Research Application Summary

Social media as platforms for improving visibility of research outputs in Africa

[1]Apio, E. J., [1]Mkandawire, S. C. & [2]Dhlamini, N.
[1]Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), P.O. Box 16811, Wandegeya, Kampala, Uganda
[2]Association of African Universities (AAU), P. O. Box AN 5744, Accra-North, Ghana
Corresponding Author: j.apio@ruforum.org

Abstract

The global knowledge economy has broadened in the 21st century and has created a push for demand to process and share information in light of this, there is increasing expectation from stakeholders in higher eduation necessitating universities to incorporate information processing and dissemination in their training curricula. Universities in sub-Saharan Africa ought to adapt and innovate to achieve amiable transformation in their processes that strengthen the utilisation of social media platforms as vehicles that increase the visibility, accessibility and utilisation of their research outputs in policy and development discourse. Selected events of the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) at which social media platforms were used constituted a case study on the use of social media platforms for improving visibility of university-based research outputs. The analysis indicated increasing interest by the academic staff and development partners in use of social media due to the perceived and potential multiplier effect in sharing their research outputs. Increased demand to train academic staff and students from within the Network of member universities in the use of Social Media for publishing, Networking and collaboration is expected. The use of social media platforms is a cost effective way for disseminating research and innovations whilst taking advantage of increased internet access and connectivity by researchers linking them directly with their target audiences.

Keywords: Development, innovation, policy, researchers, universities, RUFORUM, social media

Résumé

L'économie globale du savoir s'est étendue au 21ème siècle et a stimulé la demande pour le traitement et partage de l'information; à la lumière de ceci, les acteurs au niveau de l'enseignement supérieur attendent plus des universités qu'elles prennent en compte le traitement et la diffusion de l'information dans leurs programmes de formation. Les universités d'Afrique au sud du sahara doivent s'adapter et innover pour réaliser une transformation sociale à travers des processus renforçant l'utilisation des plateformes sociales comme véhicules améliorant la visibilité, l'accessibilité et l'utilisation des travaux de recherche dans les discours politiques et de développement. Des événements organisés par le Forum Régional des Universités pour le renforcement des capacités en agriculture (RUFORUM) ont été sélectionnés pour constituer une étude de cas sur l'utilisation des plateformes de médias sociaux pour augmenter la visibilité des résultats de la recherche

universitaire. L'analyse a révélé un intérêt grandissant de la part du personnel académique et des partenaires au développement dans l'utilisation des médias du fait de l'effet multiplicateur perçu et potentiel du partage des résultats de leurs recherches. Il est espéré une demande accrue pour former le personnel académique et les étudiants du réseau des universités membres dans l'utilisation des médias pour la publication, le réseautage et la collaboration. L'usage de ces plateformes est un moyen rentable de diffuser la recherche et les innovations tout en bénéficiant de l'accès accru à internet et de la connectivité par des chercheurs les liant directement à leur audience.

Mots-clés: Développement, innovation, politique, chercheurs, universités, RUFORUM, médias sociaux

Introduction

Globally, universities are seen as key institutions in processes of political, social, economic and cultural transformation due to their legitimized credentials in the knowledge development and co-creation (Brennan *et al.*, 2004). Besides their explicit recognized role of training and capacity building, universities are greatly contributing to knowledge production through generating various research outputs which influence the development trajectories of various countries. All countries that have significantly developed and those currently emerging such as the Brazil, Russia, India, China and South Africa (BRICS) have significantly high research outputs demonstrating that research and its constituent outputs are important drivers in the economic development landscape (SciDev, 2016).

Research outputs are results from investigation undertaken in order to contribute to knowledge and understanding and, in the case of some disciplines, cultural innovation or aesthetic refinement (University of Auckland, 2015). Research outputs can be packaged for dissemination in different forms, depending on audience, and take on any form including: journal articles, conference contributions, chapters, reports, theses and dissertations, books, edited volumes, arts performances, artefacts, patents, exhibitions, scholarly editions, software, composition, internet publications, design, confidential research outputs, patents and products, and others (oral presentations, government submissions, newspaper articles, clinical guidelines and others). This assortment of packaging research outputs is critical to the global flow of data and information and now defines the emerging knowledge economy (Medical Research Council, 2012). Further, worldwide economies are experiencing a rapid integration being facilitated by faster and easier access to information communication technologies with an increased pressure on universities to constantly share their research outputs widely and in an efficient manner.

