Sustainable Broadcasting in Africa: Insights From Two South African Campus Radio Stations

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Abstract

University campus-based community radio stations (CRS) are widely acknowledged as vehicles for supporting grassroot social and economic development. Despite these stations' popularity, the emerging technologies they exploit to advance such development initiatives, including their exact impact on their economic and social sustainability, remains a grey area. The objectives of this study are two-fold. First, to establish the social media applications that university-based CRS in South Africa employ in fulfilling their broadcasting mandates. Second, to examine how the utilisation of these applications impact the economic/ financial and social sustainability of these stations and their listenership. Drawing insights from in-depth interviews with presenters, station and programme managers, the study found limited appropriation of WhatsApp, Facebook, Twitter, station websites, livestreams and podcasts for content

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programming and broadcasting. Furthermore, while it was unclear how social media livestreaming contributed to economic sustainability, its effects on social sustainability found expression in connecting advertisers to livestreams to support real-time advertising. The implications of these are discussed.

Keywords: *Campus Radio Stations, Management Organisation, Free State, South Africa, Sustainable Broadcasting*

Introduction

Since their creation as institutions employing broadcasting as a strategy to support grassroot development initiatives, Community Radio Stations (CRS) have attracted multiple definitions. For instance, South Africa's Broadcasting Act No. 4 of 1999 defines community radio as a broadcasting service fully regulated by a non-profit entity, which serves a particular community and strives to advance diverse community interests through members' participation in the selection and provision of programmes to be broadcast. Mhangama (2015) perceives it as broadcasting and information services undertaken to benefit local communities through their public participation. Overall, despite the diverse forms of community ownership (full donor or community ownership, joint ownership, management control and employee involvement) community radio has adopted over the years, CRS maintain distinctive characteristics of community participation, service and ownership, as well as their legal independence and not-for-profit orientation (Krüger, Monji & Smurthwaite, 2013).

The community development mandate remains at the heart of CRS in emerging economies. Firstly, CRS should be designed, owned and managed *by the community* rather than *for the community*, even though in reality some subtle variations exist in the three dimensions of ownership, control and management. Secondly, CRS are instrumental in generating

and broadcasting content in local languages and creating local employment by recruiting local presenters (Kantar Media, 2015). They also present a new media that has potential to transform the advertising industry for the benefit of local communities (Bachmann, Séverine Hunziker & Tanja Rüedy, 2019).

Despite the avowed developmental roles of CRS, the phenomenon of university campus-based CRS (those wholly or partially owned and sponsored by universities) and their economic and social sustainability, remain under-explored in literature. The need to explore the financial sustainability of these unique types of CRS is necessitated by their current dependence on parent organisations for their creation, strategic direction, guidance and funding (Mlungwana, 2017), which may threaten their long financial sustainability. The #fees-must-fall campaigns have further dwindled the financial base of South African universities, with serious implications for the funding for CRS, which has remained a perennial challenge. The recruitment of a transitory youthful student population as presenters and disk jockeys also presents a potential challenge for social sustainability as a student workforce does not guarantee stability and longevity of their staff complement.

However, the techno-savvy nature of the youthful student population (Ngcamu, 2019) from which university CRS draw their staff presents opportunities for the adoption of social media platforms, broadcasting technologies that might resonate well with CRS. The large student population on social media platforms, coupled with the popularity of instant messaging among resource-constrained communities (Manyozo, Nassanga & Lopes, 2012) such as university students, make social media broadcasting a desirable component of community radio. While South African radio stations are embracing social media platforms to engage with their youthful audiences, the limited penetration of broadband and smartphones puts access to social media broadcasting out of the reach of the majority of South Africans (National Association of Broadcasters, 2014). This low penetration of technology presents a challenge for the economic and social sustainability of CRS, which are compelled to broaden their listener base beyond their student communities.

Consistent with the potential of social media broadcasting to broaden the CRS listener base, coupled with the need to tackle the sustainability challenges precipitated by their financial dependence and recruitment of transitory staff, the current study addressed the following research objectives: establish the social media applications employed by two university-based CRS in South Africa in fulfilling their broadcasting

mandates (e.g. content development and broadcasting); and ascertain how the utilisation of these applications has impacted the economic/financial and social sustainability of these stations and their listenership.

Literature review

Social media broadcasting involves broadcasters' deployment of social media platforms, web-based technologies and applications for radio programming (e.g. their use for content production and management, as a source of information and news gathering) and distribution through audio media with new features e.g. web-only music channels, web-only video channels, blogs, polls and online comments (Corderio, 2012).

The growing body of literature on social media broadcasting has covered, inter alia, pirate radio's use of multiple web-based transmission strategies to receive content (Mabweazara, 2013), the use of Facebook to build online radio communities (Freeman, Klapczynski & Wood, 2012), the capacity of Twitter to set new online discourses (Bosch, 2017) and public radio discourses (Bonini & Sellas, 2014). Although such programming may take many forms depending on the broadcast content, target audience, and the station's situated contexts, Mofokeng (2018) contends that social media broadcasting comprises the use of social networking sites, livestreaming, podcasts and websites for broadcasting radio content and programmes.

Websites

Although a website can serve as a one-stop-shop for broadcasting content, such content may vary, depending on the type of CRS and the modular participation forms (whether partial participation, full participation, or controlled participation) that the station sanctions. For instance, Van De Bulck and Hermans (2011) point out that Flemish CRS' web presence cover a potpourri of content ranging from programme schedules, programme overviews and chart lists, to background information of radio personalities and DJs. The wide range of content available through such websites demonstrates that, although websites are vital virtual environments for the development of the brand image of stations and enhance their relationships with customers (Chudasri & Saksrisathaporn, 2017; Mofokeng, 2018), their transactive and interactive

capabilities remain limited due to their monologue approach (business-to-consumer).

