Exploring the Effect of Technology on Practice of NBS Television, Uganda

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ABSTRACT

This study explores the effect of technology on journalistic practice in NBS Television, Uganda. The sample of 65 participants were drawn using Slovene's method of sample size determination. Findings confirm the overwhelming consensus among respondents that media organisations must investigate digital integration, analyse technology's impact on audience engagement and assess technological challenges highlights the need for innovation and adaptation to the changing digital landscape. Based on these findings, the study calls for the need to encourage media companies to invest in cutting-edge technology and software to expedite editorial workflows and content development. More so, there is need to track user interaction metrics across digital platforms and customize content strategies to audience preferences with audience analytics tools. Finally, there is need to create cross-functional innovation teams in media organisations to explore new technologies and respond quickly to digital disruptions, promote experimentation and risk-taking in media organisations by encouraging staff to try new technology and problem-solving methods.

Keywords: Journalism practice, Technology, Digital integration, Audience engagement, Media landscape

INTRODUCTION

Technology has transformed journalism worldwide. The 2020 Reuters Institute Digital News Report[1] shows that digital platforms are dominating news consumption worldwide. Social media, streaming services, and smartphone apps have given viewers unparalleled access to different information sources. To be competitive in the digital age, many traditional media outlets are adopting digital formats. However, misinformation, algorithmic bias, and falling faith in media organisations continue to influence the global media landscape, demonstrating the delicate relationship between technology and journalism[2]. Technology is transforming journalism across Africa. Centre for International Media Assistance[3] highlights digital platforms' expanding influence in African media ecosystems. Media organisations from Nigeria to South Africa are using technology to reach and engage audiences in new ways. Mobile phones have become effective news delivery tools, connecting journalists to isolated communities. However, digital inequality, regulatory constraints, and censorship limit the full potential of technology in African journalism, emphasising the need for collaboration to address these issues and create a vibrant and inclusive media landscape[4]. Kenya, Tanzania, Rwanda, Burundi, and Uganda are undergoing a digital revolution that is changing journalism. According to the Centre for International Media Assistance[3], mobile phones and enhanced internet connectivity have democratised information access, allowing media organisations to reach consumers beyond traditional limits. Digital platforms are crucial in promoting public discourse, civic involvement, and government accountability. However, digital security, media regulation, and digital journalism model sustainability continue to hinder East Africa's robust and autonomous media ecosystem. UNWA [5] finds a rise in online news consumption, reflecting changing media preferences. Ugandan media outlets like NBS Television are using social media, mobile journalism, and data-driven reporting to improve reporting and audience engagement. Social media has become a major news source, changing viewer habits and creating issues about information quality and reliability[6]. Journalism in Uganda has many issues as technology rapidly integrates into news creation and delivery. Misinformation and fake news on digital platforms undermine journalistic credibility and public faith in media institutions[7]. The digital gap limits

marginalised communities' access to accurate and timely information[8]. This study examines how Ugandan media organisations traverse digital platforms while preserving ethical standards and increasing media literacy to solve these issues. The research further examines Ugandan journalists' efforts to battle misinformation, engage audiences, and bridge the digital gap to help build a stronger and more trustworthy media ecosystem.

Investigating the integration of digital tools in Ugandan journalism practice

Journalism globally must integrate digital technologies in the digital age. Ugandan media is adopting digital technologies to improve news collecting, production, and distribution. According to Bhanye et al.[9] digital tools have helped Ugandan journalists acquire information, connect with sources, and communicate with audiences more efficiently. Ugandan journalism is using digital tools due to better internet connectivity, mobile phone penetration, and social media platforms. The Monitor[10] reports that internet usage in Uganda has grown, with mobile devices being the main access points for online information. Ugandan media has changed due to Twitter, Facebook, and WhatsApp's role in news distribution and audience interaction [11]. Digital tools are beneficial to Ugandan media, but their integration is difficult. The digital divide restricts rural and marginalised groups' access to technology[12]. Due to misinformation and misleading news on digital platforms, Ugandan media's reputation is threatened[13]. Ugandan media organisations are using creative methods to integrate digital tools into journalism to address these issues. Smartphones and lightweight equipment allow NBS Television reporters to film and broadcast news events in real time [14]. Digital storytelling at The Daily Monitor uses multimedia and interactive features to engage audiences and increase internet traffic [15]. In conclusion, Ugandan journalism's use of digital tools presents both opportunities and challenges in the digital age. Digital technologies provide unparalleled access to information and audience participation, but they also complicate digital literacy, misinformation, and equal access. Ugandan media organisations can overcome these hurdles and use digital tools to inform, educate, and empower Ugandans by investigating creative digital journalism methods and best practices.

