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## Artificial Intelligence Film Approach In Development Communication For Drug Abuse Prevention

Agbanu, Nosike Venatus<sup>1</sup> & Obigwe, Uchenna Nkiru<sup>2</sup>

<sup>1</sup>Lectuer, Department of Mass Communication, Chukwuemeka Odumegwu Ojukwu University,  
Igbariam Campus, Anambra State. E-mail [vn.agbanu@coou.edu.ng](mailto:vn.agbanu@coou.edu.ng)

<sup>2</sup>PhD Scholar, Department of Mass Communication, Chukwuemeka Odumegwu Ojukwu  
University, Igbariam Campus, Anambra State.

### Abstract

Prevention of drug abuse in communities require an effective communication approach capable of generating the desired effect on the content consumer. Public enlightenment is required to inform persons about the dangers of drug abuse. The use of Artificial intelligence (A1) approach in the production of film used for public enlightenment is the focus of the study which aims at appreciating how aesthetic considerations have been utilized in generative A1 for text and imagery required in the communication exercise for effectiveness. The study, therefore, interrogates how animated images explain anti-social conducts like in the reviewed *Akamata* experience, how provided content enhances message delivery and why content believability and understanding result in those exposed to the presented content. The survey research method is used in the study. The mediamorphosis theory shall be used to show how A1 interfaces with provided media content to produce the required effect on the content consumer. The convergence of technological approaches in film content production using the A1 approach shall be investigated in understanding how technical synergies blend to produce effects capable of dissuading drug abuse in communities, as a development communication strategy. Also, the social judgement theory helps to explain how the incoming message is assessed by content consumers in the desired alteration of attitudes and behaviour toward drug abuse. The effects, whether contrasted or assimilated will help to know if any boomerang effect could even arise. A conclusion is drawn as to the efficacy of A1 use in film production for development communication to facilitate message understanding and acceptance. Obtained result from the study will suggest how NDLEA can use the A1 approach for public enlightenment, on drug abuse prevention, targeted at communities for their development.

**Key Words:** Artificial Intelligence, Film Production, Development Communication, Public Enlightenment, Drug Abuse Prevention

### Introduction

The rise of artificial intelligence (AI) in communication has shown how robots have become effective in playing roles considered earlier, as the exclusive preserve of human in the society.

Currently, robots designed like humans have been involve in the presentation of public enlightenment messages required to affect or influence human attitudes and behaviour towards a desired purpose, for information presentation. Although Schramm (1983) believes that information is the message content of communication, however, Owuamalam (2017) notes that every communication is both target-audience oriented and also purposeful. It shows that there must be a reason for using simulated beings (McQuail, 2012) to address nagging issues in the society that can affect its development. The use of such images in providing vital information to the society in an understandable and believable manner makes it relevant to prevention of drug abuse in communities. To be disconnected from information is to cease to exist (Enemu, Ezeanyi & Ezeaka 2019).

Owuamalam & Owuamalam (2020) assert that film is a store of recorded events that can be recalled at will. The view explains why filmic experience like “Day break at Udi,” shot in the colonial era for the promotion of community development in different areas, still have relevance in contemporary times. The felt-need which the selected project choosen through community scanning (Nwodu, 2014) which Obiano (2022) believes to be the result of “community choose your project” approach,gives credence to survey as a credible source for community project selection. It means that an identified issue should be dealt with through enlightenment so as to enhance active participation of community members. The agreement mobilizes community members to action (Ozumba, 2022). In that way, the recorded event in an area spurs actions in other areas, so as to enhance individual improvement that can lead to community development when aggregated. Drug abuse can lead to anxiety, confusion, insomnia, mood swings and violent behavior from user (Nwammuo, Ezeaka, Anunobi, Ozumba & Aghaebe, 2023).

The AI approach has enabled public enlightenment on social stigmatization as a social commentary on stereotyping to be dissuaded. For instance the use of animated images in the on-going social campaign against negative stereotyping against persons from “Akamata”, an imaginary community in that film. The film producers, the Federal Ministry of Information, believe that where persons are not discriminated against, based on where they come from, communities in Nigeria can then live harmoniously, hence the produced film using the AI approach. It is the success obtained from that film as a development communication strategy that has stimulated the current study interest on how AI can become relevant in dealing with prevention of drug abuse.