Social Networking Sites

Social Networking Sites (SNS) are "a networked communication platform in which participants have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data" (Ellison & Boyd, 2013, p. 158). Since SNS tools provide users with interactive platforms to share information, thoughts and interests (Tufan, 2014), they render ideal opportunities to collaborate and transact in ideas, music, programmes and lifestyles in ways unimagined before. SNS are hailed in community broadcasting for their capacity to present alternative channels to audiences, bolster intimate relations between the community radio and audiences, and diversify corporate images and communications (Tufan, 2014). The use of digital broadcasting via social networking sites such as Facebook, Twitter and blogs has transformed the user experience as listeners and programme hosts can interact directly with each other and eliminate the constraints of changing frequencies of analogue transmitters by listeners (Kagiso Media, 2018).

The use of social media broadcasting also enables listeners and video watchers to browse the personal and professional histories of media personalities and presenters before they are on air, to build a rapport with them and a better understanding of their broadcasting styles and decorum, thus transforming the listeners and watchers' experience into a more participatory manner. Since social networking sites are founded on affinity-based networks and relationships, they constitute convivial spaces for sharing personal interests (e.g. those of music and programmes) as well as conduits for building trust and loyalty between community radio stations and their audience. The multi-modal communications comprising images, videos, text and mixed formations (Komito & Bates, 2009) also create opportunities for collapse of contexts between real (existing interactants) and imagined (potential interactants) audiences. Moreso, CRS outlets with large listenership have also improved their advertisement-based revenue-generating capacity through integrating their media personalities' Facebook and Twitter following with their programming and broadcasting strategies.

Twitter, a microblogging platform, is credited with enabling consumers to transmit, publish and share short messages with their

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followers (Bonini & Sellas, 2014). The immediate and transmission-based nature of radio communication has been integrated into what Bonini and Sellas (2014) conceive of as the fusion of blogging, instant messaging, SNS and the mobile nature of Twitter to provide flexible and real-time networked interactions and communication. In the South African context, characterised by high cost of data plans and hierarchical access to the Internet, social media platforms have served as an alternative channel of citizen activism and self-expression. For instance, Bosch (2017) articulates how Twitter, a space which is unregulated by the state, set the main news agenda and became the rallying point for youth engagement during the #RhodesMustFall campaigns.

Livestreaming

For Cordeiro (2012), live streaming involves online content development and provision of live audio transmissions which are accessible using various digital devices (e.g. personal computers, mobile phones and tablets) and networks (broadcasting radio content using web-based sharing tools). While live streaming is meant to create real-time broadcasting of content, local authorities' interference with such live broadcasts may disrupt the programming and undermine the credibility of the community radio, in ways that undermine their economic and institutional sustainability. The interference of local political heavyweights in the programme operation of community radio may not only threaten the independent live broadcasting programmes, but also endanger the institutional independence of these stations. Krüger, Monji and Smurthwaite (2013) expressed discontentment with provincial governments' practice of purchasing airplay for delivering live broadcasts of long speeches by prominent politicians, which subverts the institutional independence of these stations. In other instances, delays in airing programmes could lead to dead air, which borders on disrespect for the audience and community (Krüger et al., 2013).

Podcasts

Podcasts are audio files that can be downloaded onto a desktop computer, iPod or other portable media devices for playback later (Gray, 2017; Harris & Park, 2008). Literature presents podcasting as an amalgam of broadcasting and the flexibility of listener control (Croteau & Hoynes, 2011; Krüger, 2017) as listeners are not constrained by geographical and

temporal factors from downloading and listening to them. Although a large suite of web-based technologies (interactive websites, social media pages, audio and mobile streaming) were appropriated by some radio stations, downloadable podcasts are an infrequent phenomenon (Chiumbu & Ligaga, 2013). This somewhat contradicts popular claims made in the United States and Europe that because the youth (sometimes called 'digital natives' or 'net geners') do not own physical radio receivers, they often listen to their favourite programmes using streaming or podcasts (Freeman, 2011; Schuurman, Courtois & De Marez, 2011).

Dias (2017) highlights the conundrum of podcasting in the South African radio landscape that is dominated by unimaginative splicing-up features, news and prank calls that are put online. These mundane and uncreative strategies of generating content, in Dias' (2017) view, are counterproductive as they contradict the philosophy of the Semantic Web, founded on the principle of developing niche content for niche audiences, creating new participatory audiences and an opportunity for these to be heard. The South African community radio stations tend to merely reproduce content delivered live in podcasting, without any value-creating opportunities or seeking their audiences' contribution to such content. This contradicts the general trend in the broadcasting terrain, where podcasting is not a disparate encounter but is often integrated into interactive websites. For instance, in politically volatile regimes such as Zimbabwe, where state-sponsored mainstream radio news and music broadcasting tend to dominate, alternative transmission strategies of 'pirate' radio programmes have involved on-demand programming using podcasting, live audio streaming and interactive news websites that post latest news bulletins (Mabweazara, 2013).