Universities in Africa have increased their research and innovation outputs in the last decade in response to challenges faced by communities and stakeholders but these research outputs and innovations are rarely well disseminated leading to their limited application and use during political, social and economic development discourse (AleEbrahim, 2015). In addition, the manner with which they are often shared, limits their ease of use, as they are mainly written from a technical perspectives resulting in limited penetration to various

audiences that the outputs and innovations could be applicable to. Due to this dilemma, African Universities are challenged with how to innovatively package and share their research to address local development needs whilst seeking global research recognition. In this regard, social media platforms are viewed as viable and cost- effective options for disseminating research information to diverse and targeted audiences (Reuben, 2008).

Social media application of web based and mobile technologies such as Blogs, YouTube, Twitter and Facebook, among others, provides a facilitative function including connecting, participation, collaboration and Networking through the web. The power of social media in escalating dissemination of research, regional and global levels is immense. For example, (Randviir *et al.,* 2015) showed that researchers can utilise social media to profile their research, engage with policy and in development discourse. As reported by Randviir *et al.* (2015), at one poster viewing session, over 1700 tweets were sent reaching 380,000 people. The session had 85 posters and this applies that on average, every poster potentially received in excess of 4500 views from several areas across the world which would not have been the case for traditional poster viewing sessions. This is because social media allows the researchers and universities to pull reader traffic to their research.

The impressive reach to target audiences has prompted stakeholders to engage universities is sub-Saharan Africa to drastically shift the manner with which they profile their research outputs taking advantage of the existing major and leading social media platforms that are accessible to diverse audiences so as to maximize the benefits of global reach. African universities thus have great opportunity to adopt social media and increase their online presence, contribute to global discussions and disseminate their research and innovations and attract investments into their research processes and technologies. This paper presents a case of the use of social media platforms by presenting the evidence of potential value of social media. It also presents RUFORUM's contribution in facilitating the visibility of research outputs and it offers underpinning suggestions for universities in sub-Saharan Africa to take action.

Methodology

The case study entailed RUFORUM engagements events (Table 1) that used social media as a platform for universities to demonstrate their research contribution globally. Information and data on these engagements was secured from sources that included conference reports, training reports and publications. In addition to this, participants' observations from social media trainings and meetings were used. The status of adoption, social media use in promoting researcch as well as key partnerss to RUFORUM in the online campaigns was assessment based on the source refered to above as well as other available literature.

Status of social media adoption by researchers. Social media for researchers and academia presents opportunities for linking with research Networks, peer review processes, research and publications dissemination. However, Fitzgerald and Radmanesh (2014) reported low social media adoption and engagement by researchers and academia despite the potential benefits of Social Media engagement such as increased visibility of research outputs from African universities. Based on this case less than 3% of scientists at all the three engagements were active on Twitter platforms.

Table 1. Data sources from various RUFORUM online campaigns

Category of data	Description	Event
Social Media Training Report on #RUFORUM@10	RUFORUM 4th Biennial Conference from 21 to 25, 2014. Maputo Mozambique. 501 posts shared reaching 45,283 people Globally	RUFORUM Biennial, 2010
Social Media Report on #RUFORUM2020	Discussions on RUFORUM's Business Plan 2010 in Stellenbosch, South Africa from 13 to 17 April, 2015. 486 posts reaching 70,828 people Globally.	RUFORUM Strategic Business Plan Meeting
Social Media Report on #STISA2024	Ministerial Meeting on Science, Technology and Innovation Strategy for Africa 2024 (STISA 2024)	Meeting of Ministers discuss the Science, Technology and Innovation Strategy for Africa 2024 (STISA 2024) in Lilongwe, Malawi from 19 to 23 October, 2015. 1,243 posts shared reaching 94,599
Social media report on # #AfricaHEWeek 2016	RUFORUM 5th Biennial Conference from 17-21 October 2016, Cape Town South Africa 6,946 posts shared reaching 6,707,865 people globally	RUFORUM Biennial, 2016

Source: Complied by author based on www.ruforum.org

This is consistent with Fitzgerald and Radmanesh (2014) observations. Similarly, earlier assessments revealed that of the 1.4 million scholarly articles published between 2010 and 2012, only 10% of the articles were tweeted at least once (Fitzgerald and Radmanesh, 2015). In a research involving 23 South African public universities, Struwig and vanden Berg (2016) reported that 91% of the universities had no formal social media policies to guide the use of these new tools by academic and administrative staff. A survey conducted by the Association of African Universities in November 2015 revealed that 21 of its member universities from 9 African countries did not have social media strategies and policies.

