In 2022, 669 of the 783 applications were approved (RTIC, 2022). The most frequent grounds for denial were that the data was either exempt or not in the possession of the public institution.

With respect to requested RTIC reviews of rejected information access applications, the Commission had, as of the end of the 2022, received a total of 110 applications for review, of which 34 had gone through the full process with RTIC determinations made, while 39 had been settled through alternative dispute resolution. The other review cases were in various stages of determination. RTIC remedies imposed on public institutions included: orders granting access to information; orders granting access to information in a more acceptable format; and administrative penalties levied on public institutions for not granting access to information and failing to respond to the RTIC's requests for a response (RTIC, 2022).

State commitment to awareness-raising

The view of many of the interviewees was that while the Ministry of Information had been proactive in the recruitment and training of IOs for public institutions, not enough had been done to inform and empower the general public and key stakeholders, such as journalists, to use the law. It was seen to be crucial to educate the public and significant stakeholders who required public information on their rights under the law's provisions. It was also widely felt that because of their strategic placement to ensure that the goals enshrined in the RTI law are realised, journalists needed to be provided with dedicated education on what information they could access and how. In this respect, the efforts of the Media Foundation for West Africa (MFWA) were applauded as being useful in building awareness. Participants pointed to the MFWA's development of a guidebook, *Essentials of the Right to Information Law (989)* (MFWA, 2021), and its distribution to public institutions and media organisations, as a useful initiative. It was made available online, as well as printed and delivered to key public institutions. In the words of respondent 7, the journalist and legal practitioner:

Education has not been the best. [...] before the implementation started, the education that was being done was not [...] being sponsored by the state. It was NGOs, particularly the Media Foundation for West Africa, that sought sponsorship and [were] organising sensitisation for media and for ordinary citizens, for MMDCE [Metropolitan, Municipal and District Chief Executives] heads and officers within these institutions. I [...] and a good number of lawyers went round the country educating people about this, and it was surprising that these workshops and seminars were not being organised by the state. They were being led by private organisations.

Respondent 5, a CSO programmes officer, recommended that the government make use of the National Commission for Civic Education (NCCE), a state agency with the mandate to advance and uphold democracy and instil in Ghana's citizens a sense of their duties and rights through civic education.

I think the government can use the NCCE because the NCCE is everywhere, in every corner of the country. So once the government resources that institution, they should be able to run education, public awareness, sensitisation around the Right to Information law in different languages. Everybody needs to understand it. And I think it is time that such laws are introduced within the educational curriculum so that right from an early age, people are already familiar with the RTI law and how they can use it. The government must also partner with media houses to sensitise the public about the Right to Information law.

Respondent 8, the representative of a state entity, stated that the RTIC was tackling the issue of language by creating radio public service announcements in local languages, and by pressuring public institutions to translate their information manuals:

The Commission shall take up the drive to encourage institutions to convert their manuals into local languages and make them accessible at their various regional and district offices.

Obstacles to access

According to many participants, access processes had been hampered by bureaucracies and inefficiencies at public institutions, especially during the early phases of implementation. Challenges faced by individuals, the media, and CSOs who requested information were said to include unfounded denial of applicants' requests for information; delays in responding to requests; and demands for large fees in return for information.

Participants pointed to the fact that, between March and July 2021, The Fourth Estate, a non-profit investigative journalism project of the MFWA, had sent 36 RTI queries to 33 public institutions, and nearly 60% of the applications had been denied. Within the 14-day window specified by the law, The Fourth Estate received access to the material requested from only eight of the 33 public institutions. Several other public entities eventually provided the requested information, but only after appeals were submitted to the RTIC (Bokpe & Asante, 2021).

Participants also pointed to instances of obstacles faced by specific media entities. One such instance involved the Multimedia Group, which was said to have encountered hostility when it requested, from the Ministry of Health, information on the policies guiding the government's Agenda 111 project, which aims to build hospitals across the country. More than a month after the request was made—well beyond the required 14 days—the Chief Director of the Ministry responded to the Multimedia Group in writing, saying that the Ministry did not have any such documents in its possession. Among other things, the Ministry seems clearly to have disregarded the RTI Act's requirement, in section 23(1), whereby a public institution not in possession of requested information directs the applicant to another entity where the information is held. According to respondent 7, the journalist and legal practitioner:

This sort of information, if the Ministry of Health doesn't have it, it clearly will know the next place where you can find that information. The law says "do a referral or a transmittal". So, you do one of two things: either you transmit the request you have received to the institution that you know has custody or control over the information that is being sought, or you refer the requester to that institution. And I think that the Minister of Health failed big-time in the manner [in treating] that request, and simply said "I don't have the information, end of story". That is not the best.

Another obstacle identified by participants was an apparent lack of knowledge of the law at some public institutions. In the words of respondent 6:

A lot of public institutions still are not even abreast with the law. They lack education on the operationalisation of the law. They think it's an Accra-based thing and [that] it does not apply to decentralised agencies. They are still glued to their traditional modes. And the effort from the Ministry of Information to actually educate public institutions in the regions on this law [appears] to be very weak.

Participants also pointed to instances where officials at public entities felt threatened by, and thus were openly hostile towards, information requests. In the words of respondent 5, a programmes officer at a CSO focused on press freedom:

I was in one district in the Ashanti Region. And some of the people that were making [requests] on behalf of [name of organisation] went to ask for information and [the] coordinating director was so angry that the person had to write to seek that information. He was like, "Why do you have to put it on paper? Are you trying to [implicate] me so that when I don't give you the information, then you go ahead and report me or take me to court?" This is ridiculous. The law is so clear that when you are making a request, even if you are not educated, you must do it orally, the information officer has to reduce it into writing. So, it always comes in the form of a written request. So why would a coordinating director at a public institution ask such a question?

According to respondent 1, there was, among state officials, a prevailing culture of secrecy that would take some time to dismantle:

Public officials generally regard as intrusive outsiders of public institutions seeking information from them. This could potentially be due to the culture of keeping institutional information from public access. This works against the RTI implementation. Generally, you would notice that it is the same old culture that mystifies information in a manner that is not helpful, so secrecy and confidentiality have become the norm in the public space. But if the public space will thrive, secrecy must give way to transparency. That is the only way the public can benefit from the public space.

Another interviewee, respondent 10, pointed to many public officials' misunderstanding of their role.

We still have a cadre of public officers whose understanding of the office is quite different from what you would expect. So, people are working in institutions, and they feel that they only owe allegiance to the institution or the government they work for. They do not understand why you want the information and what you need the information for.

Role of the RTIC

Many participants applauded the fact that, due to the interventions of the RTIC, several access requests that had initially been denied or had encountered impediments (including the imposition of unlawful fees) had since been fulfilled. Some participants pointed to the value of a reporting template that the RTIC had created for use by public institutions when completing their required annual reporting on RTI requests. The template requires, among other things, reporting on specific information that the institution has proactively disclosed to the public during the reporting period. It was also felt that the RTIC's rulings on review applications could serve as a deterrent to public institutions that might try to deny or restrict information requests without justification.

Participants also applauded the RTIC's role in ensuring the passage of a law to limit the charges that state entities can impose for the reproduction of information—in paper or digital form—in fulfilment of information access requests. The law in question, the Fees and Charges (Miscellaneous Provisions) Act, 2022 (Act 1038), was enacted in October 2022 (Republic of Ghana, 2022).

Role of CSOs

As seen above, one CSO (the MFWA) had, since the RTI Act came into force, taken steps to produce educational materials on the Act and to test the system by making information requests to numerous public institutions and reporting on the outcomes (Bokpe & Asante, 2021). Interviewees also pointed to the fact that another CSO, the Ghana Anti-Corruption Coalition, has provided significant assistance to RTI applicants, mostly investigative journalists, to file information requests and to seek RTIC reviews of rejected applications.

It was also found that CSOs were participating in RTI implementation discussions, and sharing lessons learnt, through the Civil Society Coalition platform. They were also meeting with the Ministry of Information regularly, to voice their concerns over elements of the Act's implementation and to suggest means for more effective implementation. In the words of respondent 3, a CSO executive director:

We had opportunity, as Coalition members, to go to the Minister of Information, where I can say that they have in place a huge mechanism and infrastructure to help with the implementation of the Act. They have put in place a mechanism on how [to] request for information flows [on the status of RTI applications]. The monitoring is going on to see who is delaying and who is delivering on time.

According to respondent 4, another CSO executive director:

Target consultations are good. Thankfully, this government has given us some space as civil society, which is coordinated by the Ghana Anti-Corruption Coalition. Once in a while, civil society has the opportunity to meet with the President to engage him on some topical issues. I believe RTI implementation should be a focus, so that the President, who championed the call for an RTI bill when he was in opposition, will understand what is happening from our perspective.

Respondent 2 was confident that, despite some early difficulties with implementation of the Act, the law's very existence would, in the long run, result in the realisation of its objectives:

The whole point of the law is that it is there; it's an expression of the Constitution itself because the Constitution gives the right to information, and then the law gives out the protocol as to how to do it any time we need to. The fact that we are guaranteed access to information is enough.

6. Analysis

The RTI Act specifies how the *principal* (society) can seek information from the *agent* (the state), and how the agent can grant access to information requested by the principal. It also specifies which types of information must be accessible to the principal, and which types can legitimately be withheld (exempt information). While challenges were identified on both the demand and supply sides of information access, the greatest challenges were found on the supply side, due to reluctance or insufficient knowledge on the part of representatives of the agent. The resultant effect is the maintenance of information asymmetry between the principal and the agent, representing non-compliance with the contractual agreement that exists between the two (see Shapiro, 2003). Because information asymmetry results in negative consequences such as underdevelopment and inequality (Clarkson et al., 2007), it ultimately disadvantages the principal, which has granted (conditional) authority to the agent.

The RTI obstacles identified by this study can be attributed to several things. Some of the barriers relate to bureaucratic procedures that existed before the passing of the law and the age-old culture of bureaucrats keeping official documents private, i.e., keeping public information and documents close to their chests as if they constituted private information or documents to be guarded. In addition, some agents were seemingly uninformed about their obligations under the law. To some extent, this may have been the result of limited exposure, and lack of training, at the initial stages of implementation.

Significant improvement was observed after the RTIC was inaugurated, with RTIC reviews of application rejections resulting in several of the applications being fulfilled. For example, when representatives of the principal (e.g., journalists, CSO representatives) encountered demands for large fees in return for the requested information, the RTIC was able to intervene and ensure that any payments required would be, in accordance with the Act, only for the cost of reproduction of the information requested.

As seen above in the literature review, entrenched in bureaucratic cultures, characterised by, inter alia, secrecy and poor record-keeping, can undermine the implementation of RTI laws (Dokeniya, 2013; Neuman & Calland, 2007). In this study, bureaucratic culture in public institutions was indeed found to be a barrier to the RTI. Since proactive transparency (see Darbishire, 2010) is a key component of RTI implementation, the work of RTIC, whose mandate includes ensuring public institutions' documentation of the information they hold, can be expected to be crucial to the success of Ghana's RTI regime.

Also, in the literature review above, we saw the finding by Lopes (2021) that CSOs' participation can be crucial to the establishment of collaborative governance of public policies. This finding holds true for the work of Ghana's CSOs, who have made concerted efforts to ensure that those on the demand side of information (e.g., journalists, the public) are familiar with their rights within the law, and that those on the supply side (public institutions) are living up to their obligations.

7. Conclusions and recommendations

This article has evaluated the dynamics of the initial implementation of Ghana's RTI Act. The conceptual basis for the study was the principal-agent model. The study's findings demonstrate that although the goals of Ghana's RTI Act are to promote the flow of public information between the agent (the state) and the principal (society), there were, at the time of the study, some obstacles on the information-demand side and some more significant obstacles on the supply-side. The demand side was being hampered to some extent by insufficient awareness of the Act among its potential users. The supply-side challenges, meanwhile, were more pronounced, with reluctance or lack of knowledge on the part of representatives of the agent proving to be a significant hindrance to information provision.

It is recommended that the RTIC partner with CSOs to increase public education on the Act. Consideration should be given to the use of community radio stations as a public education channel. A key advantage of community radio stations is their use of the local languages spoken in their areas of broadcast coverage. If these local languages are used, it becomes possible to reach out to those who are

socioeconomically marginalised and thus less likely to be aware of the RTI Act and how it works. Additionally, community information centres and community *durbars*¹ can serve as platforms for public education on the law, by using respected opinion leaders to deliver key messages. It is also recommended that schools be targeted as a key audience for RTI education campaigns. By sensitising young people about the law, Ghana can cultivate a future generation that is more likely to engage with it. In addition, these informed youngsters have the potential to influence their parents, by imparting knowledge about the law's purpose and how to use it. This approach can create a ripple effect, fostering increased RTI usage. The RTIC can liaise with educational institutions to elect student RTI ambassadors who will sensitise their families and friends about the Act.

The RTIC must also play an active role in ensuring improved compliance by public institutions, via, inter alia, ensuring that all public institutions have IOs—including at regional and local levels—who are sufficiently resourced and trained to provide robust proactive information disclosure and efficient, legally compliant responses to information applications.

Finally, the importance of continued work by CSOs cannot be overstated. CSOs must, to the extent that their human and financial resources allow, continue to: engage with the Ministry of Information on joint efforts to ensure optimised implementation of the Act; hold the RTIC accountable for all of the Commission's obligations with respect to promotion, monitoring, protection, and enforcement of information access; support information access applications to public institutions by journalists and other civil society actors; and, when an application is denied by a public institution, assist the applicant to apply for RTIC review, and potentially even judicial review (if the RTIC review is found to be unsatisfactory).