Sustainability of Community Radio Stations

Fairbairn and Siemering (2006) define sustainability as the capacity of a radio station to maintain a good quality developmental broadcasting service over an extended period of time. While the most common forms of economic sustainability in business are financial viability and feasibility, in the broadcasting terrain, financial revenue is just one among several sustainability considerations which include capacity for democratic expression, extent of community ownership and participation. The most acknowledged aspects in CRS literature are social, economic and institutional sustainability. For Krüger, Monji and Smurthwaite (2013), social sustainability is hinged on community

mobilisation, moral support and a sense of ownership of the CRS in authentic ways through voluntary engagements, community participation in broadcasting activities, and in rendering constructive criticism. The CRS gain their place and meaning in communities by creating avenues for democratic self-expression, social commentary, meaningful participation in programme content selection, development and broadcasting (Krüger et al., 2013).

For example, pushed to the periphery by a combination of state-sponsored ideological control of radio, restrictive licensing regime and intolerance to alternative views (Moyo, 2013), stations such as SW Radio Africa and Studio 7, which are creations of Zimbabwean journalists and broadcasters in the diaspora, emerged to counter hegemonic discourses on the political and socio-economic situations in the country. However, the financial sustainability of CRS and their ability to pay staff salaries, produce programmes, purchase broadcasting equipment and manage operational expenses as well as pay transmission costs (Krüger *et al.*, 2013) remains a challenge. In this era of digitalisation of media broadcasting, where other funding opportunities may be opening up via technology platforms, and the management of CRS in South Africa may need to demonstrate strong entrepreneurial abilities by considering alternative funding sources such as crowdfunding and the prudent management of existing funds to curb the spiralling costs associated with keeping the radio stations in business. As Van De Bulck and Hermans (2011) highlighted in their investigation of Flemish CRS, the paucity of volunteers and financial support undermined their capacity to productively engage with their local communities. The reality is that well qualified and capacitated staff are often absorbed by well-resourced commercial radio stations, compelling CRS to depend on the expertise of under-qualified volunteers. Structurally, the heavily congested airwaves, coupled with the limited reach of Flemish radio legislation, served to threaten the long-term viability and ability of these radio stations to compete with the well-established national stations and other privately owned local stations (Van De Bulck & Hermans, 2018).

Methodology

A case study was conducted on two campus-based CRS located in Bloemfontein in the Free State province of South Africa. Case studies portray experiences of specific situations to secure a closer reality of participants' lived experiences and feelings about the situation (Cohen,

Manion & Morrison, 2007). This study documented detailed narratives of station managers, programme managers and presenters' experiences of social media broadcasting, their choice of social media tools, and to ascertain what informed these choices, including the implications of appropriating such technologies to improve the stations' economic and social sustainability. The descriptive case studies examined a phenomenon in its real-life context, combining objective and subjective data (Robson, 2002), to allow the situation to speak for itself rather than be predominantly interpreted by the researcher (Cohen, et al., 2007).

Participant selection

The cases (the two campus-based CRS, their personnel and broadcasting equipment) and their contexts (the university, radio audiences and communities) were fluid as mutual exchanges and interdependences persisted among them. The choice of two campus radio stations was informed by the main author's geographical proximity to both radio stations (i.e. Station A and Station B), which enabled access to participants. Moreover, these radio stations had listeners who spent over five hours per day listening to radio (Anon, 2016). Consistent with Ruddock's (2001) view that procedures of conducting qualitative research are flexible and situational, the study involved purposive sampling in which all staff with one or more years of participation in social media broadcasting at the two stations were considered. One year was considered a long enough period for participants to have acquired a detailed background knowledge of both social media broadcasting and sustainability model of these stations (see Table 1).

Data collection

Data collection involved the establishment of the case and unit of analysis (i.e. the individual participant), design of a semi-structured interview guide based on two research questions, interview preparation (i.e. order and schedule of interviews), securing permission and selection of participants, conduct of interviews and description of participants. Interviews with station managers and programme managers were secured and conducted first to develop a broad narrative of broadcasting terrain, social media broadcasting and station sustainability, interviews with presenters concentrated more on social media broadcasting and less on sustainability, as most of these frontline personnel were considered less

acquainted with sustainability models of these stations. Presenters were less involved in the formulation of broadcasting policy and funding models of stations. Each interview lasted between 45 minutes to an hour. Overall, the interviews with station managers, programme managers and presenters concentrated on broadcasting tools and technologies, broadcast shows and programmes, community served and sustainability of community broadcasting. These interviews were audio recorded using a digital audio recorder, transcribed verbatim and manually using Microsoft Word.

Table 1 : Research Participants

Station A			
Pseudonym	**Gender**	**Age**	**Position/ years of experience**
Participant #1	Male	31-40 years	Station Manager/ 10 years
Participant #3	Male	21-30 years	Programme Manager – 2 years
Participant #4	Female	21-30 years	Presenter/ 1 year
Participant #5	Male	21-30 years	Presenter/ 1 year
Station B			
Pseudonym	**Gender**	**Age**	**Position/ years of experience**
Participant #2	Female	31-40 years	Station & Programme Manager/ 11 years
Participant #6	Male	21-30 years	Presenter/ 3 years
Participant #7	Male	21-30 years	Presenter/ 2 years