Analyzing the effects of technology on audience engagement with news content in Uganda

Technology in Uganda has changed how audiences consume news. Ugandans may now access, consume, and interact with news material across digital channels thanks to digital platforms and mobile devices[16]. Real-time updates, user-generated material, and interactive debates on Facebook, Twitter, and WhatsApp are popular news sources for Ugandans[17]. Technology has democratised Ugandan news, letting audiences shape narratives and agendas. Likes, shares, comments, and retweets indicate audience interest, preferences, and attitudes towards news material[18]. Digital interactions increase news story reach and encourage discourse, debate, and community-building among different audiences[19]. The development of technology-mediated audience involvement confronts Ugandan media organisations and journalists. Information overload, divided audiences, and echo chambers characterise the digital environment. Ugandan media organisations are improving audience involvement and digital literacy to solve these issues. Media outlets can customise content and news experiences using data analytics and audience segmentation[20]. Media, civil society, and technology players are also working together to promote media literacy, critical thinking, and digital citizenship in Uganda[21].

Assessing strategies employed by Ugandan media organizations to address challenges posed by technological advancements

Ugandan media organisations face misinformation, digital security risks, and shifting audience behaviours due to rapid technology improvements. Media outlets have adopted numerous ways to adapt to the digital landscape and stay relevant in a competitive media climate. Al-Quran[22] reports that Ugandan media organisations are using digital technology to improve news creation, delivery, and audience engagement to meet digital audiences' changing needs. Ugandan media organisations use multimedia storytelling to make news content more engaging. Media outlets can tell complicated topics and engage viewers across platforms by using films, infographics, and interactive maps[23]. Media organisations and technology corporations have also collaborated to create Ugandan-specific digital tools and platforms[24]. Technology's impact on Uganda's media environment has also been addressed via digital literacy programmes. News organisations, civil society organisations, and schools are working together to increase digital literacy among journalists, content providers, and the public[25]. These efforts help residents navigate the digital realm responsibly and engage with news content by teaching them to critically evaluate online information, spot disinformation, and preserve digital privacy. Additionally, Ugandan media organisations are using data-driven journalism to improve openness, accountability, and audience confidence. Media outlets can find insights, trends, and patterns in massive datasets and use data visualisation to support evidence-based reporting and public conversation[26]. Media organisations are also using social media monitoring tools and sentiment analysis algorithms to watch online conversations, assess audience sentiment, and anticipate difficulties and trends[2].

METHODOLOGY
Research design and target population

The design of this study is cross sectional survey design. And the study targeted 78 NBS Television journalists, editors, viewers, and technical staff who were involved in integrating technology into journalism. The survey also included NBS Television's audience, which engaged with news material across digital platforms, reflecting other Ugandans affected by media technology. These individuals' viewpoints, behaviours, and experiences were examined in the context of NBS Television's creative journalism in Uganda.

Table 1: Population of the study

Department	Population Size
Station Manager/General Manager	1
Journalists	12
News editors	7
Technical staff at NBS Television	18
NBS Viewers	40
Total	78

Source: Field survey, 2024

Sample Technique and sample size

This study used stratified random sampling to reflect NBS Television's stakeholders' main demographics. Based on employment categories, years of experience, and technological competency, stratified random selection divided the population into strata. Stratifying the population allowed the study to capture varied perspectives and experiences within each category, enriching the data. Power analysis was used to determine sample size to ensure statistical power and precision in population parameter estimation[27]. Mfaeka [28] stressed the need of estimating sample size based on confidence, margin of error, and population diversity. The study chose 65 of 78 targeted participants. This is how members were chosen by ranking: 1 station manager/general manager, 8 journalists, 4 news editors, 16 NBS technical personnel, 36 viewers. Slovene's formula determined the study's sample size. Slovene's Formula calculates the minimum sample size for a population:

$n = N / 1 + N\alpha^2$

Where;

n the sample size

N=total population of respondents, that is 78

α=the level of significance, that is 0.05

$n = 78 / 1 + 78(0.05)^2$; $n = 78 / 1.195$; $n = 65.271$

n = 65

Table 2: Tabular presentation of the sample size

Department	Population	Sample Size	Sampling technique
Station Manager/General Manager	1	1	Purposive
Journalists	12	8	Simple random
News editors	7	4	Simple random
Technical staff at NBS Television	18	16	Simple random
NBS Viewers	40	36	Simple random
Total	78	65	

Source: Field survey, 2024

Data Collection Instruments

The study used primary and secondary data sources to fully understand how technology affects journalism at NBS Television. Structured surveys of NBS Television journalists, editors, and technicians were the main data collection tool. These surveys examined their knowledge, opinions, and attitudes towards technology in journalism. Surveys were ideal for the study since they could quickly and cheaply collect data from a large number of respondents. The questionnaire was carefully designed and piloted to determine its efficacy and areas for improvement. This approach improved data validity and accuracy. The researcher sent each NBS Television participant a questionnaire and carefully tracked their distribution and retrieval. Secondary data on technology's impact on Ugandan journalism came from internal reports, industry publications, and academic journals. NBS Television quarterly and yearly reports were examined for technology adoption and media engagement trends, difficulties, and innovations.

RESULTS

Table 3: Respondents' responses on their level of experience

Gender	Frequency	Percentage (%)
1 – 2 years	35	53.8
3 – 4 years	20	30.8
5 years and above	10	15.4
Total	65	100

Source: Field survey, 2024

The survey asked NBS Television employees and non-workers to list their years of service. Table 3 shows that 35 respondents (53.8%) reported working or being linked with the station for 1-2 years, while 20 (30.8%) stated 3-4 years. At least 5 years of station experience was reported by 10 (15.4%). These findings imply that a majority of respondents, regardless of employment position, had significant tenure or association with NBS Television, which may provide interesting insights into the study on technology and journalistic practice in Uganda.

Table 4: Respondents' responses on the extent to which integration of digital tools affected Ugandan journalistic practice

	Frequency	Percentage
Very great extent	12	18.5
Great extent	44	67.7
Moderate extent	9	13.8
Total	**65**	**100**

Source: Field survey, 2024

The table 4 above shows that 18.5% of the respondents believe that integration of digital tools has affected Ugandan journalistic practice to a very great extent, 67.7% believes it is to a great extent, while 13.8% believes it is to a moderate extent. This shows that majority of the respondents believe that the integration of digital tools has affected Ugandan journalistic practice to a great extent.

Table 5: Respondents' responses on the impact of integrating digital tools in Ugandan journalistic practice

No.	Integrating digital tools	SD		D		NS		SA		A		Total	
		F	%	F	%	F	%	F	%	F	%	F	%
1	Investigating digital tools in Ugandan journalism is vital	7	10.8	3	4.6	3	4.6	37	56.9	15	23.1	65	100.0
2	Understanding dig ital integration is crucial f	13	20.0	7	10.8	4	6.2	35	53.8	6	9.2	65	100.0
3	Exploring digital tools reveals technologic alimpacts	3	4.6	4	6.2	8	12.3	30	46.2	20	30.8	65	100.0
4	Investigating integrationoffers chances for media improvement	5	7.7	8	12.3	7	10.8	33	50.8	12	18.5	65	100.0
5	Examining digital tools identifies media challenges and opportunities	3	4.6	4	6.2	8	12.3	38	58.5	12	18.5	65	100.0

Source: Field survey, 2024

Survey respondents agreed that analysing technology's impact on audience engagement is vital. This was supported by 80% of respondents. This suggests that participants recognise the importance of understanding how technology affects news audience engagement. It emphasises technology's central role in audience connection and participation in news and information consumption in the digital age. The poll found that 63% of respondents agreed that knowing how technology influences audience engagement is vital. Participants recognise the importance of understanding how technology affects audience engagement dynamics. It emphasises the significance of being abreast of technology changes and their effects on news producers and audiences in the digital age. A staggering 77% of respondents supported the premise that studying technology's effects on audience engagement yields insights. Participants recognise the relevance of studying how technology affects audience engagement. It emphasises the ability of technology to understand and improve audience interactions with news content, allowing media organisations to adapt and react to changing audience tastes and behaviours. The survey found that 69.2% of respondents agreed that technology effects affect audience engagement with news content. This suggests that participants recognise the importance of studying how technology affects news audience engagement. Technology shapes how viewers interact with and consume news, thus media organisations must comprehend technological impacts to adapt and survive in the digital landscape. Finally, 77% of respondents agreed that analysing technology's influence on audience engagement affects media tactics. This suggests that participants agree that knowing how technology affects audience engagement dynamics is crucial to media strategy. It emphasises the role of technology in altering media practices and the need for media organisations to modify their strategies to engage audiences in the digital age.