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¹ A *durbar* is a traditional gathering convened by a community's chief, elders, and influential individuals to serve as a forum for community discussion and implementation of development projects.

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The centrality of cybersecurity to socioeconomic development policy: A case study of cyber-vulnerability at South Africa's Transnet

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Abstract

Using South African state-owned enterprise (SOE) Transnet as a case study, this article explores the factors that influence the cybersecurity risks that are posed to infrastructure, with implications for markets and society, by advanced computational systems. We studied the legislation and corporate governance decisions leading up to the July 2021 breach of Transnet's IT network, a high-profile event with potential cascading consequences. We also examined the evolution, since the country's transition to democracy, of the South African government's approach to fostering a developmental state. The findings illustrate that cybersecurity policy needs to be a core dimension of contemporary South African socioeconomic development policy, necessitating a central role for the developmental state in creating trusted marketplaces and procuring suitable security software systems. The findings also underscore the reality that a failure to act against increasing cyber-threats constitutes a substantial risk to the functioning of the South African market. Based on the findings, this article argues for a close examination of how the cybersecurity performance of South African SOEs can be improved. While focused on South Africa, the findings are relevant to other countries seeking to integrate robust cybersecurity measures into their national logistical and infrastructural sectors.

Keywords

cybersecurity, cyber-incidents, state-owned enterprises (SOEs), developmental state, IT networks, Transnet, South Africa



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1. Introduction

As we argue in this article, cybersecurity is a core matter for a country's socioeconomic development policy. Yet the literature on the connection between these two is still maturing. "When analysing the securitisation of countries' cyberspace, the empirical assessment of industrial policies is still rather unexplored", writes Tijerina (2022, p. 194). We are of the view that this deficit must be remedied if one views cybersecurity in relation to the political economy of inequality and risk (Timcke, 2023). These unequal risks affect citizens' livelihoods, meaning that cybersecurity issues cannot be treated as the exclusive domain of the state security cluster.

Transnet is a state-owned enterprise (SOE) in South Africa. The company is responsible for ports, rail, and pipelines and has a monopoly in bulk freight. To provide a sense of Transnet's strategic importance to trade flows in the South African economy, in 2021 nine commodities made up approximately 43% of the GDP, and contributed 80% of Transnet's revenue. The company has a property portfolio of ZAR35 billion (approx. USD2 billion), which includes industrial warehousing and commercial, retail, and residential property. Lockdowns during the global COVID-19

pandemic greatly impacted Transnet's revenue, which in 2021 was down 10.5% to ZAR67.3 billion (approx. USD3.94 billion) with a ZAR8.7 billion loss (approx. USD500 million). In 2022, revenue increased by 1.8% to ZAR68.5 billion with a net profit of ZAR5 billion, mostly coming from a 5.9% decrease in operating expenses via voluntary severance packages (Transnet, 2021a). Transnet's importance is even greater when considering indirect contribution, as most South African exports use its networks and facilities. This is why recent Transnet capacity problems have contributed to severe losses of export earnings in the agriculture and mining sectors, with an estimated annual loss of up to ZAR50 billion (approx. USD2.79 billion) for the coal, chrome, iron-ore and manganese sectors (Venter, 2022).

State monopolies have pros and cons, depending on their purposes. Chang (2007) summarises the literature on SOEs, stating that there "is no clear theoretical case either for or against SOEs" and there is "no clear systemic evidence that SOEs are burdens on the economy" (2007, pp. 7–8).¹ Whatever the view of SOEs, when these entities supply critical services, such as electricity, telecommunications, port, and rail infrastructure, they present singular vulnerability to cyber-incidents. A cyber-incident is an attempt to damage a computer network and/or IT system.

In response to a highly visible ransomware attack on Johannesburg's electricity supply in 2019 (BBC, 2019), South African analysts sought to raise awareness with government, key stakeholders, and citizens about the vulnerability of critical infrastructure. Efforts intensified in early 2021 (see, e.g., Allen, 2021a). A few months later, in July 2021, the Transnet cyber-incident occurred, with IT systems being unavailable for use at cargo terminals. This disruption added to global supply chain problems caused by the COVID-19 pandemic. The public was notified of the incident by the media, with Transnet issuing statements over the succeeding days. The company was not overly forthcoming about details at the time. Remarks were provided in annual reporting, with public investor relations presentations describing the event as "a cyber-attack, security intrusion and sabotage" which resulted "in the disruption of normal processes and functions" (Transnet, 2021a, p. 25).

SOEs play a significant role in the South African economy, and their prominence is expected to continue. Most SOEs provide infrastructure that is essential to the

¹ There is a view that outright rejects government ownership of any sort, claiming that SOEs perform poorly, make less profit, and are less efficient because the labour force is not sufficiently disciplined by market forces due to some degree of job tenure. The accumulation of these deficiencies leads, according to this view, to fiscal crises, with the state repeatedly having to bail out these entities. This view ignores the fact that SOEs might have other purposes and elements of value. Indeed, some SOEs exist to address market failures or to operate in sectors that are unlikely to ever be profitable and hence adequately served by private firms. SOEs are political entities, and their performance should be evaluated from the vantage point of the interplay between several agendas and competing objectives.

proper functioning of markets, and of society. By contrast, an individual commercial firm is not essential in this way, unless it has de facto monopoly of an essential service. Since SOEs are under control of the state, they are a significant means by which socioeconomic development policy can be realised, and from which failures of this policy may be determined. Existing estimates of costs from cybersecurity breaches in the South African economy should be viewed critically due to uncertainties about the included activities and calculation methods.²

As the July 2021 cyber-incident targeted an SOE, this article links general operational issues with larger governance issues. In South Africa, SOEs are guided by a developmental-state project (Mayedwa, 2018; Muller et al., 2015). Below we cover the history and politics of this project as it relates to cybersecurity, grounded in an understanding that developmental states are “driven by an urgent need to promote economic growth and to industrialise” and otherwise “catch up” with developed countries (Leftwich, 1996, p. 61). The project is both ideological and structuralist: “its major preoccupation is to ensure sustained economic growth and development on the back of high rates of accumulation, industrialisation and structural change” (UNCTAD, 2007, pp. 59–60), an undertaking that Sen (1999) argues is “a process of expanding the real freedoms that people enjoy” (1999, p. 36).

Much of what Sen (1999) refers to requires achieving economic development. Economic development is a qualitative shift in economic structure and in the social relationships to, and within, that structure. The bulk freight sector is a highly strategic one, capable of either inhibiting or facilitating economic development as well as the expansion of other domestic industries. The vibrancy of downstream industries is directly related to the efficiency of bulk freight. Therefore, the measures that Transnet takes to secure operations around logistics directly and indirectly impact the rest of the economy and the people who rely upon it. This is especially so when taking into account South Africa’s aspirational digital industrialisation efforts and what this transformation could mean for the future alleviation of unemployment, inequality, and poverty.

Method and data sources

The main research method used in this study was process tracing. This method studies how “causal processes work using case study methods” (Beach, 2017, p. 1). The aim is to give “within-case analysis based on qualitative data” in a systematic fashion; indeed, “process tracing is a fundamental tool of qualitative analysis” (Collier, 2011, p. 823). Among the main data sources for process tracing in this study were the

² Some figures include ZAR50 billion in 2014 (Van Niekerk, 2017), ZAR43 billion in 2016 (Interpol, 2021), and ZAR5.7 billion in 2018 (Shaw, 2018). As a point of reference, in 2021, South Africa’s GDP was about ZAR7 trillion (approx. USD420 billion).

narratives of business performance in annual reports (Qian & Sun, 2021). Business performance is typically measured with standardised accounting indicators. Yet with risk management practices increasingly becoming components of annual reporting—as is the case in South Africa with the successive reports of the King Committee (IoDSA & King Committee on Corporate Governance, 2016)—there is scope to augment objective audited figures with the written judgements of executives and their management teams. Since we argue that cybersecurity policy needs to be a core dimension of contemporary socioeconomic development policy, a narrow forensic investigation into the precise details of how the attack was carried out (even if those details were available) or a recounting of the administrative details of how many cybersecurity staff were employed, their qualifications, and links to state security agencies, would be otiose. This is because inadequacies in this regard flow not merely from organisational failures to prioritise cybersecurity, but also from the policy environment, which failed to make it a priority or to hold Transnet accountable for it.

Narratives in annual reporting show how executives conceptualise past and future actions, and also give some indication of what actions they intend to take to safeguard the financial well-being of the business. Certainly, “narratives in corporate annual reports are intentionally manipulated by the informant”, yet overarching fiduciary requirements and auditory compliance do shape these narratives as well. This means that “these reports [can] help to uncover current, corporate operating conditions, and reveal future potential from the management point of view”, as well as revealing “rhetorical aspects of voluntary disclosure” (Qian & Sun, 2021, p. 1). We prioritised the study of Transnet’s annual reporting from 2009 to 2022, focusing on risk self-assessments to its IT systems (Transnet 2009a; 2010; 2011; 2012; 2013; 2014; 2015; 2016; 2017; 2018; 2019; 2020; 2021b; 2022).

Organisation

This article briefly examines the politics influencing the post-apartheid form of South African state and society, which shapes the governance of SOEs. These elements provide the contextual bedding for the latter half of the article, which presents a case study of the Transnet cyber-incident. It traces Transnet’s IT architecture plans over a decade, noting discrepancies between planning and actual investments and how executives sought to understand emerging threats introduced by new technologies, and it examines the board’s actions post-attack. The article concludes with discussion of the implications of cybersecurity for economic justice and commodity circulation in the developmental-state model.

2. South Africa's developmental-state model

It is beyond the scope of this study to comprehensively detail the intense three-decade-long politics between the state, capital, and labour (and factions within all three) over the structure and purpose of SOEs in post-apartheid South Africa. Still, a short contextual description can provide a useful primer on the considerations that led to the governance structures in Transnet, many of which continue to shape its operations.

When the African National Congress (ANC) formed the first democratically elected government in 1994, there were more than 700 SOEs (The Presidency, 2012, p. 67). A fair number of these enterprises existed due to duplication of functions in the “independent” Bantustans. With high popular expectations for democratisation to change material conditions, and trepidation by (white) capital around local investment due to the evolving dynamics of the period, the ANC initially viewed selective privatisation of SOEs as a means to reduce the state's debt. Another goal was to attract foreign direct investment by enhancing market confidence, signalling a policy shift away from nationalisation. More broadly, the main historical factors that curtail South Africa's development are massive social inequality as it relates to the trade-offs between growth and democratically guided redistribution (Gumede, 2009). Given these limiting factors, as well as the aforementioned reticence by local capital to invest, the developmental-state model advocates for the state to become a market actor, in order to eradicate poverty and attain humane, meaningful, and sustainable livelihoods (Thomas, 2000; World Bank, 2008).

Impressed with the economic performance of East Asian countries in the later stages of the 20th century, and taking heed of Malaysia's efforts to use the state and affirmative action policies to redress racial inequalities (Gumede, 2009), South African officials believed that the developmental-state model was the appropriate vehicle to build the material foundation for a well-functioning national democratic society. Ideas around the South African developmental state can be traced to a few sources, including the ANC's 1994 Reconstruction and Development Programme (ANC, 1994) and the 1996 Growth, Employment, and Redistribution (GEAR) macroeconomic policies (Department of Finance, 1996), and can also be extrapolated from the later chapters of the 1996 South African Constitution (Constitution of the Republic of South Africa, 1996). The developmental-state model was more clearly articulated in the South African government's successive Medium-Term Strategic Frameworks and in documents such as the National Development Plan 2030 and the 2012 *Report of the Presidential Review Committee on State-owned Entities* (The Presidency, 2012, pp. 34–35).

Like other areas of South African society formed during the transition to democratic rule in the 1990s, the developmental-state model was a product of the negotiated settlement and the pressures exerted by an international political economy

enamoured with markets and championed by institutions like the World Bank and the International Monetary Fund (Fourie, 2022; Gumede, 2016; Southall, 2013). More broadly, the model aims to stoke capitalist development through active state-led policy while also entrenching a rights-respecting approach to public administration and state governance. The theoretical anchoring for this model comes from the work of Johnson (1982) and Evans (1995), amongst others. In recent years, the model has been supplemented by Mazzucato's (2013) research on the entrepreneurial state, which is an updated description of the benefits of state intervention in the market. President Cyril Ramaphosa appointed Mazzucato to the Presidential Economic Advisory Council in October 2019 (The Presidency, 2019), a signal that the developmental-state model remains at the forefront of thinking among many South African state officials, even if local academics are more circumspect about the state's performance and structure (e.g., Ukwandu, 2019) and the capability of SOEs to deliver this mandate (e.g., Gumede, 2016).

Turning from political economy debates to policy frameworks, the adoption of GEAR in 1996 as a macroeconomic strategy sought to provide guidance so that SOEs could become more efficient and provide effective services for the public (DPE, 2000). Given that the ANC relied heavily on organised labour movements to attain and maintain rule, massive unions such as the Congress of South African Trade Unions felt betrayed by the privatisation agenda (Gall, 1997). After taking strike action, organised labour signed the National Framework Agreement with the government in early 1996, which set out terms for restructuring on a case-by-case basis over a period of three years, taking into account the impact on workers.