Data analysis

Qualitative data analysis for this study involved an iterative process of intertwining data collection, analysis and reporting, there by integrating observations, data collection and reflection (Nieuwenhuis, 2016). First, the researchers read all transcripts independently to secure the general sense of messages communicated in each transcript. The first-order coding process involved associating the transcription data with the phenomenon under investigation: social media applications that campus-based CRS employed in fulfilling their broadcasting mandates and the impact of their utilisation on economic/financial and social sustainability of these stations and their listenership. This coding process also involved iterative movement between raw data and literature to make sense of emerging concepts and to further refine the coding scheme (Neeley & Dumas, 2016). Thereafter, data fragments from differing but related

codes developed during open coding were subsequently clustered together using categories (Strauss & Corbin, 1998). For instance, "articulating subaltern voices" and "employee-peer consultations" using social media platforms were clustered under the category "social media networking." This procedure enabled the researchers to group first-order codes into second-order provisional categories. Next, integrating first-order codes with second-order themes (i.e. categories) involved revisiting raw data (transcriptions) to ensure precision of second-order themes. Several meetings between the researchers were convened to refine second-order themes as they related to raw data and to create new themes based on new insights from data. The intention was to ensure first-order codes and second-order themes cohered with each other and sufficiently reflected the data. The finalisation of second-order themes was followed by an examination of their underlying theoretical dimensions to establish how these different themes related to each other and to their underlying broader social context (Neeley & Dumas, 2016). The examination of theoretical constructs in relation to second-order themes resulted in the aggregation of second-order themes into theoretical constructs (see Table 1). It allowed the researchers to establish how the second orders fit together, how they relate to literature, and align to raw data.

Findings

In this section a summary of key findings is presented. While Table 2 contains the raw transcription data and categories developed, Table 3 contains the researched radio stations and their corresponding presenter information. Table 4 highlights the demographic profiles of their respective audiences.

THEME	CATEGORIES	CODES	RAW TRANSCRIPT EXCERPTS
SOCIAL MEDIA BROADCASTING	*Social networking Sites (WhatsApp and Facebook)*	Articulating subaltern voices	They are more comfortable with sharing and voicing their problems in unique positions via social media rather than call in (Station B manager, 26/10/2016).
		Employee-peer consultations	Sometimes I just post in the WhatsApp group what we are going to discuss on the show and then we (presenters) give each other ideas on the content

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			(Presenter B, 06/03/2017).
	Influence of social networks on economic and social sustainability	Advertisers tracking comments trajectory	[…] advertisers are looking more towards response especially on social media. It is measurable, so it is better to sell your likes (Station A manager, 29/08/2016).
		Crowd sourcing ideas, content and comments	
		Audience labour politics	People are stingy about logging onto other social media [even though] you are able to get people's opinions very quickly via WhatsApp (Presenter C, 30/08/2016
	Live streaming	Scouting new recruits Career advancement	
	Influence of live streaming on economic and/ social sustainability	Accessing international audiences	
		Social presence Subdued participation	
	Websites	Promotional platform	
		Brand recognition	
	Influence of websites on economic and/ social sustainability	Indifferent audiences	
		Station stability	
	Podcasts	Immediacy of podcast communication	
		Technology integration	
		Cost of data plans and competing technologies	
		'Fast food' consumption	

*Please note that few transcripts excerpts are provided here for illustrative purposes and to avoid repetition.

Table 3 shows the presenters from Stations A and B who were interviewed about their programmes, the language in which they were broadcast, topics covered, number of presenters, and number of calls during a programme.

Table 3: Presenters from Station A & B (presenters only).

	Station A		Station B	
	Participant #4	Participant #5	Participant #6	Participant #7
Type of programmes	Entertainment	Entertainment	Lifestyle	Entertainment
Language of broadcast	English	English	English	SeSotho
Most covered topic in the programme	Entertainment	Entertainment	Self-development topics	Community-based topics
Number of presenters	1	1	1	1
Average number of call-ins during a typical programme	0-4	0-4	10-14	5-9

Source: Mafokeng (2018)

Station A and Station B were the two radio stations studied, operating in University West and University South (pseudonyms) main campuses, respectively. While the English language was the de facto language of communication of the campus-based stations, Afrikaans and Sesotho were also common broadcast languages. While Station A had 41-60 volunteers and Station B had 61-80 volunteers at the time of conducting this study, most volunteers did not have a year of experience in either community radio or social media broadcasting. Station A had 21,000-30, 000 listeners, whereas Station B boasted of 31, 000-40,000. Most listeners of both stations reside in Bloemfontein. The ages of both stations' listeners fall in the 16-26 years range, with Station A classifying their listeners as predominantly middle-class, whereas Station B's listeners are largely from the lower to middle class (see Table 4). According to the Council of Higher Education (2013), 55% of students in higher education are aged between 20 and 24, an observation on the demographics that coheres with the stations' listeners' age.

Table 4: Listener demographics

	Station A	**Station B**
Number of listeners	21 000-30 000	31 000-40 000
Location of majority of listeners	Bloemfontein	Bloemfontein
Age group of listeners	16-26 years old	16-26 years old
Socio-economic status of listeners	Middle class	Lower-middle class

According to the Radio Audience Measurement (RAM) for October 2018-March 2019, Station B had 19000 listeners, compared to Station A's listenership of 30,000 (The Broadcast Research Council of South Africa, 2019). When comparing these campus-based stations with their counterparts in the rest of the country, the number of their listeners resemble those of similar stations nationally. The campus-based station with the highest listenership is VUT FM, boasting of over 35,000 listeners. Other stations have between 1000 and 8000 listeners, making Station B the campus station with the second highest listenership in the country (The Broadcast Research Council of South Africa, 2019). In terms of broadcast content, three of the participants' responses to the question about the type of programmes they produce show that most programmes are entertainment shows, while one described his as a lifestyle programme (Table 3). The CRS' main mandate is to discuss issues that relate to the community they serve, even though only one presenter stated that most topics are community based. In addition, Station B's presenters (Participants #6 and #7) had more interaction via call-ins (about 10-14 and 5-9 per programme, respectively) with their listeners, whereas Station A's presenters (Participant #4 and #5) both stated that they received 0-4 calls during their programmes.