Table 6: Respondents' responses on the extent technology affects newscontent in Uganda

	Frequency	Percentage
Very great extent	10	15.4
Great extent	50	76.9
Moderate extent	5	7.7
Total	65	100

Source: Field survey, 2024

The study examined how Ugandan media organisations handle technological changes. According to the findings, 80% indicated a considerable extent, 15% very great, and 4.6% modest. This suggests that respondents understand the importance of using techniques to handle media technology issues. It emphasises the necessity for proactive steps and adaptation to handle the changing technological landscape and its influence on Ugandan media operations and practices.

Table 7: Respondents' responses on the strategies employed by Ugandan media organizations to address challenges posed by technological advancements

No.	Strategies employed to address challenges posed by technological advancements	SD		D		NS		SA		A		Total	
		F	%	F	%	F	%	F	%	F	%	F	%
1	Assessing strategies to tackle technologicalchallenges is necessary	5	7.7	3	4.6	3	4.6	49	75.4	5	7.7	65	100.0
2	Understanding how media organizations address technological advancementsis crucial	7	10.8	7	10.8	4	6.2	41	63.1	6	9.2	65	100.0
3	Examining strategies reveals responses to technological challenges	3	4.6	4	6.2	6	9.2	32	49.2	20	30.8	65	100.0
4	Investigating media organizations' approaches provides insights into adaptation	5	7.7	8	12.3	7	10.8	34	52.3	11	16.9	65	100.0
5	Assessing strategies informs understanding of media resilience in tech evolution	3	4.6	4	6.2	8	12.3	41	63.1	9	13.8	65	100.0

Source: Field survey, 2024

A huge 83.1% of respondents agreed that examining ways of managing technological issues was vital. This suggests that participants understand the need of analysing and adopting ways to solve technological difficulties. It emphasises the necessity for proactive steps and strategic preparation to navigate the media industry's changing technology world. A large 72.3% of poll respondents agreed that understanding how media organisations handle technology advances was vital. This indicates that people recognise the necessity of understanding media organisations' technology methods. To stay relevant and effective in addressing current challenges and opportunities, the media sector must comprehend and adapt to changing technology.

The survey also found that 80% of respondents agreed that assessing tactics showed technology obstacles. This suggests that participants understand the need of examining ways to find effective technology solutions. It stresses the necessity for proactive and informed approaches to media sector technology changes. The survey found that 69.2% of respondents agreed that studying media organisations' practices helped them adjust. This indicates that participants recognise the need of studying media organisations' practices to understand how they adapt to technology. It emphasises the need to study and learn from organisational responses to media technology issues and opportunities. Finally, 77% of respondents agreed that examining tactics helps comprehend media resilience in tech evolution. Participants recognise the necessity of reviewing tactics to understand how media organisations adapt and survive in a changing technological landscape. It emphasises the need of understanding media organisations' resilience in navigating technological changes and using strategies to address new media landscape problems and possibilities.