Nevertheless, the government proceeded with restructuring SOEs, making provision for corporatisation, outsourcing to the private sector, and cost-recovery for public services. The ANC also undertook cadre deployment from the party to SOEs, a practice that every president in the democratic South Africa has defended despite continuous criticism. Black business groups encouraged privatisation, as the use of preferential procurement strategies by SOEs could create a black capitalist class. By contrast, labour was wary of the consequences of selling state property (Gumede, 2016). Indeed, it was only under Alec Erwin, the Minister of Public Enterprises (2004–2008), who displayed an appreciation for how the pursuit of private profit can clash with the pursuit of the public good, that SOEs faced these competing considerations (Erwin, 2004). Meanwhile, as restructuring unfolded over the next decade, repeated rounds of bailout, recapitalisation, and repositioning led to mass layoffs of labour, while outsourcing led to workers being unable to afford the very services that they had built and maintained. Barbara Hogan, the then-Minister of Public Enterprises (2009–2010), summed up the outcome as follows: the “disposal of non-core assets in the Transnet stable has enabled the corporation to focus on its core business” (Hogan, 2009).

Developmental-state theory requires the state to take the initiative to create the preconditions for development, in particular by increasing human capital and technical capacity. In South Africa, this requires addressing the disparate access to developmental preconditions. The role of SOEs is to ensure that developmental preconditions are met for those for whom market provision is inadequate. Due to the centrality of information and communication technology (ICT) systems to social and economic life, safety from cybercrime is, in the contemporary era, a precondition for development. Cybersecurity is thus a developmental priority. While dedicated cybersecurity capacity within the central state and up-to-date legislation are essential, neither will suffice to develop sufficient human capital or technical capacity to provide cyber safety. In South Africa, SOEs are required to develop human capital and technical capacity for the economy. As a result, cybersecurity is not simply an operational necessity but a policy priority.

3. Overview of cybersecurity incidents with economic effects in South Africa

Known cyber-incidents

As shown in Table 1, Van Niekerk (2017) identified 54 documented cyber-incidents between 1994 and 2016 in South Africa (see Van Heerden et al. (2016) for classification schema).

Table 1: Documented cyber-incidents, 1994–2016

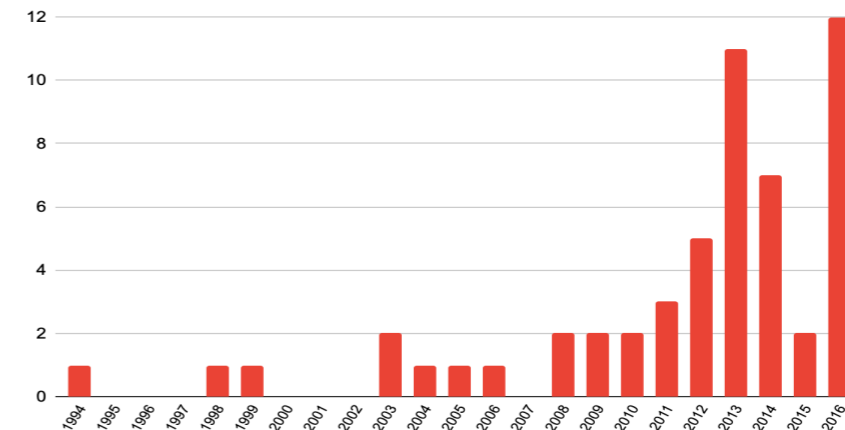
Incident type	Number
Data exposure	22
Financial	12
Denial of service	9
Defacement	8
Data corruption	2
System penetration	1
Total	54

Note. Data sourced from Van Niekerk (2017).

There were only three cyber-incidents prior to 2002, with most happening from 2003 onwards, and with a surge in the later years (see Graph 1). The main perpetrators were hacktivists (17 incidents) and criminals (11 incidents). Nation-states were perpetrators in five instances, although Van Niekerk (2017) does not provide details on identity, targets, or type of incidents for this class. Of the 54 incidents, the targets were nearly equally split between state and private entities. Pieterse (2021) updates these figures to 2020, finding that there were 19 cyber-incidents in 2020. In Pieterse’s 10-year review (2010–2020), the author found that nearly 40% of cyber-incidents were related to data exposure, about 21% related to compromised websites, and about 15% were cases of systems intrusion. This research has heuristic merit,

but one limitation of this data is that it cannot show the severity or scale of these incidents. Defacing a political party’s website is different from phishing to acquire financial passwords, which is different from a nation-state penetrating a government system, for example. That there is a dearth of statistics, especially from the state, to supplement those given here is indicative of the fact that cybersecurity has not been appreciated as core to South African socioeconomic development policy.

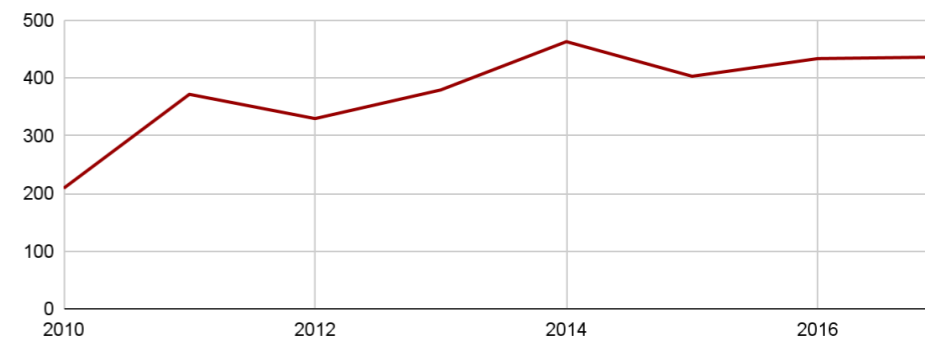
Figure 1: Frequency of documented cyber-incidents in South Africa



Note. Date sourced from Van Niekerk (2017).

Within the same period of Van Niekerk’s research, the banking industry experienced a rise in credit card fraud (see Graph 2). This activity prompted banks to put in place risk-detection and prevention systems, by increasing the rollout of chip and PIN systems (SABRIC, 2012).

Figure 2: Fraud loss on SA-issued credit cards, 2010–2017



Note. Data sourced from SABRIC (2017).

During the course of 2018, the South African Banking Risk Information Centre (SABRIC) found that cybercrime took advantage of new banking products and services as customers were familiarising themselves with banking apps. “As with cybercrime, card fraud has seen a dramatic increase as criminals find new ways of accessing client card data”, and “mostly through social engineering” (SABRIC, 2018, p. 4). SABRIC began publicly reporting digital crimes in 2017. As Table 2 shows, there was a 74% increase in the costs of digital crime between 2017 and 2021, with the number of incidents also rising.

Table 2: Digital banking fraud across all platforms in South Africa, 2017–2021

	2017	2018	2019	2020	2021
Incidents	13,389	23,206	26,567	35,307	approx. 29,000
Cost	ZAR251 million	ZAR260 million	ZAR308 million	ZAR310 million	ZAR438 million

Note. Data compiled from SABRIC (2021b) annual crime statistics reports, with financial figures rounded. Where discrepancies arose between reported figures, the most recently reported data was used.

Three of the highest-profile data breaches in South Africa were the hacking of Liberty Life’s insurance divisions emails; a breach of the Master Deeds Office, where millions of people’s personal information was made available on a public server; and a leak where personal information, including names and identity numbers, was disclosed on the ViewFines website (Adams et al., 2021). During the COVID-19 pandemic, banks identified a trend in scams that took advantage of fear and confusion. These scams sought to (and did) obtain personal information and PIN numbers through compromised business emails and phishing attacks, prompting users to install malware (SABRIC, 2020). Indeed, Van der Merwe’s (2020) tally finds that cybercrime in South Africa increased 10-fold in the early period of COVID, a period marked by the announcement of state disaster management actions. Following a synthetic survey of the rise of cyber-incidents in the same period, Van Niekerk et al. (2023) conclude that “while South Africa enacted new legislation to address cybercrime, and the Protection of Personal Information Act became enforceable in 2021, these moves have not come soon enough to mitigate the apparent surge of cybercrime during the pandemic” (2023, p. 199).

In 2021 the banking industry began to openly criticise state capacity in forensic analysis of cybercrimes, a task that the industry believed was urgent given rapid technological changes in consumer products and services:

Policing plans and the response to cybercrime State Security and policing came under severe scrutiny and criticism due to the breakdown in the effectiveness of these two arms of the state [the police and the National Prosecuting Authority (NPA)]. *The limited capacity of the police and NPA to prevent, detect, investigate, and prosecute cybersecurity breaches, cybercrime, and data breaches is of particular concern.*” (SABRIC, 2021a, p. 8, emphasis added)

Compounding the perceived crisis was a concern that the State Security Agency was more focused on “internal personal and political battles than with assessing and countering external and terrorist threats” (Sutherland, 2017). This lack of credible technical authority leaves citizens unable to assess the veracity of statements from Kaspersky, an antivirus software firm, which has stated that in 2021–22, “over a million company user accounts were compromised using a ‘data stealer’ in South Africa” (Burbidge, 2022).

Cybersecurity also touches upon identity theft. South Africa has had a complicated history of state-issued identification: During the apartheid era, biometrics were used for state-led surveillance activities aimed at tracking racialised groups (Adams et al., 2021; Breckenridge, 2014). Reports from Parliament’s Portfolio Committee on Home Affairs (2013) discuss identity theft and operations at the Government Printing Works. In 2014, the then-Minister of Telecommunications and Postal Services, Siyabonga Cwele, acknowledged that “identity theft has proven to be a very concerning recent phenomenon” (Cwele, 2014). Certainly, a lack of state-issued identification can cause difficulties, and while there are advantages to digital systems, a Research ICT Africa study has found that “digitisation can also introduce novel harms” (Razzano, 2021, p. 4). In July 2013, the government began to issue Smart ID cards while phasing out paper-based documentation (Government of South Africa, n.d.). When examining the draft of the Official Identity Management Policy (Department of Home Affairs, 2020), Research ICT Africa concluded that it was unlikely that existing legislation like the Protection of Personal Information Act, No. 4 of 2013 (POPIA) would be fully implemented (Razzano, 2021).

A report from the Auditor-General of South Africa (2022), under the Public Finance Management Act of 1999, found increases in “irregular expenditure”, while there is a “lack of action of potential fraud and corruption and the continued disregard for our findings and recommendations” (2022, p. 61). These weaknesses in governance and accountability have knock-on effects for cybersecurity efforts. The Auditor-General is quick to link the general environment of non-compliance with procurement

legislation with “the vulnerability of government systems to cybersecurity attacks because of weak information technology governance and security controls” (2022, p. 62). In 2020–21, the year of the Transnet cyber-incident, the Auditor-General’s report identified irregular expenditure of R136.67 billion. This figure could be higher, as some auditees did not follow proper reporting practices with their financial statements. With respect to cybersecurity and the status of information security controls in 2019–20, of the 203 auditees, which included SOEs such as Transnet, 22% were marked as intervention required, 57% marked as concerning, and 21% marked as good (Auditor-General of South Africa, 2022).

The Auditor-General’s 2022 report found that the auditees had not made progress towards the objectives outlined in the National Cybersecurity Policy Framework (discussed in the next section), in part because “there were no implementation timelines” (2022, p. 65). The result is that government departments, municipalities, and SOEs “had no choice but to use the State Information Technology Agency’s unsupported and vulnerable infrastructure to access their financial systems, which exposed the government to cyberthreats” (2022, p. 65). The Auditor-General has cause to be concerned. The increased reliance on computerised systems for everyday functioning of public and private infrastructure increases the likelihood of attacks, which cause additional economic strain in a country grappling with unemployment, inequality, and poverty.

South African policy and legal framework on cybersecurity

South Africa’s regulatory response to cyber-incidents has been slow. One reason may be that the country’s criminal common law has traditionally focused on crimes of a tangible nature, especially physical crimes such as murder and theft. Still, the growing threat of cyber-incidents in South Africa has necessitated a response from legislators. Indeed, within Africa, South Africa is subjected to the most attacks and theft by cybercriminals, and this necessitates legal recourse for potential misuse of personal data being accumulated by the public and private sectors, particularly from a human rights perspective (Sutherland, 2017).

One early response to cyber-threats came in the form of the Electronic Communications and Transactions Act, No. 25 of 2002 (ECTA) (Ntsaluba, 2018; RSA, 2002a). Amongst other things, ECTA was enacted to facilitate and regulate electronic communications and transactions in South Africa, provide for the development of a national e-strategy, and encourage the use of e-government services. Furthermore, ECTA mandated provision of universal access to electronic services, i.e., universal

access, service, and provision of such services for all communities in South Africa (Adams et al., 2021). ECTA also framed acts that would constitute cybercrimes, including:

- unauthorised access to, interception of, or interference with data;
- computer-related extortion, fraud, and forgery; and
- the aiding and abetting thereof (ECTA, sect. 86–89).

ECTA scoped out a role for cyber inspectors, who have the authority to monitor and inspect websites and web activity in the public domain, as well as to enter premises for search and seizure of information systems on the issuance of a warrant. However, the implementing regulations envisaged by ECTA relating to cyber inspectors and cyber offences were never promulgated, and no cyber inspectors were ever appointed or cyber offences prosecuted under the Act (Sutherland, 2017). As a result, prior to the more recent legislation discussed below, the Consumer Protection Act, No. 68 of 2008 and the common law had to be relied on for the search and seizure of electronic evidence (Govender, 2018).