Social Networking

The information offered by the respondents suggests that, although there is a limited suite of social media applications that the two campus-based CRS employed for digital programming and broadcasting, the most popular applications are social networking sites, especially WhatsApp, Facebook and Twitter, station websites and live streaming, while podcasts are least exploited. Perhaps, the proliferation of social networking sites in the contemporary society, their ubiquity among youth, including the prevalence of youth volunteers whose broadcasting

programmes appeal to youthful university community explain the desirability of SNS. From the data analysis, the social networking category had two codes namely, the articulation of subaltern voices and employee-peer consultations, which are discussed in subsequent sections.

Subaltern voices. Participants identified social networking applications as the main conduits for radio audiences' expression of alternative views to stations' narratives. Perhaps the prevalence of the Internet generation (Sackmann, 2013) with an insatiable desire for the Internet explains the preference for posting comments as a way of articulating personal voices rather than utilising the feedback facilities of traditional media, such as calling in. Both station managers concurred that SNS presented an alternative platform for articulating muted and marginalised voices on other platforms:

> *Many times, people that post will not call in. They are more comfortable with sharing and voicing their opinions and problems via social media rather than call-in (Station B Manager, 26/10/2016).*

> *SNS give listeners a voice, especially with WhatsApp where people can send voice notes immediately* (Station A Manager, 29/08/2016).

The appropriation of SNS demonstrates the migration of broadcasting practices to the web, accentuated by the advent of emerging technologies and the waning of traditional modes of communication. Perhaps the prevalence of inexpensive, easy-to-use technologies, coupled with the prohibitive cost of calls and pay-as-you-go data plans make social networking applications cheaper alternatives. Moreover, the increasing digital convergence of communication modes (voice, video and graphics) with predominantly text-based communication (WhatsApp, Facebook) make social media desirable as they reduce the labour politics of typing and are in sync with social practices of natural conversations. Furthermore, since the radio is audio-dependent, voice notes cohere with this predominantly voice-and-talk mode, hence providing continuity and reproducing offline interactions in on-air spaces.

Employee-peer consultations. When asked about the extent to which organisational behaviours were facilitated or disrupted by using social media technologies, CRS presenters recounted the assistance their colleagues rendered via these platforms:

Sometimes I post in the WhatsApp group what we will discuss on the show and then we give each other ideas on the content (Presenter B, 06/03/2017).

If I am doing something wrong on my programme, other presenters will assist me by posting in the WhatsApp group (Presenter A, 30/08/2016).

These narratives suggest that social media provides a platform for articulating anticipated issues, a basis for reflection and rectifying programming errors after broadcasts. Without specification of the nature of the WhatsApp group (i.e. whether created for presenters only or open group inclusive of audiences), it could be argued that the social media platform served as a training ground for novice presenters. If the WhatsApp group were a public forum, then it presented the risk of exposing presenters to criticism from listeners. WhatsApp group also supported peer-based communication and top-down communications:

You get informed [by peers and management] quickly (Presenter B, 06/03/2017).

It helps if I am sounding flat or the show is not sounding well (Presenter A, 30/08/2016).

The sharing of information by co-workers and provision of instant feedback on programme delivery and quality by community audiences demonstrates that social media platforms reflected a community of practice where mutual exchanges persisted between participants. However, there was no compelling evidence of any innovative and creative application of the WhatsApp group beyond information sharing and creating a networked learning community.

Influence of social networks on sustainability. The study also explored the effects of social media broadcasting on the economic and social sustainability of radio stations. To determine how social media broadcasting advanced or disrupted the social sustainability of CRS, the researchers inquired about the usefulness of such broadcasting to the organisation including its impact on community engagement with issues and development of shared values with communities. The responses were circumstantial:

It depends on what is being spoken about that day. Sometimes you have good content that people can relate to and sometimes you have good content but its not relatable to people (Presenter C, 30/08/2016).

Social media broadcasting is very helpful. We have done all we can by putting Facebook, Twitter and WhatsApp out there. It depends on whether listeners are willing to comment on our topics (Presenter A, 30/08/2016).

The audience's familiarity with content discussed and their enthusiasm to comment on programmes tend to affect the quality of engagement and depth of participation. It can be inferred that both stations have adopted an instrumentalist approach to social media adoption, where the success of programming and vibrancy of feedback received are tied to technological capabilities, including broadcast programme content on social media and the audience's acquaintance with the content broadcast. It appears both stations lack an effective strategy for increasing social sustainability through promoting audience participation and ownership of programmes through social commentary, likes and downloads of content.

Advertisers' tracking of comments trajectory. Despite the symmetry of social participation among audiences, advertisers' approval seemed to dictate the advancement of economic sustainability of stations:

Nowadays, advertisers are looking towards responses especially on social media. It is measurable and you can sell your likes (Station A Manager, 29/08/2016).

Although infographics and social metrics such as likes, hits and downloads are signs of user interactions with the social web interfaces pointing to their popularity, listeners were not always amused by posting content on websites, as subsequent sections demonstrate.

Audience labour politics. While participants agreed on social media's reflective capabilities, their capacity to increase audiences' sense of ownership of CRS and their enablement of sentiment extraction, some presenters were concerned about audiences' reluctance to post comments and messages:

While WhatsApp is effective, people are stingy about logging onto other social media. You can get people's opinions quickly via WhatsApp (Presenter C, 30/08/2016).