DISCUSSION

The findings showed a dynamic ecosystem with potential and difficulties for Ugandan journalism's digital integration. The study found that 63% of respondents thought investigating digital tools shows technological consequences and 77% thought testing technology's influence on audience engagement provides insights. These results show that participants value digital integration in journalism[3, 16]. Positively, Ugandan media outlets have adopted social media, websites, and mobile apps to improve news transmission and audience participation. Digital platforms play a major part in news production, and 80% of respondents said that studying digital tools in Ugandan journalism is important. However, the digital gap, misinformation, and online hate speech are major concerns. Digital tools provide journalists opportunity, but technology and internet connection limits limit their use. According to 69.2% of respondents, studying media organisations' tactics helped them adapt to technological changes, reflecting journalists' changing position in technology. The findings stressed media literacy and capacity-building programmes to address these issues. About 77% agreed. Assessing techniques helps comprehend media resilience in tech evolution, emphasising the requirement for journalists to have digital literacy and ethical online reporting[3, 4]. The data demonstrate the intricate relationship between digital tools and Ugandan journalism. Digital integration enables unparalleled news delivery and audience interaction, but access, ethics, and digital literacy must be addressed. Journalism and media organisations must adapt to technological developments, engage in training, and uphold ethical standards to succeed in the digital age. 77% of respondents believes that technology has a major impact on audience engagement, with 15% saying very great and 8% saying moderate. Technology greatly impacts Ugandan news readers. The study showed that respondents agreed that technology's impact on audience engagement is crucial. About 80% of participants agreed that this analysis sheds light on how technology affects audience behaviour [4, 15]. The studies also show that digital platforms influence news audience engagement. A significant 63% of respondents believed that knowing how technology influences audience engagement is vital, highlighting the increased awareness of the need to adjust news distribution techniques to changing audience preferences. However, the digital divide, misinformation, and online hate speech have become major issues affecting news audience engagement. Digital platforms offer opportunities, but technology and internet access limit audiences' access to credible news sources. Misinformation and online hate speech also damage news credibility and audience engagement[19, 22, 26]. The data demonstrate the complex relationship between technology and Ugandan news audience participation. Digital platforms offer new news consumption and interaction options, but access, trust, and misinformation must be addressed. Journalists and media organisations must adapt to use technology ethically and engage different audiences. Findings show that Ugandan media organisations' tactics to manage technological problems demonstrate their proactive approach to the changing scene. A large 80% of respondents said these techniques were adopted to a great level, 15% said very great, and 4.6% said moderate. This shows that media organisations recognise the need to adapt and innovate to technological advances[19, 24]. The poll found that respondents agreed that analysing technological challenges methods is crucial. A huge 83.1% of participants agreed that knowing how media organisations adapt to technology is vital for their survival and relevance in the digital era. The findings also illustrate Ugandan media organisations' different technological adaptations. These tactics were valued by 72.3% of respondents, showing that technology concerns are complex and require specialised solutions[15, 20].

However, resource restrictions and change aversion have become major obstacles to these techniques' implementation. Despite their importance, few respondents reported moderate implementation. To confront technological difficulties, media organisations must engage in capacity building and promote innovation[9, 21].

CONCLUSION

The study illustrates Uganda's dynamic interplay between technology and journalism. The overwhelming consensus among respondents that media organisations must investigate digital integration, analyse technology's impact on audience engagement, and assess technological challenges highlights the need for innovation and adaptation to the changing digital landscape.

Recommendations

Based on these findings, the study calls for the need to encourage media companies to invest in cutting-edge technology and software to expedite editorial workflows and content development. More so, there is need to track user interaction metrics across digital platforms and customise content strategies to audience preferences with audience analytics tools. Finally, there is need to create cross-functional innovation teams in media organisations to explore new technologies and respond quickly to digital disruptions, and promote experimentation and risk-taking in media organisations by encouraging staff to try new technology and problem-solving methods.