The Regulation of Interception of Communications and Provision of Communications-Related Information Act, No. 70 of 2002 (RICA), has elements which cover cybersecurity matters and is the key legislation relating to surveillance in South Africa (Adams et al., 2021). The law sought to criminalise acts that may utilise electronic communications including high treason, sedition, fraud, and money laundering (Ntsaluba, 2018). RICA also gave law enforcement entities the power to apply for an interception and monitoring direction, warrants of entry, and made it a criminal offence for any person, without permission, to monitor or intercept any data communications in the public and private sectors (Ntsaluba, 2018). However, despite the intentions of RICA, in the 2021 *AmaBhungane Centre for Investigative Journalism NPC v Minister of Justice and Correctional Services* case, certain provisions of RICA relating to surveillance were deemed unconstitutional, leaving the state in a difficult position regarding the rectification of the Act (Global Freedom of Expression, n.d.).

Criminalising certain activities relating to the ICT sector is one facet that comprises the legal framework on cybersecurity in South Africa. Another key area is the protection of the right to privacy. The right to privacy is protected by the 1996 Constitution and provides that every person has the right not to have their person or home searched, their property searched, their possessions seized, or the privacy of their communications infringed. In July 2020, POPIA came into force. POPIA reinforces a person’s right to privacy through detailing minimum standards for the accessing and processing of personal information belonging to someone else (Western Cape Government, 2020).

POPIA also ensures that businesses process, share, and store information in a responsible and secure manner, including providing for minimum standards in the event of data breaches (Botha, 2021). POPIA does this by obliging private and public sector organisations to have certain operational and technical security measures in place that protect the privacy of individuals when their personal information is processed (Adams et al., 2021). This may be a useful addition to cybersecurity measures in the country, but may also only be a response to the international political economy with limited enforcement of its provisions. For example, POPIA establishes the office of the Information Regulator, whose responsibilities include monitoring and enforcement of compliance with the Act by both public and private bodies.

In December 2015, the Minister of State Security published the National Cybersecurity Policy Framework (NCPF) for South Africa, although it had been approved by Parliament in 2012. The NCPF was a response to the outcomes-based Justice, Crime Prevention and Security Delivery Agreement, which had as an output that “All People in South Africa Are and Feel Safe” and had the implementation of a Cybersecurity Policy as one of its interventions against cyber-threats of a personal, national, and international nature (Minister of State Security, 2015, p. 75). The NCPF recognised the crucial role that ICTs play in the borderless nature of cybercrimes. Meeting these challenges necessitated adequate security measures as well as a sufficient number of appropriately skilled technicians and engineers, who are in turn correctly tasked (Sutherland, 2017).

The NCPF appraises the vulnerabilities of South Africa’s critical information infrastructure and conceives of a system of preventative measures to protect this infrastructure, and South Africa, against cyber-incidents. The NCPF also seeks to raise public awareness of cybersecurity matters. Furthermore, the NCPF lists measures to address national security from a cyberspace perspective: measures to combat cyber warfare, cybercrime, and other cyber issues; further development of existing laws and ensuring alignment thereof; and measures to ensure confidence and trust in the possibility of ICTs (Minister of State Security, 2015). Despite positive aspirations, doubts have been raised about the government’s ability to adapt and implement the framework, which draws heavily on foreign experiences and texts that may not be applicable to the local context (Sutherland, 2017). The NCPF regards ICTs as indispensable to the functioning of South Africa. Without secure and trustworthy ICT systems, neither the state nor the private sector will function. Countering cyber-threats is therefore essential to the functioning of the economy, and to socioeconomic development.

The Cybercrimes and Cybersecurity Bill (Cyber Bill) followed the NCPF, and was first published for comment in 2015. The final version was released in 2017 (Minister of Justice and Correctional Services, 2017). The Cyber Bill extended the scope of cyber-related crimes beyond those previously provided for in ECTA, and it criminalised additional activities relating to computer systems including, significantly, criminalisation of harmful messages (*BusinessTech*, 2021). The Cyber Bill was challenged on the grounds that, inter alia, its emphasis on the surveillance powers of the state potentially criminalised certain internet freedoms necessary to the work of journalists (Adams et al., 2021). The Cyber Bill was a precursor to the Cybercrimes Act, No. 19 of 2020, which aims to raise South Africa to international standards as far as fighting cybercrime is concerned (Allen, 2021b). However, although the Cyber Bill included provisions on critical information infrastructure and proposed cybersecurity structures, these were not incorporated into the Cybercrimes Act. The Act does, however, include provisions that represent advancements over the content of the Bill, including a clearer definition of cybercrime, criminalisation of unlawful accessing of a computer or device, and prohibition of the following: illegal interception of data; possession, receipt, or use of a stolen password; forgery, fraud, and extortion online; and malicious communications (e.g., via social media) (Allen, 2021b). The Cybercrimes Act also provides authorities with clear guidelines on conducting investigations and collecting cyber evidence—an issue with this is whether the South African Police Service is capable of implementing the Cybercrimes Act due to knowledge and supply constraints (Allen, 2021b).

Finally, there are a number of international and national ancillary and supporting statutes and partnerships that complete the picture of the South African cybersecurity legal framework by addressing issues such as cyberterrorism and cyberwarfare. These include the Protection of Constitutional Democracy against Terrorism Act, No. 33 of 2004; the National Strategic Intelligence Act, No. 39 of 1994; the Critical Infrastructure Protection Bill, 2017; and South Africa’s support of the (now defunct) International Multilateral Partnership Against Cyber-Terrorism (Sutherland, 2017). South Africa has also supported a number of resolutions of the UN General Assembly relating to Computer Security Incident Response Teams (CSIRTs), as well as resolutions of the UN Office on Drugs and Crime (Sutherland, 2017). As this section highlights, the legislative framework does not limit cybersecurity to national security, but rather cuts across different sectors. ECTA, for example, is often used as a consumer protection mechanism in the governance of digital transactions.

South Africa is a signatory to the Budapest Convention on Cybercrime (Council of Europe, 2001), but, like Ireland, has not ratified it. This is unsurprising, since the Budapest Convention does not protect human rights and was created in a forum in which South Africa has no voting rights (Rens, 2023). South Africa also signed the African Union Convention on Cyber Security and Personal Data Protection (also known as the Malabo Convention), which, although adopted in June 2014, only received enough ratifications to come into force in May 2023 (AU, 2014). South Africa, like the vast majority of African states, has still not ratified the Malabo Convention. While section 231(1) of the South African Constitution vests the power to negotiate and sign international agreements in the national executive, only Parliament may make international agreements binding in terms of section 231(2). Therefore, signature but non-ratification is the outcome of the constitutional separation of powers and parliamentary reticence (RSA, 1996). As a result, neither Malabo nor Budapest binds South Africa. The provisions of both Budapest and Malabo have become somewhat dated, so a “Comprehensive International Convention on Countering the Use of Information and Communications Technologies for Criminal Purposes” is currently being negotiated under the auspices of the United Nations, with South Africa as an active participant. The primary benefit of such treaties is to resolve issues of jurisdiction and to facilitate the sharing of evidence across borders.

Criticisms of current legislative and treaty measures include that they are reactive, and implementation remains a problem, making the detection and successful prosecution of cybercriminals onerous. The measures can only be effective to the extent that the state agencies are capable and that attackers are located in South Africa. When attackers are located outside of South Africa, jurisdictional issues immediately complicate investigation and prosecution processes. Although there is growing international cooperation on enforcing laws against cybercrime, given the current state of technology, a reactive response by security agencies cannot prevent ongoing harm to South Africa’s economy.

4. Case study of the Transnet cyber-incident

Brief history of Transnet

It is difficult to overstate the role of railways and ports in state- and market-formation in Southern Africa, especially in light of the “mineral revolution” in Southern Africa and its dire consequences (Marks & Rathbone, 1982). After the Second World War, SOEs were a key pillar in the apartheid political economy. Between autarky due to international sanctions, their use to form a white Afrikaner middle class, the intentional creation of rent-seeking structures, and clientelism, the South African Railways and Harbours administration (SAR&H) had acquired considerable asset bases and, in turn, formed part of the commanding heights of the South African economy (Terreblanche, 2002).

Restructuring in the 1970s, re-mandating in the 1980s, and renaming in the 1990s led to the formation of Transnet. Caught up on the wave of privatisation in late apartheid during which the state sought to stave off growing public debt and otherwise maintain an economy already on life support (Reddy & Moodley, 1993), Transnet became corporatised as a SEO. Other notable apartheid restructurings in this period were Telkom and Eskom in 1988, with Iscor following suit in 1989. Trade unions like the South African Municipal Workers Union began organised opposition against corporatisation and joined with the United Democratic Front to make this issue a labour plank within the anti-apartheid movement, helping to fuel strike action and mass mobilisation against the apartheid state. Currently Transnet’s board reports to the Minister of Public Enterprises, which functions as its accounting authority and is the shareholder minister with overall executive authority. The company is responsible for the national ports authority, port terminals, freight rail, bulk fuel, and gas pipelines.

Transnet’s IT systems

In 2009 Transnet’s Risk Management Committee started to examine “technological risks” (Transnet, 2009a, p. 70) as part of the overall efforts aimed at “reengineering its logistics network” (Transnet, 2009b, p. 34) to improve operations and customer service. The following year the company decided to invest ZAR1.9 billion over five years for IT software and licences, including new computers for locomotives and an identification system for wagons (Transnet, 2010). From November 2010, the Chief Information Officer was invited to the board’s Risk Committee and Audit Committee meetings. These steps were intended to enhance operational efficiencies while also safeguarding assets. In 2011 planning began to formalise the IT governance structure. The aspiration was to promote sound commercial risk management with IT systems through compliance, appropriate expenditure, and protection of information (Transnet, 2011).

Coinciding with investment, the company began to adopt new IT policies while conducting annual systematic risk assessments. Transnet identified deficiencies like “[i]nadequate ICT infrastructure and technological utilisation to enable the business” (Transnet, 2012, p. 46). The proposed solution to these errors was skills development in the labour force and employing skilled management (Transnet, 2012). Commencing in 2017, Transnet began to deploy an IT architecture that sought to overcome operational silos by moving to group-wide integration (Transnet, 2017, p. 16). Continuing this trend of integrated and shared computer systems, in the following year the Transnet 4.0 Strategy was adopted. This strategy involved the digitalisation of internal and external business processes. The accumulation of other technological refinements—including purchasing and deploying mobile technology in trucks to find route efficiencies—added to operation improvements, Transnet claimed (Transnet, 2018, p. 7).

Annual reports also gave some indication that the company was aware of the potential impact of digital products on the horizon, many linked to machine learning and artificial intelligence (AI) (Transnet, 2018, p. 11; 2019, p. 33). The language in these reports shows that Transnet was eager to embrace these kinds of products, seeing them as potential opportunities without many downsides. At the same time, research conducted by Basson (2017) found that, within Transnet, “several ICT services [were] outsourced depending on the Operating Division (OD), including Active Directory (AD); network infrastructure; CCTV maintenance; fibre cable installations; server management, compliance, and monitoring of ICT services; management of IT systems and workstations in some ODs; and emails and exchange” (Basson, 2017, p. 84). Basson found that concerns over lowering costs plus the shortage of skills and relevant expertise were the main drivers of outsourcing. Additionally, the IT network was deemed “a non-core function”; according to Basson’s interviewees, “the outsourcing of ICT [was] also seen as a Transnet strategy to build in-house capacity” (2017, p. 84). In Basson’s estimation, any benefits gained by outsourcing were offset by risks associated with infrastructure security.

In 2019 Transnet’s self-appraisal of the development of the IT system in the preceding years was scathing. The company indicated that the “organisation [was] not ready to embrace disruptive technologies” in part because of “funding constraints” and in part because “current ICT solutions [were] not integrated” while there was “delayed implementation of new technologies” (Transnet, 2019, p. 37). Proposed interventions were the continuation of converging IT systems between different operating divisions and renewing some legacy systems while phasing out others. There was some attention to cybersecurity initiatives: “With the proliferation of technology in this digital era, Transnet ICT has elevated cybersecurity to a top priority and provides feedback to the Board on a regular basis. It further guards against negative publicity and reputational damage resulting from social media risks” (Transnet, 2019, p. 98). Transnet also revealed that it was subject to cyber-incidents: “Incidents such as ransomware outbreak and cloning of the Transnet.net website have occurred during the course of the year, necessitating the strengthening of our incident response process and ICT continuity management” (Transnet, 2019, p. 98).

Critical self-assessment continued in 2020. Transnet committed itself to the notion of “smart ports” through the implementation of an e-commerce platform and data analytics to optimise the flow of cargo (2020, p. 10). But the company indicated that “our technology roadmap for the business requires an overhaul, we have various conflicting technology paths that are not harmonised towards a common purpose, leading to a misalignment in the digital capabilities of our Operating Divisions” (Transnet, 2020, p. 27). The main weaknesses were “ageing ICT infrastructure and technology” and “cybersecurity”, with risk mitigation requiring a “disaster recovery programme” and the drafting of a “Cybersecurity Improvement Plan” (Transnet, 2020, p. 57). The larger point is that Transnet was able to recognise that digitalisation

impacted the company’s operations, the board was adequately informed over the course of several years that disruptive innovation led to the emergence of new security risks, they were aware of the risks of an aging IT system, and they were aware of prior cybersecurity incidents in other sectors.