SNS allow listeners to connect and reflect on topics we post, allowing them to feel like a part of the station (Presenter B, 06/03/2017).

The sentiments above are indicative of the reality that, despite the popularised desirability (e.g. convenience and tweak speed of communication) of social media platforms in broadcasting, variations in use persist for various reasons. For instance, the reluctance to post can be a consequence of the excessive labour of posting, possible feelings that stations are exploiting user-generated content for revenue generation, and the perceptions that participation is just an example of procrastination.

Live streaming

The development and provision of live audio transmissions is often credited with reducing physical borders that constrain access to content in real time. Unlike podcasts, which are pre-recorded audio files, allow users to record content and listen to it later, livestreaming tends to be popular as it is in sync with and captures the ephemerality of breaking news. Live streaming was considered to augment scouting opportunities that could leverage the upward mobility of new professionals such as new presenters. Novice broadcasters from CRS conceived their stations as training grounds for transitioning to mainstream radio, and livestreaming is the prime vehicle for gaining a foothold to later proceed to established commercial radio stations. The presenter from Station A contended,

> *I feel there might be somebody listening, who might take an interest in me. Moreover, that person might give me the platform to do or further my career* (Presenter C, 30/08/2016).

Although station managers concurred that livestreaming enabled commercial radio's scouting of young talent, they conceived it as a branding strategy that increased the exposure of the radio station to international audiences, as Station B's station manager acknowledges:

> *We have a live stream, which makes the station accessible to an international audience. At times, it's good for exposure, there shall come a time when some of my presenters get scouted via that* (Station B Manager, 26/10/2016).

Although the motivations for live streaming varied from station managers to presenters, some of the (un)intended consequences may be similar for these radio personalities. Although no hard data exist to

support it, it was inferred that quality programming could have the unforeseen spillover effect of increasing station productivity as young presenters emulate the broadcasting repertoires and practices of head-hunted peers. However, regarding the influence of live streaming on the stations' sustainability, CRS management cannot provide any compelling evidence to suggest that live streaming positively impacted on the economic sustainability of their stations, even though scant evidence of social sustainability was reported on.

Social presence and subdued participation. Since stations pay to livestream news, features and music on websites, the study also queried whether CRS accrued any sustainability benefits from this service. The station managers highlighted that the main benefit of live streaming was that:

> *Advertising agencies can listen and hear if their ads are playing and get a feel for the station (Station A Manager, 29/08/2016).*

> *It is useful just for listening but not necessarily for participation (Station B Manager, 26/10/2016).*

Although no direct financial benefit was highlighted, social sustainability found expression in advertising agencies' social presence on these stations even though no unique form of meaningful participation was reported. However, the managers lacked faith in increased station exposure translating into sustainable revenue generating streams. This demonstrates a minimalist approach to livestreaming as a revenue-generating model.

Websites

Under the "websites" category, "promotional platform" and "brand recognition" emerged as the main codes as websites were mainly used for these purposes. We postulated that with the ubiquity of the Internet, coupled with prevalence of the youthful population on these sites, CRS would have perennial digital presence on the web to persistently connect with their listeners. Even though no station staff attested to their station's use of websites, employees believed that using websites can foster a productive promotional platform for them:

> *The website would promote me as a presenter by allowing people to see who I am and not just listen to the voice (Presenter C, 30/08/2016).*

First, it can promote the station before me, and then when people know us, through personal profiles, and they can put their money on us (Presenter B, 06/03/2017).

Despite the polarity of views regarding who is leveraged through use of websites, websites were a vital force for personal and organisational promotion, judging from presenter B and C. Website contents were perceived to be essential for building brand image of the presenter:

*It would allow people to familiarise with my brand image through a website, so it would help me (*Presenter C, 30/08/2016).

Website contents do not only give a digital footprint to a station but conjure a conceptual image of a station that leaves an indelible imprint on the audiences' mind. Therefore, brand memory, brand recognition and signification constitute possible outcomes of website content. In terms of the influence of websites on station sustainability, two codes emerged from this category, namely, indifferent audiences and station visibility. When the station managers highlighted their non-use of websites, we asked if they think having a website would influence their stations' financial stability. The managers said:

Not a lot. Our audience does not go to websites (Station A manager, 29/08/2016).

In relation to possible use of websites to prop station visibility, one station manager emphasised the importance of station visibility in generating funding opportunities:

If you apply for funding, funders may conduct a google search to research the station, and they often end up on the website. It will help (Station B manager, 26/10/2016).

While the manager of Station A conceived no financial benefits to accrue from the station's use of websites, the manager of Station B believed that a website could authenticate the existence of the station to potential funders. This view coheres with McEvoy's (2016) perception that websites give organisations credibility and make them easier to discover. Therefore, funders' discovery of a station's website would give them an idea of the station's business without having to contact the station for profile information.

Podcasts

Besides the benefit of time shifting, this service enables listeners to listen to programmes at their own convenience. Despite the immediacy of podcast communication, both stations did not have a podcast service. When asked why their stations did not use podcasts, station managers noted that:

> *The university must approve the podcast content because it must be posted on its site. I must send it to the Dean, Student Affairs, Director of Communication and then Brand Management. Upon approval, Computer Services uploads it. Because podcasts are immediate, you can't upload them two weeks after, you have maybe 2 hours before they become irrelevant* (Station A manager, 29/08/2016).

Regarding technology integration, technology access was emphasised:

> *As for podcasts, the website covers that. It is easier to have a podcast service that is accessible via the website* (Station B manager 26/10/2016).