### **Statement of Problem**

Presented messages in communication should be understandable so as to make provided information believable to the target audience exposed to it. The message should be presented in a believable manner as to solve an identified problem in the society. Does the filmic approach provide believable and understandable storyline as plots? Is the characterization relevant to the raised issue which the film desires to deal with? How does the performance environment stimulate appreciation? Can the process message stimulate response capable of altering content consumers' attitudes and behaviour toward the addressed issue? The questions show that the message content of the development communication film should be concise, precise and unambiguous in the generation of an acceptable process message.

The gap in literature as to how artificial intelligence can be applied for dealing with drug abuse prevention makes this study relevant and unique for the filling of the observed gap. The use of stimulated images in dealing with a social problem affecting real humans depict how film as an art can be harnessed for addressing a community development issue. The study, therefore, provides real-life experience using a make-belief approach which the AI presents. It is the presentation that the study interrogates and document, in order to advance knowledge in the society.

### **Study Objective**

The general objective of this study is to know whether film produced through the artificial intelligence approach will make community members understand why drug abuse prevention is necessary for social harmony in community development. Specifically the following goals were set to be achieved in the study:

1. To know if community members are able to understand the presented message in the film through the artificial intelligence approach.
2. To find out if the presented message in the film was believable to the content consumer.
3. To ascertain if any significant relationship existed between the presented message in the film and its believability as communication strategy for the prevention of drug abuse.

### **Research Hypotheses**

The hypotheses formulated to be tested in the study was:

Ho: No significant relationship existed between the artificial intelligence produced film and its message understanding by consumers.

H<sub>1</sub>: Content consumers of the film produced through artificial intelligence significantly understood the presented message.

### **Scope of the Study**

The film produced to combat social stigmatization in *Akamata*, through the artificial intelligence approach, was used to study how understandable and believable such a communication strategy could help in addressing a societal ill. The negative stereotyping impinges on the reputation of the community “as people known for bad things” among which drug abuse could be one, although not specifically mentioned. Community members of Awkwuzu in Oyi local government area of Anambra state were used for the study. Only adults, males and females in the community, exposed to the public service presentation on television participated in the study. The survey research method was used to determine the levels of message content understanding, and its believability. Again, the mediamorphosis theory was used to explain technological convergence for the artistic elements while the social judgement was used to explain the attitudes and behaviour of the content consumers to the presented film.

### **Significance of Study**

The study is beneficial to content consumers who feel that characterization through the AI approach will prevent a carry-over effect on the artiste in real-life, who may be associated with social ills that could become a stigma to them. The AI approach, therefore, provides the masking effect of artistes while still delivering the desired message as presented by the message source.

The replicative nature of this study will be beneficial to the NDLEA in the production of a film for preventing drug abuse in the communities as a development communication strategy for community development. In that way, the living standards of the communities will be enhanced through the elimination of drug abuse which can hamper active participation in community projects by community members where they are not persuaded to avoid the health hazard.

Finally, the National Drug Law Enforcement Agency (NDLEA) will learn from the study how artificial intelligence, AI, was used in the social campaign against stigmatization leading to negative community stereotyping. The experience from the film as process message enables the

NDLEA to appreciate how a social issue like drug abuse can be prevented in communities, using the film production approach, in order to explain how its prevention can save society members from scorn and stereotyping capable of stigmatizing persons from the communities and its adverse effect on development. It means, therefore, that the experience from the film from 'Akamata' can enhance artificial intelligence use in film production on the prevention of drug abuse as a development communication strategy through public enlightenment.