REFERENCES

1. Overview and key findings of the 2022 Digital News Report | Reuters Institute for the Study of Journalism, https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2022/dnr-executive-summary
2. 2Rodrigo-Ginés, F.-J., Carrillo-de-Albornoz, J., Plaza, L.: A systematic review on media bias detection: What is media bias, how it is expressed, and how to detect it. Expert Systems with Applications, 2024, 237, 121641. https://doi.org/10.1016/j.eswa.2023.121641
3. Journalism and Technology: The Use of Drones for News Gathering in Africa, https://www.cima.ned.org/blog/journalism-and-technology-the-use-of-drones-for-news-gathering-in-africa/, (2023)
4. Wiredu, P. Citizen Journalism in Ghana, (2022)
5. Uganda Communications Commission Should Engage the Media on Gender Representation, Content, https://www.umwamamafm.co.ug/uganda-communications-commission-should-engage-the-media-on-gender-representation-content%ef%bf%bc/, (2022)
6. Kumar, L. Exploring the Impact of Social Media on the Dynamics of News Consumption: A Study on Its Effectiveness, 2023, 13, 303–317.
7. Journalists tipped on countering misinformation, fake news | Monitor, https://www.monitor.co.ug/uganda/news/national/journalists-tipped-on-countering-misinformation-fake-news--4580284
8. Sanders, C.K., & Scanlon, E. The Digital Divide Is a Human Rights Issue: Advancing Social Inclusion Through Social Work Advocacy. J Hum Rights Soc Work, 2021, 6, 130–143. https://doi.org/10.1007/s41134-020-00147-9
9. Bhanye, J., Shayamunda, R., & Tavirai, R. Social Media in the African Context: A Review Study on Benefits and Pitfalls. Presented at the July 15 (2023)
10. More Ugandans now own mobile phones, https://www.monitor.co.ug/uganda/business/technology/more-ugandans-now-own-mobile-phones-1744100
11. Patriaciah, K., Isabirye, J., & Extension, K.P. The Influence of social media on traditional Journalism in Uganda. A case study of Capital Radio. Newport International Journal of Law, Communication and Languages. 4, 1–11 (2024). https://doi.org/10.59298/NIJLCL/2024/4.1.11148
12. Kaahwa, Y.T., Muwanguzi, S., Flavia, N., & Florence, N. Digital Divide-Related Educational Inequalities in Uganda: Alternative Learning Modalities during the Covid-19 Pandemic Period Learning. International Journal of Innovative Research & Growth, 2022, Vol 7, 55–64.
13. Govt warns media against fake news, https://www.monitor.co.ug/uganda/news/national/govt-warns-media-against-fake-news-4222970
14. Technology – NBS Television, https://nbs.ug/category/technology/
15. Multimedia training helping better journalism | Monitor, https://www.monitor.co.ug/uganda/magazines/jobs-and-career/multimedia-training-helping-better-journalism-3751692
16. Innovating Online Journalism: New Ways of Storytelling, https://www.tandfonline.com/doi/full/10.1080/17512786.2021.2020675
17. Jordaan, M. Poke me, I'm a journalist: The impact of Facebook and Twitter on newsroom routines and cultures at two South African weeklies. Ecquid Novi: African Journalism Studies, 2013, 34, 21–35. https://doi.org/10.1080/02560054.2013.767421

18. Waddel, T. What does the crowd think? How online comments and popularity metrics affect news credibility and issue importance. (2017). https://www.researchgate.net/publication/321512079_What_does_the_crowd_think_How_online_comments_and_popularity_metrics_affect_news_credibility_and_issue_importance

19. Chibita, M., Fourie, P. A socio-history of the media and participation in Uganda. Communicatio, 2007, 33, 1–25. https://doi.org/10.1080/02500160701398938

20. Zawedde, A. ICT and Journalism: Challenges and Opportunities for the Media in Uganda. Presented at the January 1 (2012)

21. How to enhance constructive public dialogue on social media in Uganda | Reclaiming social media | DW | 12.02.2024, https://akademie.dw.com/en/how-to-enhance-constructive-public-dialogue-on-social-media-in-uganda/a-68230163

22. Al-Quran, M.: Traditional media versus social media: challenges and opportunities. Technium: Romanian Journal of Applied Sciences and Technology. 4, 145–160 (2022). https://doi.org/10.47577/technium.v4i10.8012

23. Tingting, Y., Michael, L., Teddy, K., Barbara, N., Jerome, K., Wasswa, W., et al. Let all know: insights from a digital storytelling facilitator training in Uganda. Global health action, 2021, 14. 1933786. 10.1080/16549716.2021.1933786. (2021).

24. World first inquiry into digital platforms in the media sector | Uganda | Global law firm | Norton Rose Fulbright, https://www.nortonrosefulbright.com/en-ug/knowledge/publications/cf06e2b9/world-first-inquiry-into-digital-platforms-in-the-media-sector

25. Digital technologies uptake is still low in Ugandan Secondary and Tertiary institutions – Economic Policy Research Centre, https://eprcug.org/publication/digital-technologies-uptake-is-still-low-in-ugandan-secondary-and-tertiary-institutions/

26. Sophie, N., Devis, A.: Media and It's Impact on people's way of living in Uganda, 2024, 3, 657–669

27. Ebrahim, Y. Chapter 3 (Research design) Part 3 (Research design explanations, research work and research design stage 4) Section 1 (Research design explanations) & Section 2 (Research design stage 4): Research methodology textbook on assessing and appreciating the impact of urban built form on micro-temperature change - Chapter preview. Presented at the June 22 (2018)

28. Mfaeka, N. (2021)Chapter Three Research Design and Methodology.