



## Effects of Covid-19 Outbreaks on Demand for Electronic News in New Bussa, Nigeria

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### Abstract

The work investigates how the Covid-19 outbreak affects the demand for electronic news before and during the lockdown in New Bussa, a major town in Niger State, one of Nigeria's 36 political subdivisions. It also explores the adoption of social media channels in disseminating news related to the pandemic. The questionnaire on Google form was distributed to the residents of the town to which 150 of them responded. The results, among others, show that even though there was a higher demand for news in the thick of the pandemic, it was not significant. This outcome does not align with the previous findings that found demand significantly risen in a similar situation. What is more, this finding brings a rethinking of the classical conditioning theory to the table.

**Keywords:** Coronavirus, Outbreak, electronic, news, and social media, New Bussa, Nigeria.

### Introduction

Information news is not helpful if it is not disseminated to the right individuals timely and accurately.

The information or communication must be passed through a communication channel - radio, television, or printed media. Uwom

et al. (2014) define communication as the passage of information from one individual or entity to the other. Communication had been limited by distance, but this challenge has been overcome since the technological era of telephony.

Centuries ago, news had been published via the printed media. However, as new technological advancements surfaced, news channels opened up. Electronic news platforms are currently the order of this information age. This development is an upshot of proliferated mobile devices that the world has adopted as the most popular communication tool. Most printed news media and television houses have upgraded to and adopted electronic or web news platforms to reach more audiences.

The BBC, CNN, Channels Television news are web-based and radio/television broadcast platforms. Likewise, printed media in Nigeria like *The Nations* and *The Punch* now provide their web application versions. Nigerians' subscription to the online versions of the newspapers is high (Patrick, 2015). Facebook and WhatsApp, among others, have become an avenue to disseminate news. It appears these social media platforms have now become the most highly used source of information around the world (Radwan et al., 2020). Mobile phone users now read news directly through

social media platforms (International Conference on System Sciences, 2017). There is a spontaneous increase in peoples' schedules, requiring information faster (Kalombe & Phiri, 2019). News dissemination across social media platforms travels faster since social media applications bring the world together as one community.

Social media network sites are online platforms through which individuals, groups, and organizations create a presence and share information using text, photographs, images, and videos (Ladan et al., 2020). Billions of people have made social media a virtual community where different information is shared. However, social media has also been used to disseminate fake news with its significant adverse effects on society and people's decisions and behaviors (Allcott et al., 2019; Ali, 2020). The internet now serves as the primary source of news (Safori1 et al., 2016; Ukk & Bui, 2019).

The inception of online web media outlets in the 1990s (Salaverría, 2019) has brought development to different new mass media (Samani et al., 2015). The benefits of electronic news keep increasing daily. The electronic news version offers fast access and updates news in different media formats such as graphics, animation, video, and audio compared to the print versions.

Towards the end of 2019, Wuhan, a China city, was ravaged by an outbreak of a novel coronavirus (Özdemir, 2020; Singhal, 2020; Aluga, 2020; Ahmad & Murad, 2020). This disease, christened Covid-19 by the World Health Organization, has killed millions globally (Shereen et al., 2020). In 2020, the world experienced the worst health crisis since 1918, caused by this pandemic (Moreno et al., 2020). The virus spread worldwide, wreaking havoc along its path (Anikwe et al., 2020; Adegboyega et al., 2021; Zheng, 2020). Covid-19 is a once-in-a-lifetime virus in human history (Balkhair, 2020; Kilova et al., 2021). Most countries shut down their borders and invoked a partial to total lockdown system to curb the spread of the deadly virus. Countries were hit with mass death as the virus kept infecting the citizens. Citizens stayed home as the lockdown orders and social distancing protocols were initiated, even for those on essential services.

The first case of COVID-19 was reported to have been confirmed in Africa on 14th February 2020 and subsequently to sub-Saharan Africa (Ladan et al., 2020). The virus hit Nigeria through an Italian visiting Lagos (Ozili, 2020). The second case was a Nigerian who had contact with the Italian (Agusi et al., 2020). Since the virus is transmitted through close contact with the infected persons

(Milibari, 2020; Rothana & Byrareddy, 2020). It spread to other citizens in Lagos and other parts of the country. Some control measures were initiated by the federal government and replicated in the 36 states of the federation and the capital city Abuja. Zhong et al. (2020) have established that adherence to control measures is affected by their knowledge based on the virus (Zhong et al., 2020).