### **Conceptual Discussion**

Artificial Intelligence, AI, refers to the application of computer assisted digital production of a storyline for the accomplishment of a communication experience. In the *Akamata* experience, deep-takes, created through the central generated intelligence, CGI, approach enabled voice to be presented as sound in an understandable language for message delivery. The strategy reduces artistes hiring cost through the provision of images in make-belief formats. In that way the produced film presents its central message in a believable and acceptable video format. It is this aspect of AI assisted public service film that NDLEA can explore for the prevention of drug abuse in communities. Drug abuse is a prevailing global public health concern which has been identified to have diverse and devastating effects in the society (Ezeaka, Nwodu & Agbanu 2022).

The target audience as communities would become enlightened on what constitutes drug abuse and how it can be prevented. The communication strategy, dealing with a public affairs issue of public concern (Nwammuo, 2012; Owuamalam, 2017) makes the strategy unique and engaging (IBM, 2024) since the used approach is abnormal to human produced films. The community members as active audience of the AI assisted drug abuse campaign would be enabled to reflect consciously on how the message was delivered, showing its effect on humans in the community. This view, drawn from the *Akamata* experience, show that public enlightenment could create awareness which provides its viewer with the knowledge on how to react to the presented message in the film.

Film production is an art since it is man-made (Owuamalam & Owuamalam, 2018). It is a product of synergizing various artistic elements into a believable structure used for communication (Nwamuo, 2020). It provides content which deals with a specific theme using a sub-theme

approach as plots in the storyline (Uka, 2020). It is the blending of sound through dialogue and effective characterization that present the message transmitted to an audience. In the case of the AI assisted film on 'Akamata' a stigmatized and negatively stereotyped community, the derivable process message shows that public impression can affect personal aspirations and community avoidance for reasons better imagined than of reality. The result is that community members are avoided, thus stalling development. It means that a communication strategy has to be adopted to dislodge the formed negative opinion so as to free the community from negative stereotyping. Public enlightenment, therefore, becomes a vital communication approach which frees people from ignorance and empowers them with knowledge to deal with societal issue (Omu, 1979).

Prevention of drug abuse needs to be explained and understood. The reason for the advocated prevention need to be explained through a believable and acceptable message for group compliance to be achievable. The meaning of drug abuse as the illegal intake of substances that can affect public health need to be explained in an understanding way. Talks and speeches may be boring and avoided but the spectacle of film to its audience shows that the communication approach can become a veritable avenue for drug abuse prevention. The film, therefore, serves as the bait, while using different characters to pass-on the desired message.

The sensitive and long-lasting impressions created on artistic who perform in such a displeasurable acts of drug abuse shows that a credible and reliable communication approach needs to be adopted in producing the film while protecting the reputation of the artistes. The use of AI approach in the film production, therefore, could be considered since the process message would not be lost on the content consumer as its anticipated audience.

The identified social problem made it necessary for a communication approach to be adopted dissuading persons from encouraging negative social stigmatization capable of stereotyping a community negatively. The film method was used as the communication approach for public enlightenment expected to change attitude and behaviour of persons towards *Akamata* and its people in a positive form. The artificial intelligence, AI, method was used since the involved issue in human societies would not be made to rub on any real persons as characters in the presented communication campaign.

In the used AI assisted film, a lady tenant wanted to rent a room from a landlord. The landlord enquired about the lady's occupation to be sure that if a jobless person or one with a questionable character, would be denied the offer to rent the room. When he was told that the lady was a nurse, the landlord was thrilled and willing to rent the room to her but wanted also to know where she hails from. When *Akamata* was mentioned, the landlord asked the lady to leave his house because, according to him, "*Akamata* people are known for bad things" and so cannot live in his house. It is the negative opinion held by people about *Akamata* that has denied the lady a decent living environment from where she could progress in life. The public enlightenment film become a communication strategy for enhancing community development, since as the individuals develop, their communities develop (Schramm, 1983).

The reviewed film is an exercise in the use of communication method for the advancement of development. It means that public enlightenment films become suitable for use as a development communication strategy for persuading a mass audience to conform to a predetermined purpose or objective of the film. The import is that the incoming message was likely to influence the attitude and behaviour of the content consumer, persuasively to change an already held opinion (Owuamalam, 2023).