While university bureaucracy was cited as limitation constraining the use of podcasts, the fact that podcasts are created for listeners to listen at their own time (Krüger, 2017) contracts claims about immediacy of podcast communication. Regarding the influence of podcasts on the sustainability of CRS, the cost of data plans, availability of competing technologies and 'fast food' consumption of news, were cited as barriers of their use. Even though neither stations had a podcast service, the researchers sought to establish station managers' perceptions on the need for such service for their listenership, to establish its relevance for their stations. The responses indicated that easy data availability influenced this choice:

> *Podcasting is an effective tool in environments where data is cheap but not in community radio. If we interview Cassper Nyovest and we podcast it, and simultaneously video record the interview and post it on Facebook, who will listen to the podcast?* (Station A manager, 29/08/2016).

Just like fast food is consumed unconsciously, the listeners preferred to listen to podcasts serendipitously:

> *Podcasts make it easier for listeners to download and get what they want. They would help and make it easy for listeners. There are many instances where listeners*

wanted some recordings and we could not give them (Station B manager 26/10/2016).

Discussion

The study sought to address two questions that relate to the popular suites of social media applications employed by two campus-based CRS, especially how they are employed for programming and broadcasting, and how such appropriation of social media broadcasting affects the economic and social sustainability of these stations. While literature makes sweeping claims about the popularisation in radio of social media sites (Facebook, Twitter), videocasts, wikis and multi-media sharing spaces, weblogs, photoblogs and podcasts (Corderio, 2012), evidence from this study suggests that these technologies are either under-utilised or not employed at all.

The architecture of technology adoption was concentrated on cosmetic deployment of WhatsApp, Facebook, Twitter, station websites, livestreaming, and podcasting. Therefore, the claims about disruptive innovation arising from cloud computing and radio's aggregation of multi-media and user-generated content and availing it online (Rajkumar, Broberg & Goscinski, 2011) were not supported by findings from our study. The esoteric application of social media reported in this study seems to contradict claims about the capacity of social media broadcasting to enrich users' experiences by increasing audience participation and listener engagement through grasping their expectations from the media (Shaw, 2010). However, if user experiences are assessed not from the perspective of diversified programming using an assortment of technologies but rather on how these technologies are exploited, then a different picture of emerging creative uses of such media emerges.

With reference to how social media technologies were employed for programming and broadcasting in the two CSR stations studied here, the results suggest that Facebook and WhatsApp were main conduits for audiences' expression of their views on broadcasting matters, while employees used WhatsApp for brainstorming programme and broadcasting ideas. Listeners' harnessing of these platforms to voice their challenges echoes Chiumbu and Ligaga's (2013) view that social media broadcasting contributes to developing new participatory cultures in contemporary radio. Such dialogic exchanges on programming and broadcasting demonstrate social media broadcasting's capacity to provide

a relevant infrastructure for user-peer engagements facilitating many-to-many communications (Pleil & Zerfass, 2007) and content sharing.

Social media broadcasting, therefore, provided safe "sandpit spaces" (Ng'ambi, 2018) for novice broadcasters to learn by doing using available technologies. However, there was no compelling evidence to demonstrate multimodal and rhizomatic uses of social media broadcasting as claimed by literature, as Bosch (2010) alludes to the unparalleled capacity of digital broadcasting to support nonlinear modes of broadcasting. These include subscription to RSS news feeds, receiving updates, broadcasting of text versions of stories heard on radio, or broadcasting multimedia versions of stories. The reported practices of the sampled stations and their audiences did not advance to such engagement.

Although radio stations' management held instrumentalist views on social media broadcasting's capacity to shape the economic and social sustainability of CRS, they acknowledged that advertisers could track stations' websites traffic as a basis for authenticating organisations before disbursing funding. This resonates with Mabweazara's (2013) argument that new technologies are rendering, through visits and social commentary, some new avenues for audiences' direct engagement with radio programming in ways that increase their social sustainability. The reality, however, is that despite the highlighted potentialities of social media to increase crowd funding from advertisers, there was no evidence to suggest that these affordances were exploited by the two CRS examined in this study. Perhaps the complexities of reconciling the tensions between technology push and meeting local development needs (Conradie, Morris, & Jacobs, 2003), the two stations' poor technology infrastructure coupled with the predominance of traditional communication patterns that can hinder effective ICT initiatives (Megwa, 2007), combine to explain this underutilisation of social media.

Station staff's main narrative was that livestreaming was instrumental in scouting the raw talent of new recruits, increasing their social mobility into established well-resourced commercial stations and increasing the station access to international audiences. These findings on livestreaming are inconsistent with Moyo's (2013) observation that the emancipatory potential of digital media technologies on radio is exaggerated because it overlooks the unequal power relations between actors. Giving these new recruits a new professional lifeline into commercial radio somewhat constitutes a subversion of the asymmetrical relations between station managers and employees. Despite the lack of clarity among participants

on the effect of livestreaming on economic sustainability, its effects on social sustainability found expression in the social presence of advertisers on livestreams to determine if their adverts were played on radio stations. Maintaining social presence is an essential but inadequate condition for social sustainability and therefore, claims that the Internet is democratising cultural citizenship through the convergence of geographically remote communities (Moyo, 2013; Nassanga, Manyozo & Lopes, 2013) need substantiation. For the two sampled stations, advertisers' fleeting presence on livestreams does not constitute solid expressions of civic engagement that triggers long term sustainability of CRS.