Timeline of the Transnet cyber-incident

On 22 July 2021, press reports indicated issues with Transnet’s IT network, leading to many logistical operations being conducted manually (e.g., Moyo, 2021). Over the following days, further information revealed that the primary impact was on the movement of cargo at port container terminals. Industry professionals suspected a cyber-incident (Ginindza, 2021), which Transnet confirmed a few days later as they worked to restore IT systems (Khanyile, 2021). A week after the cyber-incident, Transnet declared *force majeure* across all its container terminals due to its inability to meet contractual commitments (Toyana, 2021). Subsequent assessments showed that Durban Port, which handles over half of South Africa’s trade, was operating at 10% capacity, resulting in truck turnaround times exceeding 14 hours (Booth, 2021).

From Transnet’s self-disclosure, the cyber-incident was a ransomware incident on an IT network. The attacker affected multiple machines before an incident team could securely rebuild the servers using the Microsoft E5 advanced security software package. Endpoint detection and response tools were used to conduct a forensic analysis of the IT system, operating systems were upgraded and patched, and firewalls and other systems were deployed on all public websites before the IT system was brought back online (Transnet 2021c, p. 38). In the interim, transactions were manually recorded, then digitally recorded when the system came online. “As the cybersecurity threat was successfully isolated and contained, none of Transnet’s raw data was compromised, affirming that the integrity of all financial and operational information has been maintained,” Transnet reported (2021b, p. 127). The Minister of Public Enterprises, Pravin Gordhan, said in mid-August 2021 that Transnet did not pay the ransomware attackers, and that “about 90% of the IT systems at the corporate centre, freight, rail, port terminals, engineering, pipelines, and the port authority, which is slightly behind, are now fully recovered, and the appropriate security measures have been taken” (Gordhan, quoted by Labuschagne, 2021).

Subsequent actions

From its 2021 annual reporting, Transnet reiterated that all aspects of its freight business relied upon ICT, with any failure here creating the risk of the enterprise failing to fulfil its objectives. Transnet’s ICT systems are foundational for all areas of the South African economy. With subsequent modification of the IT and Digital Governance committee, there is some indication that Transnet’s board recognises its critical role as it took steps to address known IT weaknesses. For example, the board wanted feedback on the organisation’s “cybersecurity posture and plans” and indicated that cybersecurity was a “top priority”. The same section notes “social media

risks”, with Transnet needing to protect “against negative publicity and reputational damage” (Transnet, 2021c, p. 32). Additional essential products were purchased to aid its cybersecurity needs (Transnet, 2021c, p. 38).

Other proposed steps included delegating authority to managers to implement IT system management, with the board’s Risk Management committee focusing on oversight and implementation of “business continuity arrangement[s]” that allow Transnet to weather any future IT system instability (Transnet, 2021c, p. 38). Another notable change is that cybersecurity acquisitions, incident management, and remedial actions would be undertaken by the ICT Service Management team, which in turn reports to the Enterprise Technology Services functional unit (Transnet, 2021c, p. 39). Transnet indicated that all of these actions would adhere to existing laws, including POPIA.

Finally, Transnet reaffirmed its commitment “to employ a digital-first culture to digitise both existing and next-generation products and services”. The company has shown interest in computational products that could drive digital transformation, and is eager to leverage “disruptive and enabling technologies” through strategic partnerships for “agile and innovative services (Transnet, 2021c, p. 39). This presents some cause for concern, as in past years Transnet has been overly influenced by Silicon Valley marketing hype, often at the expense of managing its more routine IT systems. While AI could potentially yield efficiency gains in the future, at present it has demonstrated increased cybersecurity risks.

5. Analysis and discussion

Over the past decade, Transnet’s board has exhibited corporate governance practices that have failed to meet the operational needs of its IT systems. Annual reports reveal the board’s awareness of years of underinvestment in IT architecture and cybersecurity, a result of economic mismanagement and budget constraints that hindered the overhaul of vulnerable legacy systems. The company recognised and attempted to address the fragmentation in its IT enterprise system, but the efforts were belated. In a corporate entity like Transnet, such fragmentation hinders the realisation of economies of scale, reducing global competitiveness (Timmers, 2018).

Additionally, the board has lacked the foresight to recognise how cybersecurity breaches occurring elsewhere in the world in similar enterprises might also happen to its organisation. The main risk is that shipping lines could shift their export capacity and use their fleets on other trade routes, which would have cascading effects across the South African economy. There is also little indication of industry cooperation and pooling of expertise. Transnet’s reporting makes claims that known deficiencies in the IT system have been addressed; however, to date there has been

no public third-party verification of this exercise. Transnet did seem to recognise that cyber incidents erode trust, and that even one incident factors into other entities’ risk management assessments.

An additional concern is the apparent lack of urgency from the South African state in enforcing cybersecurity procedures. Despite having the legal authority to direct Transnet to adopt benchmark cybersecurity products, this oversight seems to indicate a failure to recognise that the line between physical and digital critical infrastructure is increasingly blurring. This significant conceptual oversight is evident in the Department of Public Enterprises’ 2021/2022 annual report (DPE, 2022), which does not adequately address the cyber-incident against Transnet or highlight it as a potential warning for other SOEs.

In conclusion, we find that both the board of Transnet and the Department of Public Enterprises demonstrated a lack of practical understanding of IT systems. Furthermore, there was a deficit in imagination in both entities, as they failed to fully acknowledge the increasing prevalence of cyber-incidents worldwide and did not foresee that such attacks could impact them. The lack of evidence that, at present, the South African state acknowledges either the risks of weak cybersecurity, or the added complexities introduced by AI, suggests that the national economy remains highly vulnerable to cyber-incidents. Conversely, without coherence, coordination, trust, and understanding, the prospects of establishing an effective developmental state are diminished.

6. Conclusion

As the strong dependency of the South African economy on Transnet illustrates, cybersecurity in SOEs is a matter for socioeconomic development policy. Without the purchase and system-wide installation of benchmarked cybersecurity products, when security compromises occur they negatively impact the South African government’s endeavours towards actualisation of the developmental state in the domestic market, as well as support for trade with land-locked countries in the region. Another key consideration is how cyber-incidents have a negative impact on the monetary inflows on which South Africa depends. There are valid questions around whether the corporatisation of SOEs leads to underinvestment in cybersecurity, as returns to shareholders take priority over secure IT systems. Therefore, there may be merit in the government relaxing the imperative to return value to the shareholder—itsself—and instead to insist on due investment to upgrade computational hardware and software systems. Transnet is just one example of an SOE that, if compromised due to inadequate cybersecurity, could severely damage the South African economy and exacerbate the burdens on the poor and powerless.

There is value in cultivating a deeper appreciation for the necessity for advanced cybersecurity protection in South African SOEs. The efficiency and effectiveness of SOEs, and consequently the delivery of state services, and the provision of infrastructure on which markets depend are significantly influenced by cybersecurity. Without a secure bulk freight network, municipal trading services may struggle to source and acquire components for their water, sanitation, electricity, safety, and access infrastructure, for example. Similar considerations apply to a secure electrical supply. The inescapable conclusion is that cybersecurity is a cornerstone of an effective democratic developmental state.

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Source: Authors

3. Management of vaccination records

An investigation of 16 countries (developed, developing, and countries in transition) was carried out to determine how they managed their vaccination records. The findings were categorised as follows:

- **Fully digitised** – A child's entire vaccination record can be accessed with or without the presence of the vaccination card. The card merely serves as proof for the parent or guardian.
- **Paper-based** – The primary storage mechanism is a paper-based vaccination card or other paper-based documents.
- **Hybrid approach** – A digital system that stores the vaccination records does exist, but it is not updated in real-time and, healthcare practitioners, as well as parents, cannot access these records. The primary storage mechanism remains the vaccination card.

The investigation revealed that 44% of the investigated countries had a fully digitised storage mechanism whilst 37% were paper-based and 19% used a hybrid approach. This is illustrated in Figure 1.

Figure 1: Vaccination record storage mechanisms across 16 investigated countries



Complexities of competition regulation in Zimbabwe's mobile money sector

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Abstract

This study explores the complexities of competition regulation in Zimbabwe's mobile money sector—through an analysis of EcoCash's market position and practices, and the regulatory steps taken in response. The study is grounded in the competition complaint made in 2014 by Zimbabwean banks against EcoCash to the Competition and Tariff Commission (CTC), wherein EcoCash was alleged to have initially refused to share its unstructured supplementary service data (USSD) infrastructure with banks; and then later to have granted access only on discriminatory terms. The research assessed the market structure and market power in the Zimbabwe mobile money sector; the regulatory challenges that these market features pose; the market power and conduct of EcoCash; and the effectiveness of the measures taken by regulators to address the competition concerns raised in relation to EcoCash. The findings indicated that, in spite of regulatory attempts to dilute its power in the market, EcoCash was, at the time of the core data collection in 2021–22, still in a dominant position in Zimbabwe's mobile money market.

Keywords

mobile money, competition regulation, network effects, market power, market dominance, Zimbabwe, EcoCash

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1. Introduction

Mobile money services enable people to send, receive, store, and spend money using a mobile handset connected to a mobile network using a SIM card issued by a mobile network operator (MNO). Mobile money has become popular in historically unbanked segments of society, with users finding it a convenient and safe way to conduct financial transactions without using a bank account (Anderson, 2010). Meanwhile, mobile *banking* services enable a person to access their bank account, and conduct essential transactions, including money transfers, via banking applications installed on their mobile handsets. In cases where an MNO has a banking partner or partners, a mobile money service has the potential to evolve into mobile banking. In Zimbabwe, mobile money and mobile banking platforms have grown rapidly, generating a particular set of competition dynamics. For example, banks depend on the unstructured supplementary service data (USSD) infrastructure provided by MNOs to offer mobile banking services to their customers, and thus refusal by MNOs to provide this service on fair terms infringes on competition in the provision of mobile financial services.

Zimbabwe has three MNOs: Econet, NetOne, and Telecel. In December 2022, Econet was the largest MNO with 68% market share, followed by NetOne at 29% and Telecel at 3%.¹ The three MNOs all commenced mobile money services in 2011, as EcoCash, OneMoney, and Telecash respectively. In 2012, the banks established the ZimSwitch Instant Payment Interchange Technology (ZIPIT) platform, which enables funds transfers between customers at different banks.

In 2014, the Bankers Association of Zimbabwe (BAZ) laid a complaint against EcoCash with the Competition and Tariff Commission (CTC), alleging that EcoCash had initially refused to share its USSD infrastructure with banks, and that

it had later provided access only on discriminatory terms.² The preliminary findings by the CTC indicated that EcoCash had abused its dominance by refusing to interoperate, thus strongly lessening competition, raising rivals' costs, and squeezing the margins of its rivals.³ The CTC then recommended a consultation process between the Reserve Bank of Zimbabwe (RBZ), the Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ), and the MNOs. The result of this process was a series of regulatory measures that were rolled out over a period of several years.

This article examines the market power and behaviour of EcoCash (and its parent company Econet); key regulatory measures taken in response; and the apparent lack of immediate impact of the regulatory measures. Zimbabwe's Competition Act uses the term "substantial market control", not "dominance", in respect of anti-competitive practices (Republic of Zimbabwe, 1996). In this article, I use the term dominance.

Data collection

This study used a combination of statistical and interview data. I used publicly available statistical data in the POTRAZ quarterly and annual reports to assess market share in the MNO and mobile money sectors from 2016 to 2021. With respect to mobile money tariffs, I used the publicly available rates from 2021 to analyse pricing by the three providers. I also conducted semi-structured interviews with representatives of the three MNOs, the CTC, POTRAZ, and the RBZ, in order to get insights into the dynamics of the mobile money market, and of regulatory measures targeted at the market, in the period 2016 to 2021. All of the interviewees, six in total, were experts in the workings of Zimbabwe's mobile money sector.

2. Literature review

Mobile money markets

Mobile money has penetrated remote markets, financially empowering the unbanked and marginalised segments of society. The rise of mobile money has contributed to socioeconomic development through the provision of financial services to segments of society where branch banking was geographically limited (Jack & Suri, 2011; Pelletier et al., 2019). Customers mainly use the platform for airtime recharging and transfers, payments for goods and services, and cash withdrawals (Anderson, 2010). Mobile money services are generally provided by a digital platform that connects users from different sides of the market, including subscribers who cash in and cash out money through the

¹ Follow-up interview with POTRAZ representative, 11 April 2023.

² Interview with CTC representative, 24 February 2021.

³ Interview with CTC representative, 28 September 2021.

platform, agents who facilitate transactions, merchants who receive mobile cash payments, and an MNO service provider that provides the network and enables customers to process transactions using their phones. Thus, mobile money service markets are multi-sided in nature.

The nature of competition in the mobile money services industry is tiered, with competition between MNOs in the provision of mobile money services, and competition between MNOs and financial institutions in the provision of value-added services. In many countries, the dominant mobile network operators have likewise established dominant positions in the provision of mobile money services, partly due to inherent network effects, giving rise to numerous competition and regulatory concerns (Robb & Vilakazi, 2015). Dominant firms tend to want to maintain their dominance, foreclosing rivals through various forms of anticompetitive behaviours, including, but not limited to, exclusion.