Different studies reveal the reasons why drug abuse should be prevented in communities as subsets of human societies. For instance, Ikokwu (2024) in an ongoing campaign against methamphetamine (*Mkpuru Mmiri*) consumption in a radio jingle on Boss FM, Owerri tells youths to refrain from abusing and consuming the drug since it could make them mad as to behave abnormally in the society, including rape, incest and even willful destruction. In that way, the consumption of the illicit drug should be prevented in a bid to save society and enhance development in the communities. The radio campaign on drug abuse prevention, even on-going, is addressed to the youth as its target audience. It believes that where youths are prevented from drug abuse, the community develops. The campaign becomes relevant because UNODC in 2018 revealed that 0.06% of Metha-crystal users in Eastern Nigeria sum up to 0.06% or 6,700 users (Dumbili & Ebuenyi, 2022). The radio campaign, therefore, was designed to prevent any upsurge which would become devastating to community development.

Also, Akande, Babatunde *et al* (2023) found that the use of illicit drugs among commercial bus drivers have led to incessant road crashes and should be prevented. Casualties in such crashes may affect opinion leaders and community members to the detriment of community development. They suggested that any prevention campaign against drug abuse should provide adequate information about its hazardous health implication since the psycho-active substance abuse, based on distorted perception and peer group influence ought to be addressed. Ahmed, Joel *et al* (2022) suggest the use of social media in the propagation of persuasive communication against drug abuse. It is the dearth of information on the films approach to public enlightenment as a development communication strategy that makes the current study unique in the use of AI in film production dedicated to prevention of drug abuse.

The study would have analysed any such film produced to prevent drug abuse but none seem to have addressed the issue from an AI perspective. The experience drawn from the *Akamata* campaign against social stigmatization and negative stereotyping of a community provide the pedestal for noting how audience reaction to such a filmic approach can advise a replication for prevention of drug abuse. In that way, the process message like “Zip-up” campaign against unwanted pregnancy and HIV infections can help to design the information needed for the drug abuse prevention campaign. The generated experience would enable the film producer to become informed on decisions about plots and theme in the movie expected to attract audience attention, elicit its consideration and facilitate positive response to attitudinal and behavioural changes.

Two theories were considered apt for the study because of their relevance to the used technologies and stimulated audience response capable of persuading attitudinal and behavioural changes. The mediamorphosis theory explain how the technological inputs converge to produce the film while the social judgement theory explain how presented content influence attitude and behaviour.

The mediamorphosis theory was developed in 1997 by Roger Fidler who believes that the synergy between different technological approaches produce a plausible communication experience as a result of the converged technologies. In the current study, the use of the conventional camera in the recording of images blend with the digitalized technology of the Artificial Intelligence capabilities in the production of a public enlightenment film designed to address an issue of public

concern. It is the convergence of the conventional and modern day technologies that give credence to the AI assisted film as capable to be used in development communication presentation for the prevention of drug abuse in the communities. The theory explains how animation as a technological idea blends with the digitalized input of artificial intelligence in the production of the film.

The script analysis is done through artificial intelligence to confirm that presented message suits the desired objective in the production of the process message as the communication effect, video editing competence ensure that picture sequencing is made believable and acceptable while controlling the movements and actions of the virtual actors in order to produce the expected process message. The filmic strategy no doubt reduces cost and still achieves the anticipated result in providing the enlightenment which community members as audience require to deal with the social problem in the film. In this approach, the use of generative AI applies (IBM, 2024). It is through the technological device that images are simulated and blend with voice in a synchronized manner to produce a believable message to the audience.

The social judgement theory explains what happens when message as in-coming communication content interacts with the receivers. The message is assimilated where it tallies with the expectation of the receiver which means that it falls on the latitude of acceptance. In that case, the presented information as message content of the communication becomes acceptable to the receiver. If however, it falls within the latitude of rejection, it is contrasted or rejected. It could even fall within the latitude of non-commitment from which a boomerang effect can occur as unexpected to the message source (Oskamp, 1989). The explanation, therefore, shows how believability is explained through media technology convergence in the film production process while its effect on the attitude and behaviour of the audience is explained by another theory, the social judgement theory.