According to a 2016 survey on the use of social media by RUFORUM member universities, 43 out of 55 (78.2%) of RUFORUM member universities use twitter and 52 out of 55 (98%) use Facebook as part of their dissemination / publicity strategies for dissemination of research outputs. South Africa takes lead with University of Pretoria at 138,000 followers, followed by Stellenbosch University at 30,000 followers, Kenya with Kenyatta University at 16,900 followers, University of Nairobi with 16,800 and Uganda with Makerere University at 12,500 (Table 2). Six RUFORUM member universities from South Africa were found to be leading higher education inistitutions in using social media for research (Onyancha, 2015).

It is particularly important for researchers to use social media as soon as their publiications are issued. This is supported by evidence that indicated that tweets containing a link to an article, or "tweetations" have been shown to predict highly cited articles within the first three days after publication according to Fitzgerald and Radmanesh (2014). Randomly selected articles that were disseminated via social media (Twitter, Facebook, LinkedIn)

were viewed and downloaded more frequently than unselected papers. AleEbrahim (2015) reported that Social Media utilization through connecting with the author profiles such as the open Researcher and Contributor Identifier (ORCID), is a key strategy to increasing visibility. The ORCID is a non proprietary alphanumeric code to uniquely identify scientific and other academic authors and contibutors. Other strategies include Research ID which is an identifying system for scientific authors; contributing to wikipedia and /or starting a blog or Podcast.

Social media use in promoting scientific research dissemination. Social media use in promoting the dissemination of scientific research outputs has registered some successes. For example, the Analytical Science Twitter Poster Conference (ASTPC) held the world's first Twitter conference in February, 2015 provided researchers' with 24 hours to tweet pictures of their posters (Randviir *et al.,* 2015). The focus of the conference was on increasing the visibility of research presented as posters which in most cases are accorded less time and attention during conferences. This approach resulted into over 1700 tweets, originating from 378 different contributors. Each participant contributed 4.59 tweets on average with 380,000 total number of followers for each person who participated in the tweeting session. This provided each poster an average of over 4500 views from around the world (Figure 1). Using twitter, the ASTPC was able to engage participation from countries that were not present at the Conference. In addition, the tweeting experience created more visibility to the profiled research and provided opportunity to the authors to have their work to be peer reviewed by a global audience.

Table 2. Summary of top 10 RUFORUM Member University using twitter and facebook as of 2016

Twitter		Facebook	
University	No of Followers	University	No of Likes
University of Pretoria	138,000	Makerere University	192,003
Stellenbosch University	30,000	University of Khartoum	115,937
Kenyatta University	16,900	University of KwaZulu-Natal	77,898
University of Nairobi	16,800	University of KwaZulu-Natal	13,000
Makerere University	12,500	Stellenbosch University	75,634
University of Free State	10,000	University of Port Harcourt	48,520
University of Khartoum	6,500	University of Fort Hare	31,990
Jomo Kenyatta University of	6,156	University of Pretoria	31,923
Agriculture and Technology		University of Cape Coast	26,031
University of Zambia	3797	University of Zimbabwe	25,874

Source: Compiled by authors based on www.ruforum.org 2016

RUFORUM's Efforts to build capacity for social media among researchers

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM, www. ruforum.org) provides a platform that facilitates visibility of the work and research outputs from its member universities. Some of the Social Media platforms include, blogs, youtube, twitter, and facebook. As a dynamic Network that inspires change in African Universities to
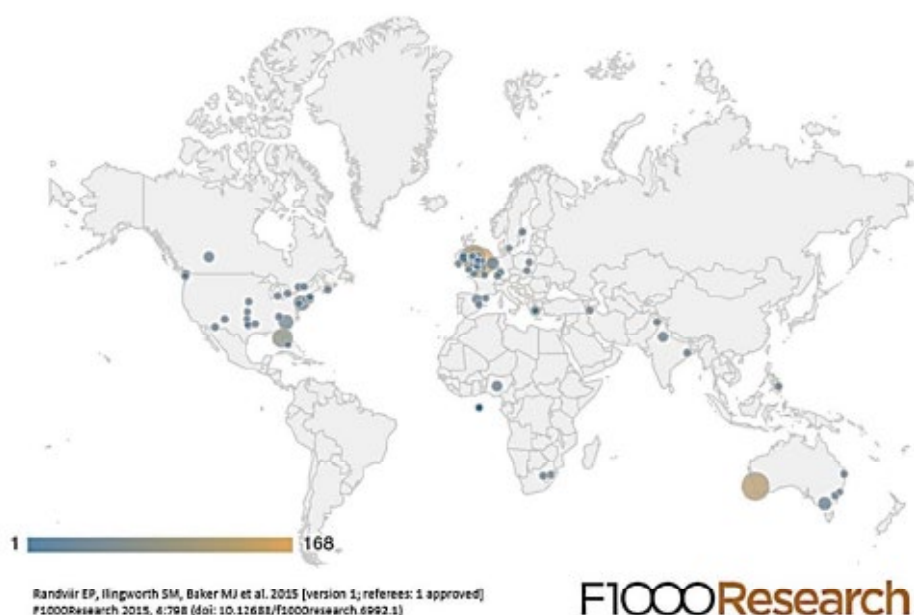
Figure 1. World Map depicting the location of participants in the ASTPC (adapted from: Randviir *et al.,* 2015)