Though many communication platforms were available, electronic news and social media platforms became more popular and valuable for Nigerians to access news. Social media became the most essential alongside television and radio stations used by the state and local governments to disseminate information. Many web news apps became a daily routine for the people under the lockdown. Although physical contact fast-tracked the spread of the disease, social media held sway as a tool that, if utilized responsibly, could mitigate its effects (O'Brien1 et al., 2020).

### **Problem of the Study**

The covid-19 outbreak, which elicited greater adoption of electronic channels, including news, is a recent development as the disease only surfaced in late 2019. However, this adoption had remained a conjecture. It would need to be proved as sufficient data were minimal or

invisible. News app developers, journalists, and relevant required these data to proffer solutions to the health crisis from their respective standpoint. This work is an attempt to cover that gap.

### **Objectives of the study**

The main objective of this study is to find out how the Covid-19 outbreak affects the demand for electronic news in New Bussa, Niger State. The specific objectives include:

- To determine the rate of adoption of social media channels to disseminate and access current and breaking news in the study area
- To determine the level of awareness about proprietary electronic news applications in the study area
- To find out popular proprietary electronic news applications primarily used in the study area
- To examine whether or not there is an increase in demand for electronic news in the study area
- To determine the influence of some factors on the rate of adoption of the itemized electronic news software in the study area

### **Hypotheses**

The following research hypotheses guided the study:

- H<sub>0</sub>1: There is no significant difference between the rate of adoption of electronic news before and during the Covid-19 outbreak in the study area
- H<sub>0</sub>2: There is no significant relationship between educational level and adoption of electronic news in the study area
- H<sub>0</sub>3: There is no significant relationship between gender and adoption of electronic news in the study area
- H<sub>0</sub>4: There is no significant relationship between internet access and the adoption of electronic news in the study area
- H<sub>0</sub>5: There is no significant relationship between income and adoption of electronic news in the study area

### **Significance of the Study**

This study is of great significance to the following:

- The study helps to provide relevant data to media houses, including radio and television providers, to perform a cost-benefit analysis of investing more in electronic channels of news dissemination as compared with the traditional mass media system in Nigeria

- Software developers would see prospects and barriers to the adoption of electronics news
- The study serves as a data reference for government and actors in the broadcasting corporation as about adoption level and prospects of electronic news in Nigeria to formulate and implement the right policy about electronic news
- Moreover, this study serves as an etiological starting point for researchers for further study in software and mass-media research

## **Literature Review and Theoretical Framework**

### ***Literature Review***

The effect of electronics and communication media on the reading culture of students in Ife Central Local Government Area of Osun State of Nigeria was investigated by Ogunrinade et al. (2017). The study established a minimal effect of electronic and communication media affected students' reading habits. Lesitaokana (2014) researched the audiences' attitude towards traditional and online newspapers in Botswana. Results showed that attitude favored the online system. Such factors influenced access to

online and traditional newspapers as cost and convenience.

Li and Li (2017) have also established that more people utilize online media ahead of the traditional printed media in the United States. The role of electronic media in mitigating the psychological impacts of Covid-19 was presented by Latif et al. (2020). The study established the relevance of the media to some extent in this regard. Ladan et al. (2020) discussed the Covid-19 pandemic and social media news in Nigeria, citing the role of libraries. The research established that Nigeria communities depended highly on social media platforms for news dissemination during the pandemic. However, much of the content was not verifiable. A study of the impact of mass media on the quality of life in India during the pandemic was carried out by Sharma et al. (2020). The study established a positive association between mass media and the quality of life. The impact of Covid-19 on the media system was presented by Casero-Ripollés (2020), with the results showing negative.

The causes and consequences of COVID-19 misperceptions on roles of news and social media were presented by Bridgman et al. (2020). The research evaluated the presence of misperceptions on public health using tweets and 19 Canadian news sites through a survey. It established that social media disseminated more wrongly than news media.

Misinformation on the Covid-19 epidemic on Twitter was investigated by Kouzy et al. (2020). Different trending hashtags and keywords on COVID-19 were evaluated, leading to the discovery that there is an alarming rate of unverifiable information in circulation on social media. An analysis of online newspapers framing patterns of COVID-19 in Nigeria was carried out by Onwe et al. (2020) using the relational approach on three online newspapers - *Sahara Reporters*, *Daily Trust*, and *Premium Times* as the case study. They established that these newspapers' reports frazzled their readers, fueling the spread of disinformation.

Liu's (2020) study of the news consumers' preventive behavior while the virus raged showed the vital role played by these media in encouraging people to practice preventive measures against the virus. The findings on how the Portuguese citizens spread the news about the COVID-19 outburst were presented by Ferreira and Borges (2020). The study confirmed the role played by social media as the primary source of COVID-19 information.