Network effects and market power in multi-sided markets

Multi-sided markets connect two or more distinct, interdependent groups of market participants via a platform (OECD, 2018). This interdependency is impacted by externality effects that arise in these markets, since users value the platform based on the number of users on it. Users' preference for networks with many users is a function of network effects, which are defined as the benefit that a user derives from another user's consumption, i.e., users derive greater utility when more users consume the service (Macmillan et al., 2016). MNOs with large market share (and thus strong network effects) are attractive to consumers and service providers. Hence they will often continue to grow market share, sometimes tipping the markets to become a dominant service provider (Zingales & Lancieri, 2019). Multi-sided markets naturally tip towards the control of a few dominant firms, and even monopoly, due to the strong network effects present in such markets. These network effects generate rapid growth, thus increasing levels of concentration, creating barriers to entry, and posing challenges for competition enforcement (Weyl & White, 2014).

An MNO with a dominant market share of voice and data subscribers is likely to also dominate mobile money service provision. For example, Safaricom in Kenya has maintained its dominance in the mobile money sector due to the strong network effects arising from its dominance in the voice and data markets (Anderson, 2010; Robb & Paelo, 2020). A dominant MNO has an incentive to resist interoperability, so as to maintain its dominance by inducing out-of-network subscribers to join its network and inducing existing subscribers to remain (Robb et al., 2017). Network effects may also facilitate exclusion through the tying and bundling of services by firms, thus reinforcing network effects in the market (Robb & Vilakazi, 2015). The highly concentrated nature of the telecommunications sector in most countries contributes to high barriers to entry in those markets, but it is important to note that it is in their nature to be so due to the high set up and operational costs. High

barriers to entry and concentrated markets enable market power on the part of incumbent firms that do not face effective competitive restraint, and this may reflect in uncompetitive prices (Macmillan et al., 2016).

Regulation of competition in multi-sided platform markets

Traditional competition regulation frameworks were designed for traditional markets where suppliers and consumers meet in one market and the monitoring of activity is all done in the one market (Anderson, 2010). Regulatory frameworks designed for such markets are not effective for multi-sided digital platform markets, and hence the emergence of a rethink, in many markets, of competition regulation for digital platforms.

Mobile money services have instigated disruptive competition in the traditional banking and telecommunications sectors, alongside complex competition regulation concerns for digital platform markets. Digital platforms have become a major contributor to economic growth in many countries, as well as a competition regulation concern, with countries seeking to amend their competition regulatory frameworks to enable them to deal with antitrust conduct in such markets (Andreoni & Roberts, 2020). Because it is often the case that digital platforms grow rapidly in size and in the complexity of their operations, developing effective regulatory tools can be a challenge for regulators (Zingales & Lancieri, 2019). The historical methodologies of defining markets do not capture the dynamic features of digital markets, since market demand is multi-sided and there is a need to consider the consumers' welfare in multiple groups (Evans & Schmalensee, 2013).

Clear regulation and interoperability of telecommunications infrastructure play a fundamental role in the success of mobile money services (Macmillan et al., 2016). Regulators can use tools such as infrastructure-sharing agreements to open up markets and encourage innovation, entry, and participation by smaller firms who could not afford such costly setups. Interoperability can exist at different levels in a mobile money market. Platform interoperability exists where customers can send and receive money between accounts across networks. Where agents can serve customers from different networks, agent interoperability exists. If customers can access their mobile money account from any SIM card, customer interoperability is said to exist (Robb & Vilakazi, 2015). Very few of the above levels of interoperability exist in developing-country markets, and where they do exist, regulators have intervened to enforce interoperability and ensure that the services are available on fair terms (Robb & Vilakazi, 2015). Most mobile money markets exhibit constraints, where customers must cash out their funds from a registered agent who usually serves one MNO, known as agent exclusivity. This has become a common competition concern

in mobile money markets because it limits customer choice and ties customers to one network, which may in most cases be dominant but is not necessarily preferred by customers (Robb & Vilakazi, 2015).

Enabling interoperability does not immediately result in healthy market competition, as the dominant firm's position may be otherwise entrenched, and firms may not have the incentive to compete vigorously (Katz & Shapiro, 1985). Concerns therefore remain, including abuse of dominance, collusion, and tying and bundling. Because telecommunications markets are prone to tipping, many markets have witnessed strong winners and losers, where the winner takes it all (Rysman, 2009). In such cases, smaller rivals remain small, serving a small share of the market, usually with lesser-quality services and network, and no meaningful influence on competitive outcomes in the market (Rysman, 2009). However, Tanzania is an example where interoperability has helped foster competition among mobile money service providers, and consumers have seen the benefits through lower prices and more convenient cross-network services (Robb & Vilakazi, 2015).

3. Findings

Market positions of Econet and EcoCash

It was found from the available market data that Econet consistently dominated the Zimbabwean mobile telecommunications market between 2016 and 2021, growing its market share to a high of 69.1% of active subscribers in 2019, followed by small declines in 2020 (to 68%) and 2021 (to 65.9%) (Table 1).

Table 1: MNOs' market shares of active subscribers, 2016–2021

Operator	Year					
	2016	2017	2018	2019	2020	2021
Econet	50.6%	51.1%	65.8%	69.1%	68%	65.9%
NetOne	35.4%	35.9%	24%	22.9%	26.2%	29.8%
Telecel	14%	12.9%	10.2%	8.1%	5.7%	4.3%

Note. Data sourced from POTRAZ reports.

NetOne was consistently in second place, with a market share ranging between 22.9% and 35.9%. Telecel's market share was consistently much smaller.

EcoCash entered the mobile money services sector in September 2011, after OneMoney and Telecash had entered in January 2011, and quickly achieved dominance. Like its parent MNO Econet, EcoCash remained dominant during the period 2016 to 2020 (Table 2).

Table 2: Mobile money services' shares of active subscribers, 2016–2020

Operator	Year				
	2016	2017	2018	2019	2020
EcoCash	98.1%	97.4%	96%	93.8%	88%
OneMoney	0.7%	0.8%	2.8%	5.5%	11.6%
Telecash	1.2%	1.7%	1.1%	0.8%	0.4%

Note. Data sourced from POTRAZ reports.

In 2016, EcoCash had 98.1% market share of active mobile money subscribers, OneMoney had 0.7%, and TeleCash had 1.2% (Table 2). By 2020, EcoCash's share of active mobile money subscriptions had dropped to 88%, OneMoney's share had grown to 11.6%, and Telecash had a mere 0.4% of the market (POTRAZ, 2020). Despite its declining share of the market, EcoCash was consistently the dominant player.

Pricing behaviour of EcoCash

As seen in Table 3 below, EcoCash prices increased by more than 300% from 2017 to 2020, during a period when, as seen above in Table 2, its market share decreased by only 5%. (In this section, unless stated otherwise, the Zimbabwe Dollar (ZWL) is the currency used.) This pricing behaviour is indicative of substantial market power and a lack of effective competitive restraint from rivals.

Table 3: EcoCash tariffs for registered subscribers, 2017–2021, in ZWL

Transaction amount (ZWL)	Tariff (ZWL)			
	2017	2019	2020	2021
10	0.37	0.81	1.42	1.42
20	0.53	0.95	2.10	2.10
30	0.69	1.22	2.50	2.63
50	1.22	2.39	4.62	5.31
100	2.12	4.41	6.96	8.01
300	2.58	5.29	14.59	17.87
400	2.62	5.31		
500			27.54	34.43
1000				52.31
3000				57.30

Note. Data sourced from Econet website, Madamombe (2017), Mudzingwa (2019), Muhamba (2020).

As seen in Table 4 below, a comparison of EcoCash mobile money tariffs with those of the other mobile money providers indicated that EcoCash transfer rates were higher than those of the other MNOs at all transaction levels. However, the gap between the EcoCash rates and those of the other MNOs became smaller at higher transaction levels. The mobile money transfer rates were calculated as a percentage of the transaction amount for EcoCash, OneMoney, and Telecash.

Table 4: 2021 EcoCash, OneMoney and Telecash tariffs (as % of transaction amount)

Transaction amount (in ZWL)	Tariff (as % of transaction amount)		
	EcoCash	OneMoney	Telecash
10	14.2%	7.5%	5.9%
20	10.5%	6.75%	4.75%
30	8.77%	5.83%	4.07%
50	10.62%	6.58%	4.6%
100	8.01%	6.39%	4.2%
300	5.96%	3.22%	4.62%
500	6.89%	2%	4.04%
1000	5.23%	1%	1.5%
3000	1.91%	1.7%	1.5%

Note. Data sourced from operators' websites and author's calculations.

Regulatory measures

MNOs in Zimbabwe are regulated by POTRAZ, and financial services providers are regulated by the RBZ. The growth of mobile money and associated competition concerns motivated the CTC to recommend that the RBZ be involved in the process of responding to the EcoCash case, since mobile money service provision falls under both the telecommunications and financial services sectors.⁴ The collaboration between POTRAZ, the RBZ, and the CTC contributed to the development and issuance of several regulatory measures.

USSD rates

In December 2015, POTRAZ issued the Regulatory Determination on Costing of USSD Based Mobile Banking Services, which required network operators to assign USSD to banks on a non-discriminatory basis, so as to promote competition in the mobile money sector (POTRAZ, 2015b). In 2016, POTRAZ introduced the long-run incremental cost (LRIC) model to determine USSD pricing, with the aim of

effectively reducing USSD tariff rates, with which all mobile money service providers complied.⁵ Using this model, in 2016 POTRAZ initially pegged the price ceiling for USSD for mobile banking transactions at USD0.05. This was then reduced to below USD0.02 as of September 2021, equivalent to ZWL1.61 (POTRAZ, 2021b). All three mobile money operators complied with these regulations.

Interoperability

In November 2015, POTRAZ issued the Regulatory Circular on Interoperability of Telecommunication Operators' Mobile Money Platforms, mandating all three MNOs to facilitate interoperability and cross-network transactions between their mobile money platforms (POTRAZ, 2015a). These interoperability regulations were intended to ensure that customers could transact between different MNO wallets (wallet-to-wallet) and also between their bank accounts and MNO wallets (bank-to-wallet).⁶ OneMoney and Telecash complied, but EcoCash waited four years, until 2019, before it activated the wallet-to-wallet service with fellow MNOs, which meant that non-EcoCash-subscriber recipients of cash from EcoCash subscribers still had to receive cash from an agent (i.e., a OneMoney or Telecash agent) (Robb & Paolo, 2020). (In 2016, the Minister of Information Communication Technology, Postal and Courier Services published the Postal and Telecommunications (Infrastructure Sharing) Regulations, which provided POTRAZ with a mandate to ensure that the parent MNOs—Econet, NetOne, and Telecel—developed infrastructure-sharing agreements (Republic of Zimbabwe, 2016).)

In 2017, the RBZ issued Guidelines for Retail Payment Systems and Instruments, which required that all players in the payments industry implement interoperability in their systems (RBZ, 2017). These guidelines required all mobile money providers to implement interoperability amongst themselves and with banks through the ZIPIT platform, enabling wallet-to-wallet transactions across mobile money service providers. In 2020, the Minister of Finance and Economic Development published the Banking (Money Transmission, Mobile Banking and Mobile Money Interoperability) Regulations. These regulations, to be overseen by the RBZ, compelled MNOs to ensure that, in addition to being licensed by POTRAZ, their services were recognised in terms of the National Payment Systems Act (Republic of Zimbabwe, 2001; 2020).

Thus, there was now substantial scope for the two regulatory authorities to coordinate their efforts on the regulation of the mobile money market, with the RBZ taking responsibility for the financial services dimensions and POTRAZ remaining responsible for the telecommunications dimensions. The desired outcome

⁴ Interview with RBZ representative, 9 September 2021.

⁵ Follow-up interview with POTRAZ representative, 7 December 2021.

⁶ Interview with CTC representative, 28 September 2021.

was robust mobile-money competition among the MNOs, and between MNOs and banks. Customers would now be able to transact between wallets—mobile or bank—at tariff rates regulated by the RBZ,⁷ and EcoCash would, it was hoped, eventually be compelled to comply with these regulations, since non-compliance would result in the withdrawal of its operating licence.⁸

At the time of finalising my core data collection in May 2022, EcoCash was, along with OneMoney and TeleCash, now complying with the regulatory requirements set out by POTRAZ and the RBZ. However, EcoCash was still charging significantly higher transaction fees than those charged by OneMoney and Telecash. Thus, it still remained to be seen whether the joint efforts by the two regulators would ultimately result in less market dominance by, and more competitively priced offerings from, EcoCash.

5. Analysis

As seen above, EcoCash did not initially implement the required wallet-to-wallet transfer capabilities required by POTRAZ regulations. EcoCash's refusal to interoperate between MNO wallets placed it at a strategic advantage because, due to its dominance, many customers with other MNO SIM cards would feel compelled to also subscribe to Econet in order to receive EcoCash funds directly into their mobile wallets, irrespective of the fact that EcoCash's transfer tariffs were, for many transfer amounts, significantly higher than the tariffs of the other two mobile money services.

Also, we saw above that EcoCash acted in an exploitative manner by raising its prices, in spite of already being more expensive than the other two mobile money services, between 2017 and 2021. Its prices increased by 300% during this period, accompanied by only a 5% decrease in its market share. The ability of EcoCash to raise prices but still retain its market share was a clear sign of market dominance—and, potentially, abuse of dominance. EcoCash continued to charge anti-competitive prices despite attempted regulatory remedies, with the result that there was no true competitive pressure on EcoCash from its mobile money rivals OneMoney and Telecash.