Although the station websites were conceived as promotional platforms, the agent of the promotion ranged from the individual presenter to the station itself. While presenters are purveyed as intermediaries between the media and the communities (Mansell, 2009), in the context of this study a double-bound reciprocal relationship persisted between technology, presenters and the organisation as they interfaced with communities. When the websites were used for organisational branding, they elevated the organisation above individual presenters. Similarly, presenters employed their personal profiles on organisational websites for self-projection in ways that made the organisation less visible. If technology is conceived as a social structure, then consistent with Giddens' (1981) theorisation, one could argue that such a structure could be a medium through which a radio presenter's agency could be enacted.

Overall, both radio stations' competitive strategy seemed to shape the degree to which websites were considered as instrumental in guaranteeing the sustainability of these CRS. While one radio station manager conceived websites as impotent technology as audiences were reluctant to participate on them, another manager perceived them as "hunting grounds" for advertisers seeking to invest in radio stations. Audiences' complacency to engage via websites mirror their reluctance to engage in what Fuchs' (2009) calls 'Internet gift commodity strategy', where the audiences are unrewarded for their hard labour of completing web pages of commercial media. However, there was no evidence to demonstrate that the station that articulated the possibilities of marketers using web traffic was exploiting this route, since the research did not include a marketing analysis. While one station manager complained about the bureaucracy that overshadowed the benefits of podcasts, the other manager intended to integrate them into his station's website.

Therefore, media practice as reflected by the participants is an inherently ideological process rooted in power relations between the two CRS and their respective custodian universities, for which the former is always accountable to the latter. Therefore, these radio stations may be conceived as accoutrements of their parent university, sometimes as their appendages whose "epistemological freedom" (Moyo & Mutsvairo, 2018) cannot be disentangled from their master. Since both stations did not have podcasting services, all perceptions about the effectiveness of such technology in advancing station sustainability would be mere speculations.

Conclusions and Implications

This study investigated the social media applications employed by two campus-based CRS, how these applications were harnessed for programming and broadcasting and the impact of social media broadcasting on the economic and social sustainability of these stations. Our findings demonstrated that websites, social networking sites and livestreaming were the commonly exploited emerging technologies for programming and broadcasting. Although these technologies were exploited for presenter-peer brainstorming of programme content, for reviewing presenter performance after presenting programmes, crowdsourcing, comments and critique of the stations' programmes, for developing the personal image of individual presenters, institutional branding, and soliciting the attention of advertisers, these technologies were neither seamlessly integrated into the programming nor into broadcasting. There was esoteric evidence on the capacity of CRS to marshal social media broadcasting to accentuate their economic sustainability (e.g. seeking funding opportunities), even though increasing social presence and active participation were common expressions of leveraging the social sustainability of these stations.

It is recommended that station managers develop long-range sustainability models that exploit the discursive, interactive and deliberative affordances of social media technologies, rather than reacting disproportionately to the trends already evident in the broadcasting terrain. Moreover, station managers may need to choose between differentiation or diversification of services founded on their exploitation of social media technologies. Research on audiences' programme interests, desires and challenges could provide insights into whether to specialise in premier services unique to their communities' context and

circumstances, or to diversify by borrowing on some services already availed by national and commercial radio, or both.

Station managers' exploitation of an *emporium model* (based on selecting preferred technologies and leaving out others) to technology adoption seemed to be ineffective for station sustainability, judging from the reality that none of them claimed to have generated substantial income from the application of these technologies. Therefore, instead of steeping in the comfort zones of familiar technologies (e.g. Websites and social media), station managers should explore new methods of crowdfunding that tap into other technologies, over and above those they are already familiar with. Moreover, managerial training in revenue generation models that draw on emerging technologies is fundamental to the long-term financial sustainability of these stations. Perhaps, the *freemium model*, where certain programming and broadcasting services are availed free of charge while superior services are charged for a market fee, would increase the economic sustainability of these stations. Since the vibrancy of audience voices during social media broadcasts were often tied to audiences' acquaintances with issues and features discussed, market research is critical to presenters and DJs' social sustenance of the sampled CRS. A bottom up 'usability' approach to programmes and features founded on in-depth audience research covering their resource strength, community concerns, fragilities and possibilities would increase audiences' buy-in to programmes and potentially improve their keenness to contribute content to the station websites. Such research would also enable stations to develop content and broadcast in modes most appealing to their audiences.

Although station managers were acutely aware of the possible benefits of advertisers' assessment and tracking of their website and social media content, none of them seemed to have a solid grasp of tapping into such a market. Sufficient training in infographics, social metrics (e.g. identifying trending topics on social media) and ascertaining the market value of audience's use of social objects (likes, dislikes, gifts, comments) could increase managers' ability to crowd fund their programmes, broadcasts and ideas. Since the two stations' websites were already exploited for building presenters' image and for organisational branding, station managers should tap into this technology to develop a strong succession planning strategy and to build a sustainable amateur development pipeline. A continual supply of such novice broadcasters would be critical in succession planning as they would eventually replace the more experienced presenters that exit CRS for commercial radio in

search of more rewarding employment. This would increase the social sustainability of CRS through improved quality of broadcasting as amateurs mature in their presentation and broadcasting craft. The stations' inability to use podcasts, despite its capabilities, was considered as a missed opportunity for increasing listenership of CRS. Perhaps, running hourly bulletins, broadcasting recorded interviews and reality shows on podcasts would increase the listenership of radio stations. The increasing convergence of community radio with commercial broadcasting could thus not only bridge the gap between their programmes, but would attract listeners and viewers to their stations.

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