### **Theoretical Framework**

The Classical Conditioning theory guides this study by Ivan Pavlov (1929-1936). The theory states that every response results from the change in the condition that triggered

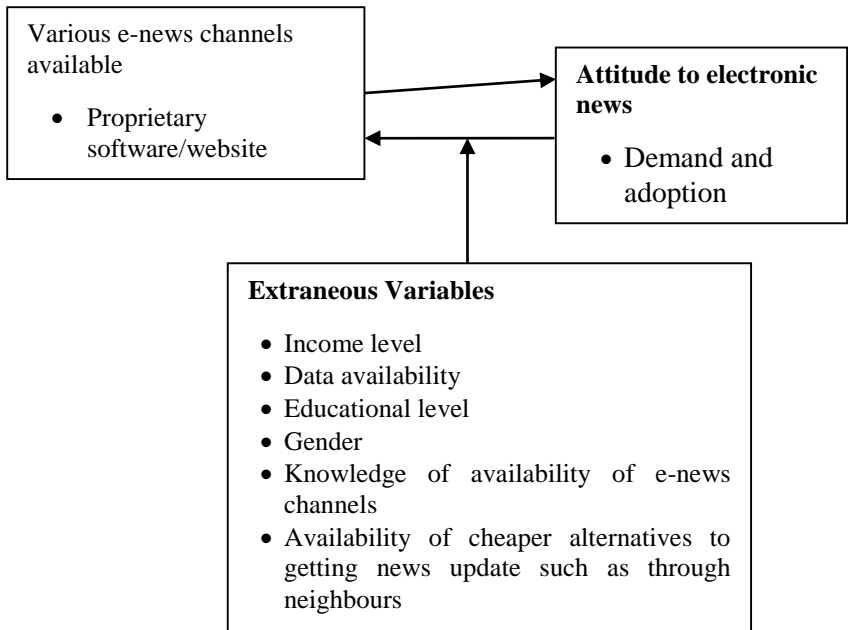
the response. Pavlov experimented on dogs and discovered that dogs learned to salivate in response to a bell. He gave many trials where the bell was sounded, and food was presented to the dogs. After a while, he discovered that the dogs began to salivate anytime the bell rang. This framework was transposed to this work.

Figure 1 depicted that the coronavirus outbreak and the lockdown (stay-at-home) measures imposed by the coronavirus would prompt Nigerians to demand more electronic news. According to Pavlov, Conditioned Response (CR) was the response developed during training. Conditioned Stimulus (CS) was the stimulus intended to evoke the CR. Unconditioned Response (UR) was the same or almost the same response as the CR, but it existed prior to training. It is usually given whenever a particular stimulus, the Unconditioned Stimulus (US), was presented.

In this study, the Conditioned Response (CR) is the demand for and adoption of various electronic channels such as electronic news evoked by the Conditioned Stimulus (CS), the Covid-19 outbreak, and the stay-at-home lockdown measure imposed by its outbreak. The unconditioned response (UR) was the demand for electronic news before the Covid-19 outbreak.

**Independent Variable**

**Dependent Variable**



*Figure 1: The conceptual framework depicting interrelationship between e-news channels’ availability and attitude to their demand and adoption electronic news*

Figure 1 indicates that there are also extraneous factors (income level, data availability, educational level, gender, knowledge of availability of e-news channels, availability of cheaper alternatives) that may influence the relationship between CS (the spread of coronavirus outbreak and lockdown measures imposed during its outbreak) and CR (demand for electronic news).

**Methodology**

This study adopts a survey design while the population sample was purposively selected. After careful deliberation and study of the relevant population, the researchers concluded that the purposive selection was adequate for the study. The study commenced when the social media and news apps list

was obtained. This period was during the lockdown imposed after the pandemic outbreak had been lifted in many parts of the country, including the study area. At the time, many organizations were resuming work gradually.

Furthermore, many higher institutions were yet to resume physical classes as the lockdown was still trailed by the Academic Staff Union of Universities (ASUU) strike action. The strike kept university students at home for a long time, leading to adopting an online survey with New Bussa, Niger State of Nigeria as the study population. However, only contacts interested in being part of the study were followed up. They were encouraged to facilitate the involvement of their social media contacts.

The research instrument was a self-constructed electronic news demand and adoption questionnaire (ENDA). The questionnaire consists of sections A – E. Section ‘A’ deals with the demographic characteristics of the respondents. Section ‘B’ consists of awareness about the existence of relevant software while sections ‘C’ and ‘D’ collect information about itemized

software usage before and during the Covid-19 outbreak. Section E collects information about the purpose of usage of the various popular social media channels.