EcoCash's establishment of dominance was to a great extent enabled by POTRAZ and the RBZ, which both failed to enforce their regulations. EcoCash took four years to comply with the 2015 POTRAZ MNO interoperability rules, without consequences.⁹ The RBZ, for its part, failed to enforce its 2017 financial services-related interoperability regulations that required EcoCash to fully interoperate with

the other two mobile money service providers. Both regulators had the power, via regulations, to force EcoCash to fully interoperate much sooner than 2019—the year when the operator finally began compliance with the POTRAZ and RBZ rules.

6. Conclusion

The objective of this study was to assess the regulatory challenges that mobile money has presented in Zimbabwe—with a particular focus on the anti-competitive complaint raised by banks against EcoCash in 2014—and to examine the effectiveness of the regulatory responses to EcoCash's market dominance. My assessment found that, during the period studied, EcoCash had market dominance, and showed signs of abusing this dominance. EcoCash's market dominance demonstrated, among other things, that the steps taken by the mobile money sector's regulatory bodies, POTRAZ and the RBZ, had not yet succeeded in compelling EcoCash to price its services more competitively in relation to the prices of the two much smaller players in the market, OneMoney and Telecash.

A key shortcoming in the performance of POTRAZ and the RBZ was their lack of aggressive enforcement of the regulations that they had in place to compel EcoCash to fully interoperate its services with those of OneMoney and Telecash. Regulation without aggressive enforcement undermines the intent and legitimacy of the regulations. In mobile money services markets, it is crucial that competition regulation succeeds in generating a level playing field for market participants. Such markets are fundamental to the lives and livelihoods of the vast majority of consumers all around the world, and particularly in developing-world settings such as Zimbabwe where many people remain unbanked and thus rely heavily on mobile money platforms.

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⁷ Interview with POTRAZ representative, 9 September 2021.

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Infrastructure, human capital, and online teaching during the COVID-19 disruptions: Teachers' experiences at five South African private schools

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Abstract

This study explored the lessons that were learnt about online teaching during the COVID-19 pandemic in five private high schools in a suburb of Pretoria. Qualitative data was collected through interviews with 15 schoolteachers (three from each school), in which they were asked about their experiences with, and perceptions of, the online teaching that they and their schools provided during the periods in 2020 when in-person schooling was prohibited in South Africa due to the pandemic. Thematic analysis of the interview data produced two categories of factors that affected the ability of teachers to successfully offer online-only teaching and learning: infrastructural factors and human capital factors. Drawing on the teachers' inputs in these thematic areas, four lessons learnt were determined, as follows: ensure reliable power supply in support of internet connectivity; allow teacher internet connectivity on a bring your own device (BYOD) basis; ensure practical and up-to-date teacher skills in online teaching; and harness the power of peer-to-peer knowledge-sharing.

Keywords

COVID-19, lockdowns, online learning, private schools, South Africa, infrastructure, internet connectivity, human capital, teachers, peer-to-peer learning

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1. Introduction

The COVID-19 pandemic disrupted education systems around the world (Duby et al., 2022; Faturoti, 2022; Mathrani et al., 2022), and the adverse effects on education are already widely documented (Faturoti, 2022; Mhlanga et al., 2022; Mukuna & Aloka, 2020). Among the numerous challenges posed by the pandemic were the challenges encountered by schools, as face-to-face teaching methods were disrupted and had to be temporarily replaced, where possible, by remote online teaching (Lemay et al., 2021). Moving to online teaching challenged the ways in which teachers performed their core duties with respect to class management, sharing learning resources, motivating, disciplining, teaching, protecting, and socialising with students (Paliwal & Singh, 2021). In addition, schools' ability to adapt core teaching duties to online learning depended on, among others, network connectivity, access to devices connected to the internet, access to content creation software, and online teaching skills (Maree, 2022; Nakhriyah & Muzakky, 2021). In sub-Saharan Africa, it is documented that numerous schools could not cope with the challenges and stopped teaching, thus depriving students of learning (Faturoti, 2022).

The literature on online learning prior to COVID-19 documented critical challenges that obstructed school delivery (Aruleba & Jere, 2022; Kearsley, 2002) and the challenges included, but were not limited to, unskilled teachers, teacher resistance, poor network connectivity, and lack of resources. However, previous research focused on well-resourced schools that had voluntarily pursued online teaching and thus had been able to plan carefully for it. In the case of the emergency environment of COVID-19, schools in most African countries were forced to embark on online learning provision without significant preparation time (Faturoti, 2022). Consequently, much can be learnt from examining the strategies that schools such as those examined in this study used to adapt to a largely unfamiliar mode of education delivery, and the challenges that such schools encountered in implementing these strategies.

In South Africa, according to Statistics South Africa (StatsSA, 2022), only 11.7% of schools in the country offered online learning during the lockdown period of COVID-19. Even for the minority of schools (typically urban schools) that were able to offer online learning, there were, nevertheless, numerous challenges (Maree, 2022; Nakhriyah & Muzakky, 2021). Therefore, the objective of this study was to learn from a group of South African schools that were able to offer online teaching and learning, and to explore teachers' experiences with, and perceptions of, the online teaching that was offered.

The research question for this study was: "What lessons can be learnt from schools that provided online teaching when face-to-face teaching was suspended during COVID-19 lockdown?" The focus of this study was on the experiences and perceptions of teachers in five private high schools in South Africa—all in the

urban community of Centurion, next to Pretoria¹—that managed to provide online teaching during the COVID-19 disruptions. The lessons learnt through this study were thus derived inductively from the views of educators, who are the front-line workers in online teaching (Dhawan, 2020; Lemay et al., 2021; Masry-Herzalah & Dor-Haim, 2022).

2. Literature review: Challenges of online teaching during the pandemic

Research on the challenges of online teaching during the COVID-19 pandemic has identified difficulties related to internet connectivity, device ownership, and training.

Internet connectivity

The online teaching and learning ecosystem is grounded in reliable internet connectivity, without which it cannot be implemented. In the sub-Saharan African context, South Africa has relatively high internet penetration, but with a substantial (though narrowing) urban–rural internet penetration divide (StatsSA, 2022). Therefore, the penetration of the internet in urban South Africa presents significant potential for online teaching and learning. Before COVID-19, the potential offered by South African internet penetration was embraced to a much greater degree in higher education compared to primary and secondary education. South African schools were encouraged to take up online teaching and learning only with the arrival of the COVID-19 pandemic (Maree, 2022).

Some challenges identified as affecting this transition were cyber safety issues, unreliable network connectivity, limited coverage in rural areas, and expensive bandwidth (Chipangura & Dtendjo-Ndjindja, 2022; Mukuna & Aloka, 2020). Mukuna and Aloka (2020) found that online teaching and learning in rural areas was mainly constrained by poor connectivity to the internet network, slow connections, and broadband costs. The cost of bandwidth packages affects the frequency and duration of online teaching and learning (Mhlanga et al., 2022). Due to the high cost of bandwidth observed in online teaching and learning during COVID-19, some researchers have recommended that governments should subsidise bandwidth so that students from marginalised families can afford online learning (Faturoti, 2022; Mhlanga et al., 2022; Mukuna & Aloka, 2020).

Device ownership

Owning an internet-connected device is a key enabler for online teaching and learning. Research has revealed that both students and teachers in developing countries had limited access to usable devices for online teaching and learning during

¹ Both Centurion and Pretoria (the South African capital) fall under the City of Tshwane Metropolitan Municipality.

the COVID-19 disruptions (Faturoti, 2022; Mathrani et al., 2022; Pather & Booi, 2020). The lack of device ownership is also documented in the literature on the digital divide (Aruleba & Jere, 2022; Chisango & Marongwe, 2021). Faturoti (2022) is of the opinion that, among other things, COVID-19 exposed the digital divide between the rich and poor in many African countries. In South Africa, a significant digital divide between rural and urban schools was found to exclude rural students from online learning opportunities during the COVID-19 pandemic (Monareng et al., 2020; Pather & Booi, 2020). The findings of Pather and Booi (2020) and Monareng et al. (2020) are aligned with the findings of the 2003 Draft White Paper on e-Education, which acknowledged the digital gap between poor and rich learners, as well as the gap between rural and urban learners (Department of Education, 2003).

Training

Teachers have numerous responsibilities, which can be summarised as classroom management, motivating, disciplining, supervising projects, preparing lessons, teaching, and assessing students (König et al., 2020). Because COVID-19 forced teachers to adopt online teaching without significant preparation or training, it was difficult for some teachers to perform all their duties (Faturoti, 2022). Some teachers were found to have experienced challenges with, inter alia, sharing study material, protecting learners from cyber risks, and engaging with students (Masry-Herzalah & Dor-Haim, 2022). Some studies pointed to the fact that the adoption of online teaching faces resistance if deployed without training of teachers (Dhawan, 2020; Gratz & Looney, 2020; Masry-Herzalah & Dor-Haim, 2022). During the COVID-19 period, resistance to online teaching was also found to be associated with low technological competence (Kundu et al., 2020; Masry-Herzalah & Dor-Haim, 2022). Meanwhile, teachers with high technological competence were found to be proactive in providing students with online learning (Kundu et al., 2020).

Core literature review findings

Online teaching strategies adopted during COVID-19 were influenced by the teaching technologies used and the existing knowledge of how to use them (Lepp et al., 2021)—which is to say, during the pandemic, some teachers were incapacitated by technology. To meet their obligations, teachers required a variety of online teaching tools (König et al., 2020). Teachers needed, inter alia, subject-specific online tools (Mishra & Koehler, 2006); online tools to manage classrooms; and online tools to ensure that students were disciplined, ethical, and cyber-protected (Chipangura & Dtendjo-Ndjindja, 2022). When schools provided numerous new tools in a short period of time, the situation became highly complex for teachers.

3. Study design

This was an interpretive study that collected qualitative data from teachers in five private high schools. The advantage of interpretive research is that it allows for the collection of thick data on the lived experiences of the participants (Creswell & Plano, 2011). Semi-structured interviews were used to explore the perceptions of teachers at selected private high schools that provided online learning during the COVID-19 disruptions. The interviews were face-to-face and were conducted between 2 August and 26 November 2021, when South African schools had returned to face-to-face teaching.

Sample

The data was collected from five private high schools in Centurion. The schools studied were selected based on the criterion that they had used online teaching to mitigate school closures during the COVID-19 disruptions. The school principal at each school recommended three teachers to serve as interviewees. All recommended teachers agreed to participate, resulting in fifteen interviews. The interviewees comprised eleven female and four male teachers. In terms of teaching experience, four teachers had between one and five years' experience; three teachers had between six and ten years' experience; four teachers had between eleven and fifteen years' experience; three teachers had between sixteen and twenty years' experience; and one teacher had more than twenty years' of experience.

Data collection instrument

An open-ended interview protocol was used for semi-structured interviews. The questions asked each teacher about: how the teacher's school provided online teaching during COVID-19; technologies that the teacher used for online teaching; support received from the school for teaching online; the extent to which teachers at the school influenced each other's online teaching; the challenges encountered when providing online teaching; and how the challenges were overcome.

Data analysis

Data, in the form of transcripts of the interview audio recordings, was thematically analysed and the coding was carried out with the help of a research assistant. We each read the transcripts several times to generate codes, review the codes, and name the thematic factors. At the end of the data analysis cycle, six categories of thematic factors were agreed on and were coded as follows:

- Enabling environment (EN);
- Shared computer resources (SCR);
- Bring your own device (BYOD);
- Building on existing practices (BEP);
- Social influence (SI); and
- Training (TR).

Ethical considerations

The schools and the teachers who participated in this study were anonymised. The five schools were labelled A, B, C, D, and E. The teachers who participated in the study were given pseudonyms that associated them with the school label. For example, a teacher from school A was identified as teacher A1. The teachers were informed of their right to withdraw from interviews, and informed consent was obtained.

4. Results

For the purposes of presenting the findings in this section, the six thematic factors of the data, as listed above, have been split into two overarching themes (groupings of factors), as follows:

- **Infrastructural factors:** enabling environment (EN); shared computer resources (SCR); bring your own device (BYOD); and
- **Human capital factors:** building on existing practices (BEP); social influence (SI); training (TR).

Infrastructural factors**Enabling environment (EN)**

During the pandemic, the provision of online learning in the five schools depended on the level of lockdown imposed by the government. When students were not allowed on the premises, the schools provided full-time online teaching. When the schools were allowed to open for teaching, the teachers returned to class and provided face-to-face lessons, but continued to use online platforms to provide additional learning resources to students. According to teacher E13:

Like any other school, COVID-19 affected us, but I can say that we were fortunate not to completely stop teaching. We quickly moved to online teaching. Within the first week of complete shutdown, we were online [...] because we [were] already used to online learning.

At all five schools, online teaching was made possible by the fact that all the parents of the learners could afford to provide their children with online learning resources (such as tablets), and with an internet connection. According to teacher B2:

Prior to COVID-19, we promoted online learning and requested that parents buy tablets for their kids because they are less expensive than laptops. Several parents were very eager for tablets, [so] they said yes and went for it.

In the words of teacher C7:

At this school, [...] there are no parents who struggle. All our learners are equal. We are fortunate in the sense that our parents can buy tablets for the children. [...] I know that in underprivileged schools, some parents may not be able to provide their children with tablets.