### **Methodology**

The survey research method was used in ascertaining analyzable quantitative data from community audience in Awkwuzu who watched the AI assisted film on stigmatization and negative stereotyping in *Akamata*. The survey research method was used since the opinion of the audience was sought as data, obtained from field experience, where the phenomenon as existed was

investigated (Wimmer & Dominick, 2011). The population of those who reside in Awkuzu was placed at 14,684 persons by the Secretary of the Town Union, as the community's association, but that of those who watched the presented film was unknown. So the Topman's formular (Owuamalam, 2020) was used in the determination of sample size used in the study.

A sample of 20 residents in Awkuzu were asked if they had watched the AI assisted film on *Akamata* community. Twelve persons responded in the positive while the other eight responded in the negative. The formular used for the sample size determination, therefore, was:

$$n = \frac{Z^2 pq}{e^2}$$

Where n= calculated sample size, Z is acceptable margin on the Z-score table, p = value of positive response, q= value of negative response while e = negligible margin of error. The value of Z = 95% = 1.36 while e = 5% = 0.05. The values of p = 12 = 0.6 while that of q = 8 = 0.4. The calculated value therefore was:

$$\begin{aligned} n &= \frac{(1.36)^2 \times 0.6 \times 0.4}{(0.05)^2} \\ &= \frac{1.85 \times 0.6 \times 0.4}{0.0025} \\ &= \frac{0.444}{0.0025} = 176.64 \approx \mathbf{177} \end{aligned}$$

The calculated sample size of 177 was used in the study. A total of 177 copies of the questionnaire were produced and distributed to the five villages in Awkuzu. The parity method (Okoro, 2000) was adopted since the exact population from each village who watched the film was not known as to use the proportionate percentage method of sample size allocation. It means that each village got a minimum of 35 copies while the remaining two were purposively allocated to the two largest villages at 1 each as an extra. It shows that while three villages got 35 each, the other two get 36 each which sum up to the 177.

The survey research method responded to four questions on the questionnaire as follows:

1. Did you watch the TV presentation on “*Akamata*” tenant/landlord experience?
2. How did you understand the film?
3. What makes you believe the message in the film?
4. Does any relationship exists between the film watched and the message understood as through exposure to its content?

The used questionnaire was certified valid through the face-value method while its reliability was certified through the test-retest method (Wimmer & Dominick, 2011). The certified questionnaire was administered to Awkuzu residents. Obtained data were presented in a frequency table format that enabled data to be categorized in a mutually exclusive manner (Nwodu, 2017). Simple percentage was used in obtaining result while the 5-point Likert scale (Owuamalam, 2020) helped in testing the hypothesis as product of expressed views of the audience. The used simple percentage formular was:

$$P = \frac{FR}{NR}$$

Where P = obtained percentage; FR = frequency of response and NR = total number of respondents. Also the formular used as the Likert scale was:

$$\bar{x} = \frac{SA+A+UD+D+SD}{5}$$

Where  $\bar{x}$  = calculated mean value, SA = strongly agree, A = agree, UD = undecided, D = disagree and SD = strongly disagree. The codes were given value in a descending order from 5 – 1 hence the obtained decision point became:

$$\bar{x} = \frac{5 + 4 + 3 + 2 + 1}{5} = \frac{15}{5} = 3$$

It means therefore that any value less than the decision point accepted the null hypothesis,  $H_0$ , and rejected its alternate,  $H_1$ . The reverse also became the issue where the calculated mean value  $\bar{x}$ , is greater than the decision point value of 3.

Details of findings from the study are as follows:

Out of the produced 177 copies of the questionnaire, 9 (5%) were found invalid for the study since 6 were not properly completed and 3 were not returned. It meant that 168 (95%) copies used in the study as follows:

**SQ1.** Did you watch the presentation of “Akamata” Tenant/landlord on television?

Obtained data were analysed and interpreted as follows:

**Table 1: Percentage of Exposure to the AI assisted film on Akamata**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Yes, I did</b>	114	68
<b>No, I didn't</b>	8	5

<b>Please, I can't remember</b>	46	27
<b>Total</b>	<b>168</b>	<b>100</b>

*Source: field survey, 2024.*

The findings show that more than two-thirds of the residents as audience watched the presented film. It means that the level of exposure to the film was high since majority of the respondents watched the film.