The ENDA was inputted into Google form. The website link to access the Google form was sent via social media (WhatsApp, Facebook) to contacts of all researchers that carried out the study. Follow-up messages were sent to the prospective respondents within two weeks. The ENDA Google form was made accessible to participants between October 18 and 30, 2020. A total of 150 respondents was recorded. Some of the questionnaire items are open-ended questions, while some are in various point Likert scales. Others are graded scale questions. The data collected from the participants were analyzed using charts, Pearson correlation statistics, paired sample, and independent sample T-Test statistics. Microsoft Excel and SPSS were helpful to the analysis.

## **Findings**

Table 1 and Figures 1 and 2 show the respondents’ data. Table 1 shows that the respondents’ age bracket is 17 and 55 years with an



average of 30 years old. The income was ₦50,882.87. Some respondents' monthly income fell between zero ₦ 0 and ₦300,000.00) while the average 75.3% of the respondents were males, with 24.7% female.

*Table 1: Mean distribution of the respondents by age and monthly income*

	N	Minimum	Maximum	Mean	Std. Deviation
Age	150	17	55	30.50	8.253
Income	150	0	300000	50882.87	67888.031

*Table 2: Frequency distribution of respondents by gender, marital status, and qualifications*

Variables		<i>f</i>	%
Gender	Male	113	75.3
	Female	47	24.7
Qualifications	Non	0	0.0
	Primary	4	2.6
	Secondary	6	4.0
	Nat. Cert. in Educ.	10	6.7
	National Diploma	30	20.1
	Higher National Diploma	16	10.6
	Bachelors' Degree	63	42.0
	Masters' Degree	26	17.4
	Ph.D	5	3.3

Table 3 shows the level of awareness about e-news applications in the study area

while Table 4 shows the level of adoption of social media channels for electronic news.

**Table 3: Level of awareness about the existence of e-news website and mobile application**

<b>Response</b>	<b>f</b>	<b>%</b>
Yes	81	54.0
No	47	31.3
Not sure	22	14.7
Total	150	100.0

**Table 4: Rate of adoption of popular social media channels and/or generalized applications for electronic news**

<b>Social Media channels</b>	<b>Number of Cases (109)</b>		<b>% of total response (150)</b>
	<b>N</b>	<b>%</b>	
Facebook	65	59.6	43.3
WhatsApp	66	60.6	44.0
Google Search	48	44.0	32.0
Zoom	14	12.8	9.3
Skype	10	9.2	6.7
Twitter	12	11.0	8.0
Telegram	25	22.9	16.7
Instagram	10	9.2	6.7
YouTube	29	26.6	19.3

Tables 5, 6, 7, and 8, 9 show the result of the null hypotheses test. Table 5 shows the adoption rate of e-news software resources before and after the Covid-19 outbreak. Table 6 shows the effects of educational level on the adoption of e-news software resources before and after the virus outbreak. Table 7 shows the effects of gender on

the adoption of e-news resources before and after the virus outbreak. Table 8 displays the effects of internet access on the adoption of e-news software resources before and after the outbreak. In contrast, Table 9 shows the effects of income on the adoption of e-news software resources before and after the outbreak.

**Table 5: Rate of adoption of e-News software resources before and during coronavirus outbreak**

Variables	Mean	Mean diff.	p-value
eNews_use_before	3.71	0.1	0.526
eNews_use_during	3.81		

**Table 6: Effects of educational level on the adoption of e-News software resources before and during coronavirus outbreak**

Higher education		Mean	Mean diff.	p-value
eNews_use_before	Possession/involvement	3.74	0.08	0.494
	Non Possession/involvement	3.27		
eNews_use_during	Possession/involvement	3.93	1.20	0.038
	Non Possession/involvement	2.36		

**Table 7: Effects of gender on the adoption of e-News software resources before and during coronavirus outbreak**

	Gender	Mean	Mean difference	p-value
eNews_use_b4	Male	3.88	0.565	0.242
	Female	3.31		
eNews_use_during	Male	4.06	0.813	0.138
	Female	3.24		

**Table 8: Effects of internet access on the adoption of e-News software resources before and during coronavirus outbreak in Nigeria**

Internet access		Mean	Mean diff.	p-value
eNews_use _before	Above 1GB internet access	3.68	0.06	0.884
	Below 1GB internet access	3.74		
eNews_use _during	Above 1GB internet access	3.98	0.36	0.367
	Below 1GB internet access	3.62		

**Table 9: Effects of income on the adoption of e-News software resources before and during coronavirus outbreak in Nigeria**

Income		N	Mean	Mean diff.	p-value
eNews_us e_before	Income above N50,000	47	4.28	0.83	0.03
	Income below N50,000	103	3.45		
eNews_us e_during	Income above N50,000	47	4.66	1.23	0.003
	Income below N50,000	103	3.43		

### Discussion of Findings

Table 5 shows that the adoption of e-news before ( $\mu=3.71$ ) and during ( $\mu=3.81$ ) the outbreak is just above average on a rating scale of 1 to 7. Even though there was a slight increment in the rate of usage of electronic news during the pandemic compared with before the pandemic, the increment is insignificant ( $\Delta\mu > 0$ ,  $p>0.05$ ).