All the interviewed teachers pointed out the importance of internet connectivity for the successful implementation of online learning. The teachers appreciated that their online access, when they were on school premises, was paid for by their schools, which allowed them to have unlimited research, interaction with students, content sharing, and online lessons during the COVID-19 lockdowns. In all the schools, the internet connection was made available through the Wi-Fi infrastructure. The teachers at three schools (B, D, and E) said that their schools provide them with unlimited internet access, for both work and personal use. For the teachers in schools A and C, internet access was limited to work purposes only. In the words of teacher D12:

We have Wi-Fi throughout the school. Each teacher has access to the internet in the classrooms, offices, school grounds, and even in the halls. I can say that the internet access is not limited here.

Teachers at all five schools noted the negative impact of erratic power supply on their internet connectivity and thus online teaching. In South Africa, during the pandemic, it was common for electricity outages to occur for at least two hours a day, due to “loadshedding” by Eskom, the electricity parastatal company (made necessary by insufficient generation capacity),² and due to the theft of electricity grid equipment, particularly copper cables. Teacher B4 stated as follows:

Loadshedding affects us. It makes teaching difficult. You cannot teach in a classroom without electricity. We need lights. It is even worse with online learning, when there is a power cut, our computer system is shut down, all the servers are down, and communication is broken. I can say that without electricity, all forms of teaching cannot take place here in this school.

Teacher E14 said:

If there is loadshedding, we cannot teach. [There is] no internet and students cannot connect to our servers even if they are in regions where there is power. [...] Sometimes we do not have power due to cable theft. I can say that we did not have electricity for three to four days in June/July [2020] due to cable theft.

² Eskom loadshedding was not linked to the pandemic. It began in 2007 and continues today in 2023.

The teachers from school A indicated that, to keep the school online in future situations where students cannot be present in classrooms, their school was in the process of acquiring an off-grid source of energy. The school had budgeted to purchase a fuel-powered generator or to instal solar panels. In the words of teacher A3:

We are budgeting for alternative sources of power. Yes, we have very limited funds, but we must continue teaching. [...] The issue of power affects our IT systems. Therefore, we are approaching this from the IT budget.

All five schools provided teachers with the Microsoft Office software suite, which enabled teachers to create content in the form of Word documents, PowerPoint slides, and Excel spreadsheets. For online teaching—via video conferencing, file-sharing, and discussion forums—the teachers primarily used MS Teams or Google Classroom. According to teacher A3:

We use MS Word, PowerPoint presentation, or any other application to create online content. We also use Microsoft Teams. In fact, you can access the other apps from Teams [...]. We are free to use any apps since the school policy does not indicate which apps we should use.

Teacher B6 said:

On Google Classroom, we provide additional worksheets. For instance, with the Grade 10s, we [upload] their novels and drama, and things like that. So, it makes the paperwork less.

It was found that MS Teams and Google Classroom were also used as assessment platforms in all five schools and were used to upload questions for homework and to create quizzes. Teacher E14 said:

For knowledge quizzes, we use Google Forms. I load some questions in Google Classroom for homework. Learners open a link to the quiz, do the multiple choice, and it is immediately graded.

Teacher D10 used the Kahoot application for assessments:

Kahoot helps us with assessing our kids through quizzes to find out if objectives for a lesson were met. The tool can also be used for many other things, such as surveys or revision questions.

Shared computer resources (SCR)

All five schools had resource centres equipped with computers that teachers could use for teaching. The computers in the resource centres were connected to the internet and loaded with all the software required for teaching. At three of the schools, B, D, and E, teachers had the option of being assigned an individual laptop for teaching, in their offices on school premises or at home (provided they covered the internet connectivity cost when working from home). In the words of teacher B5:

At this school, all teachers [can have] laptops to do their work. There [are] also desktops available for those who want to use them [...]. Some teachers prefer desktops, okay, which is obviously fine, but I would say maybe 80% or 90% have laptops issued by the school.

School D also made tablets available to teachers for work on-site or at home. As teacher D11 explained:

We have everything here. We have computers, mobile devices, laptops, and Wi-Fi is available to all teachers. [...] If an application is a mobile application and cannot run on desktops or laptops, teachers have tablets.

At schools A and C, the two schools where teachers did not have the option of being assigned a dedicated school laptop, the resource centres did not have sufficient laptops and PCs for all the teachers to work at the same time, which meant that teachers who did not own a laptop or PC would have to take turns using the school's devices. According to teacher A2:

There are a couple of computers/laptops in the resource centre for teachers, and if you plan to use one, then you book with the IT committee. [...] Teachers come to the resource centre to do their work, especially if they run out of data on their personal computers (broadband credit) and want to connect [to] the internet.

According to teacher C8:

We do not have a great computing infrastructure here to allocate to each teacher for online teaching. We do have some computers and a few laptops that have internet access in the resource centre. Teachers can research and teach there.

Bring your own device (BYOD)

At schools A and C, where teachers did not have access to dedicated school laptops, some teachers used their own laptops for work purposes at school and at home. At school C, the IT policy did not normally allow bring-your-own-device (BYOD) connectivity to its Wi-Fi network, but this policy provision was set aside during COVID-19. According to teacher C8:

Well, yes, teachers can bring their own devices if they can afford [them]. The school provides some computers [desktop PCs], but they are not enough for everyone. [...] During COVID-19, we made it easier for teachers by giving them access to the Wi-Fi to personal devices. However, for now, [there is] no access with personal devices because the policy does not allow that.

Summary of findings on infrastructural factors

The table below provides an overview of the findings with respect to infrastructure support in the five schools.

Table: Infrastructure support

School	Means of internet connectivity for teachers at school	Shared desktop PCs available to teachers (Y/N)	Dedicated laptops made available to teachers (Y/N)	BYOD internet connectivity permitted during pandemic (Y/N)	Work from home (on school or personal device) allowed (Y/N)
A	Wi-Fi	Y	N	Y	Y
B	Wi-Fi	Y	Y	Y	Y
C	Wi-Fi	Y	N	Y	Y
D	Wi-Fi	Y	Y	Y	Y
E	Wi-Fi	Y	Y	Y	Y

Human capital factors

Building on existing practices (BEP)

It was found that prior to the COVID-19 lockdown in 2020, the five schools had been using some online tools to provide additional learning resources to supplement face-to-face teaching. For example, teachers in all five schools had used online assessments and shared online resources such as videos and prescribed textbooks. Therefore, some of the skills for online teaching were already in place when the COVID-19 pandemic required a shift to fully online learning. According to teacher C7:

Our school has been online for some time. I have been sharing YouTube videos, PowerPoint slides, or any other additional resources, online. I have been posting past examination question papers.

In the words of teacher E13:

We have been using applications like ITSI,³ where we load textbooks to improve the convenience of access from anywhere and to reduce the number of books that learners carry. We also upload extra resources such as videos, reference links, and PowerPoint presentations on ITSI.

However, despite their previous use of some of the online learning tools, a clear majority of the respondents—10 of the 15 teachers across the five schools—stated that the sudden shift to fully online teaching was extremely difficult and stressful. They also said that their success in providing remote online teaching was due to the mentorship that they received from a few “tech-savvy” teachers who had adopted MS Teams earlier. According to teacher B4:

[Now, post-lockdown] we are moving forward with pushing the use of Microsoft Teams, but before that [only some] teachers had been doing it, all alone, in providing online classes. It was an individual thing, per subject, per teacher. [...] These are our most tech-savvy teachers.

In the words of one of such respondent who was comfortable using all of the online teaching resources even before the pandemic, teacher E15:

I am the Microsoft Teams team leader at this school. My role is to guide and give confidence to teachers. My observations were that some teachers were nervous when they were providing live classes in the early days of lockdown. With all the experience they have in teaching, they struggled to manage online classes.

³ See <https://itsieducation.com/>

Social influence (SI)

It was found that the aforementioned “tech-savvy” teachers tended to assume the role of technology champions and influencers in schools. These online teaching champions informally trained and helped other teachers to get started in providing online teaching. They helped other teachers with activities such as downloading software, configuring the software, and using all the necessary teaching features of the software. According to teacher C7, who was one of the technology champions among the interviewees:

[...] especially new teachers, if they come to you and say they are not sure about some teaching aspect, then you can guide them. For example, if a science teacher needs help uploading a YouTube video or slides to MS Teams, things like that.

Participants pointed to this element of volunteerism—volunteering to teach others, as evidence of an inherent culture of peer-to-peer knowledge sharing in schools, which became an important factor in ensuring successful online teaching during the COVID-19 lockdowns. According to teacher B6:

The school has a culture of knowledge sharing among teachers and they are very open to helping each other. [...] We learn a lot from each other, and it [was] very encouraging when teachers came together to share knowledge and experiences about the use of technology in online teaching at that time.

A teacher from school D indicated that most of the teachers at that school were inspired by a particular teacher who was outstanding in providing online learning. In the words of teacher D4:

Teacher Maria [name anonymised] does amazing things in the classroom. Did someone mention that to you? Maria did many different things [in] her virtual classroom. Her MS Teams class site has everything: content, references, video, class recordings, I would not be able to tell you everything.

Training (TR)

All the teachers interviewed said that their schools had a tradition of continuous professional development, including through online training. As described above, prior to COVID-19, all the interviewed teachers had received training in the use of online tools for teaching and learning. But it was found that the training received by teachers prior to COVID-19, even if it included the use of platforms such as Google Classroom, had not had a strong focus on live online teaching skills. It was only during the pandemic, as live remote online teaching and learning became essential

and thus gained momentum, that two of the schools, D and E, provided teachers with more intensive training on the provision of online teaching and learning.

At school D, the teachers received specialised virtual training, through MS Teams, during which time they learnt how to use several Microsoft 365 tools, including MS Teams for teaching. The school D teachers attended online training on game-based learning. As teacher D10 explained:

We attended online training on MS Teams, where we were taught how to use the Microsoft Office 365 tools for teaching in any subject, [and] how to create content using the tools, share resources, [provide] game-based learning, and have live lessons.

School E’s teachers underwent training through Microsoft Education courses. According to teacher E15:

We are using [the] Microsoft Education platform. It provides tutorials that teachers can do on their own pace. You just log on to the platform, pick a topic, and learn. This is the opportunity that the school gave us to learn and was helpful.

However, the teachers at schools A, B, and C said that their schools did not provide formal training in online teaching during the lockdown periods.

5. Discussion: Lessons learnt

Based on the findings presented above, the following lessons were identified:

Ensure a reliable power supply in support of internet connectivity

The findings revealed that online teaching in all the schools that participated in this study was challenged by intermittent internet connectivity resulting from erratic electrical power supply. Without electricity, the schools’ computer network systems, including internet access, shut down, thus bringing teachers’ provision of online teaching to a halt. To overcome this challenge, at least one of the schools in the study was found to be planning to invest in an alternative power source, such as a fuel-powered generator or solar panels.

Allow teacher internet connectivity on a BYOD basis

It was found that due to the urgency of providing online learning, teachers in two of the schools brought their own devices to school to alleviate the shortage of computing devices. Teachers did that because they believed in the value of mitigating the disruption of teaching caused by COVID-19. The two schools allowed the teachers to use their personal devices to access the school internet. Allowing internet connectivity on a BYOD basis can increase the uptake of online teaching.

Ensure practical and up-to-date teacher skills in online teaching

The findings demonstrated that schools should provide all teachers with training in, and practical exposure to, the use of live online teaching technologies. With the sudden move to live online teaching, some teachers were not ready because they did not have the necessary practical experience. Additionally, new online teaching technologies were introduced that the teachers had never used before. Most of the teachers surveyed were overwhelmed. This lesson aligns with a study that concluded that skills gained from face-to-face teaching are not adequate for online teaching (Paliwal & Singh, 2021).

Harness the power of peer-to-peer knowledge-sharing

The findings revealed that peer-to-peer knowledge-sharing was a critical element in the transition to online teaching in schools. The teachers who were already comfortable with the necessary technologies helped other teachers to get started with online teaching. This finding is aligned with Sims and Baker's (2021) finding that some teachers switching over to online teaching needed mentors for guidance and knowledge-sharing, and Plummer et al.'s (2021) finding that peer-to-peer collaboration amongst teachers facilitated successful online teaching. Additionally, unlike the findings of some other studies on online teaching (Gratz & Looney, 2020; Nurse-Clarke & Joseph, 2022), teacher resistance to online teaching was not among the elements identified by the respondents in this study.

6. Conclusions and potential limitations

A key practical implication of the lessons learnt is that if a school has any infrastructure or human capital development deficiencies that could prevent its teachers from providing high quality online teaching, these deficiencies must be addressed urgently. As new technologies are introduced to facilitate online teaching, teachers must receive the necessary training. The differences in the level of uptake in a school's corpus of teachers can then hopefully be compensated for by the social influence (via voluntary knowledge-sharing) that this study found was crucial to increasing the successful implementation of online teaching.

Among the potential limitations of the study was the small sample of five schools. I could have interviewed teachers at more schools, but I found that data saturation (sufficient data to answer my research question) was reached after 15 interviews at five schools. Another potential limitation was that I did not conduct direct observation of teachers who provided online teaching during COVID-19. Undoubtedly more insights could have been obtained from that kind of data. However, direct observation was not possible because of the risk of contracting COVID. Another potential limitation was the time lag between when the teachers provided online teaching and when I conducted the interviews, meaning that some teachers may have forgotten some important details from their teaching during the COVID-19 lockdowns, thus affecting the accuracy of the collected data.

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