innovatively respond to local, regional and national agricultural developement prorities, RUFORUM recognised the need to get university staff and students to use these platforms.

In 2014 during the 10th anniversary celebrations, the RUFORUM Secretariat embarked on training young agriculturislists so that they could in turn showcase RUFORUM Network's research, innovations and achievements in the last 10 years. This attracted over 501 posts reaching 45,283 people globally. This was the first time that RUFORUM used social media at a key convening event. Since then, RUFORUM has has trained 43 reporters in eight countries in Sub-Saharan Africa (SSA). These have become ambassadors in their various capacities and are cascading the training efforts within their respective universities and institutions. These efforts are in line with previous reasons and justification for use of social media especially with a special focus on research dissemination (Alejandro, 2010). Research is cited among the reasons people use social media besides driving traffic to insitutional websites and branding which remain key to reserachers in African universities as shown in Figure 2.

Partnerships for promoting social media usage by African academia
Social media brings together Networks of common interest to suppport one another remotely. It transforms what would have been physcial discussions into online discussions, thus reducing costs of travel, increasing online engagment by participants and global visibility of the participanting institutions. The social media platform usage by RUFORUM has catalyzed engagements with and among the Association of African Universities (AAU), African Women in Agricultural Research and Development (AWARD), The Technical Centre for Agricultural and Rural Cooperation (CTA) and RUFORUM. These Networks

have strongly supported the mentorship and trainning of of social media reporters. They are also actively using social media to advocate for Higher Education in Africa. The importance of social media to demonstrate increased reach and acces to African research can not be over emphasised as indicated in Fig 3. The RUFORUM twitter handle has been able to generate 2,234 posts reaching 737,801 people. More can be done to increase visibility of African research using social media if universties are at the forefront in using these platforms.
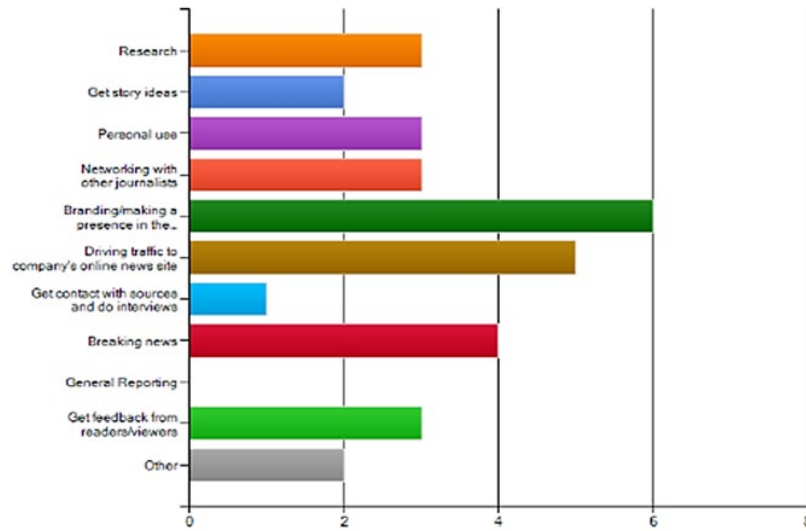

Figure 2. Rationale for use of social media
Source: Alejandro, 2010)

Key lessons and reflections on the use of social media platforms for research outputs
1. There is a great opportunity for universities in Africa to adopt social media and increase their online presence, contribute to global discussions and disseminate their research and innovations globally.
2. There is need to train a new generation of Africans who are able to understand these emerging digital technologies and grasp the associated entrepreneurial opportunities.
3. Social media provides a cost effective alternative for researchers and African universities to engage global and be part of the development discourse.