Suppose these findings are juxtaposed with the results

presented in Table 4. In that case, it is reasonable to assert that the respondents tend to rely on social media channels to access current news. This assertion is indicated by the 109 (72.7%) that use social media to access current news, as presented by Ladan et al. (2020). WhatsApp is the channel adopted most for e-news, with 43.3% of the respondents. The figures in Table 3 point out that other underlining factors can impact the use of

electronic news besides Covid-19 and the concomitant lockdown. The data in Tables 6 – 9 are essential to discovering possible underlying factors.

Table 6 shows that the possession of a higher education certificate had no significant effect on adopting e-news software resources before the Covid-19 outbreak ( $\mu=3.26$ ,  $\Delta\mu>0$ ,  $p>0.05$ ). However, its significant positive effects were felt during the outbreak ( $\mu=3.38$ ,  $\Delta\mu>0$ ,  $p<0.05$ ) on a rating scale of 1 to 7. However, compared to 36, the percentage of citizens who frequently consume news increases as their education increases across all news platforms.

Table 7 depicts that gender had no significant effects on the adoption of e-news before and during the outbreak ( $p>0.05$ ). Even though the male population adopted e-news more than their female counterpart during both phases, it was not significantly different from that of the female population. Furthermore, the involvement of the male population tends to increase. In contrast, that of the female tends to reduce during the pandemic compared to before the pandemic.

Table 8 shows that those with access to at least 1GB of internet

data tended to increase their demand for electronic news during the outbreak. In contrast, those with access to less than 1GB of data reduced their demand for electronic news during the pandemic. However, the increased demand for electronic news by those who had access to at least 1GB of data during the pandemic was still not significantly different from those who did not ( $\Delta\mu > 0$  but  $p>0.05$ ).

The low demand for news of those who did not have access to 1GB of data might be that they opted to use social media to access current news, which Table 3 depicts. This development results from free access to social media channels such as WhatsApp and Facebook, which many mobile data providers made available to their users.

Concerning the income divide shown in table 9, it turned out that before and during the Covid-19 outbreak, those who had income above N50,000 had significantly higher demand for e-news compared with those who did not ( $\Delta\mu > 0$ ;  $p<0.05$ ).

The results presented in Table 5 show that New Bussa residents did not adopt e-news adequately during the Covid-19 outbreak as against the findings of Casero-Ripollés (2020). Further analysis in Tables 6 – 9 found that educational level and

income tend to be significant determinants of the demand for electronic news, especially during the pandemic. In contrast, gender internet access rates tend to have an insignificant effect on the demand for electronic news. Those who have access to a low quantity of internet service opt for using social media channels to gain access to electronic news. Table 1 supports this assertion, showing that the average monthly income is N50,882.87 which is low for a single person, let alone someone with dependents or relatives. Further, Table 9 shows that only 47 respondents earn above N50,000 while the remaining 103 respondents earn below. Thus, income emerges as to why respondents have an indifferent attitude to adopting electronic news during COVID 19.

Based on the theory of Pavlov, this study had contended that conditioned stimulus (the Covid-19 outbreak) would significantly influence the conditioned response (demand for electronic news in Nigeria). However, as shown in Tables 5- 9, findings disprove this assertion. It turned out that the influence came about due to some extraneous variables (majorly the income and educational level) of residents of the study area.

## **Conclusion and Recommendations**

The study evaluates the possible effects of the Covid-19 outbreak on the attitude change of residents of New Bussa towards the demand for electronic business in New Bussa, Niger State, Nigeria. The result showed that even though there was a higher demand for electronic news during the coronavirus outbreak in the study area, the higher demand was insignificant. Furthermore, it was found that gender and internet access rates were not responsible for the demand for electronic news. However, the educational level and income of the respondents turned out to be the primary culprits that prevented higher demand for electronic news.

The result of the study is limited to New Bussa, Nigeria. Further study is needed in other country areas to shed more light on the topic, leading to a high generalizability profile for research.

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