Conclusions

This case study provides insights demonstrating the need for African Universities to re-think their visibility strategies. From the 2015 Analytical Science Twitter Poster Conference (ASTPC) it is evident that one of the Social Media platforms - twitter - presents potential opportunities to disseminate research outputs beyond the traditional academic audiences. More should be done by African institutions and Networks to collaborate online and thereby become more visible. Efforts in this direction are being explored including the use of online platform to support mentoring and supervision of students being piloted by RUFORUM and three of its member universities (Egerton University, Jomo Kenyatta University of Agriculture and Technology and Makerere University). It is an EDULINK
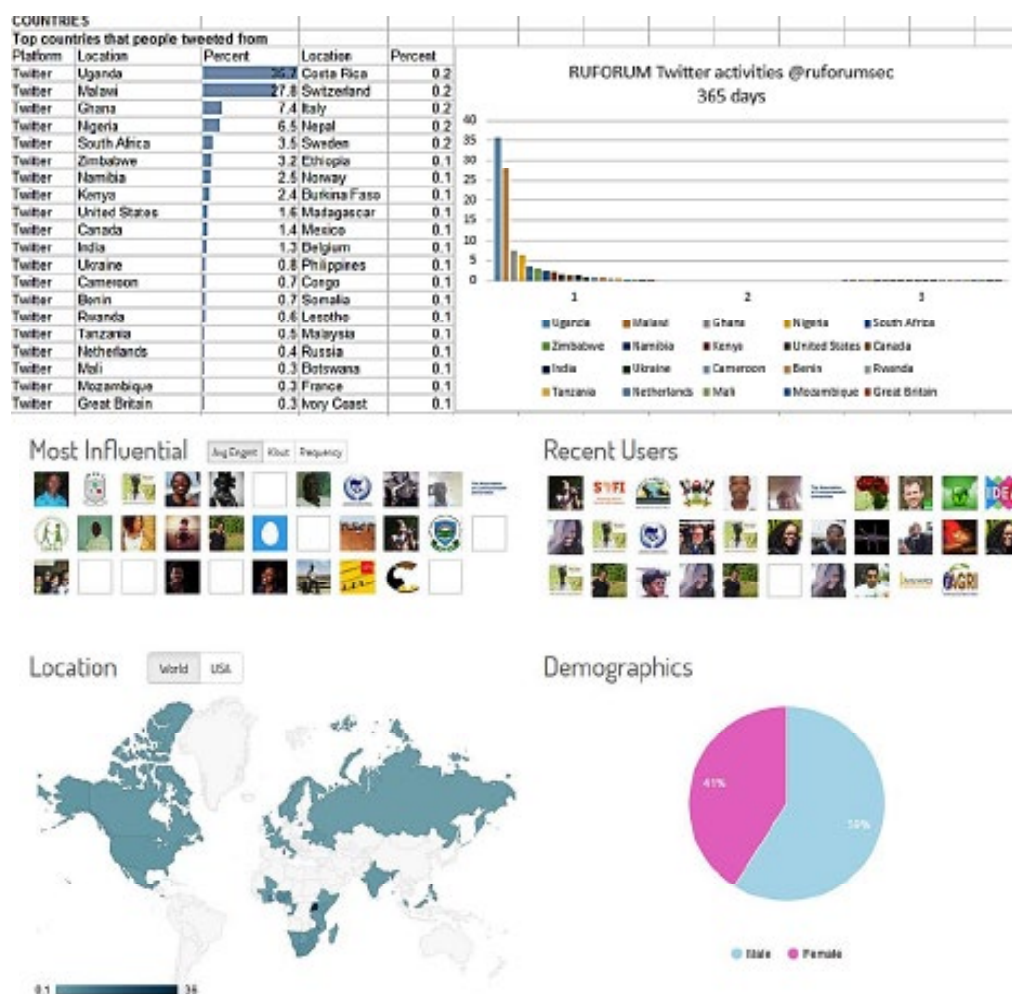
Figure 3. Activities on the @ruforumsec handle on twiiter (adapted from: RUFORUM)

II funded project. African Universities would therefore benefit immensely by developing robust communication strategies that include Social Media policies. It is also evident that more training programs focusing on emerging tools need to be undertaken to build the capacities of academic staff, administrative staff and students. A possibility of embedding Social Media share tools within African Universities repositories would create an upward shift in dissemination of research outputs.

Acknowledgement

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