**SQ2.** How did you understand the film?

Obtained data were analysed as follows:

**Table 2: Audience Understanding of the Film**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
<b>It showed the effect of negative public opinion.</b>	28	17
<b>It frustrates development of community and its members.</b>	67	40
<b>Stigmatization and stereotyping results from perception.</b>	58	34
<b>Can't really tell</b>	15	9
<b>Total</b>	<b>168</b>	<b>100</b>

*Source: field survey, 2024.*

Result above shows that whereas three-quarters of the respondents understood that the film showed how human action can frustrate community development, while about one-third believed that stigmatization and stereotyping are products of human perception. It means that peoples impression of any community and its members result from feelings obtained through various perspectives. It means that appropriate information is required to deal with human impressions through persuasive communication.

**SQ3.** What makes you believe the message in the film?

Obtained data as analysed showed the following.

**Table 3: Audience Belief Extent of the Presented Message.**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
<b>The dialogue explains the message.</b>	72	43
<b>The actions and movements are believable in real life.</b>	46	33
<b>What leads to human actions were clearly presented.</b>	28	17
<b>The use of non-humans made one to doubt its reality.</b>	12	7
<b>Total</b>	<b>168</b>	<b>100</b>

*Source: field survey, 2024.*

Result above shows that whereas a total of three-quarters felt that dialogue through voice as sound, blending with movements and action made the message content believable. However, less than one-tenth of the respondent doubted the validity of using animated images in the presentation of real-life experience.

**SQ4.** Does any significant relationship exists between the film watched and the message understood through exposure to its content?

The above question was used to test the only hypothesis in the study as follows:

**Table 4: Relationship between Presented Film and Understood Message.**

<b>Item 4</b>	<b>Response</b>	<b>Total</b>	<b>Mean value</b> $\bar{X}$
A significant relationship exist between the AI assisted film watched by you and the message you understood from watching the film.			

Code	SA=5	A=4	UD=3	D=2	SD=1	15	580
Frequency	40	65	30	23	10	168	168
Code value	200	260	60	50	10	580	= 3.5
result							
Percentage	24	39	18	14	5	100.00	$\bar{X} = 3.5$

*Source: field survey, 2024.*

Result from the table above shows that the calculated mean value  $X_{cal}$  of  $\bar{3.5}$  is greater than the decision point value of  $X_{tab}$  3.0 by a difference of 0.5 that can be approximated to 1 which is a significant value. It means that the  $X_{cal} > X_{tab}$  hence  $H_0$  was rejected while  $H_1$  is accepted. The result explains why the study accepted that content consumers of the film understood the presented message. The difference between those who understood at 63% as against those who did not at 19% showed a significant difference of 44% or more than two-fifths of the respondents.

### Summary and Conclusion

The study found that the level of exposure to the AI assisted film was high at 68%, that three-quarters of the audience (at 74%) understood the presented message, another three-quarters (76%) believed the presented message. The audience appreciated the blending of information with sound and movement, generated through the convergence of the technologies. Acceptability and believability as responses to the message showed audience attitude and behaviour to the film. It shows why the experience of the *Akamata* production experience can be replicated in drug abuse prevention in communities like Awkwuzu. The import is that AI assisted film can also produce a persuasive communication effect on the prevention of drug abuse.

Conclusively, clear and persuasively presented messages can alter audience attitude and behaviours as desired by the message source. Audience response manifest the viewpoint.

It is, therefore, recommended that an AI assisted film on prevention of drug abuse should be presented to explain the hazards of drug abuse to its audience. The enlightenment should be done with the intention of achieving zero-tolerance to drug abuse in communities. The used words must be apt and the presentation style made believable, so as to enhance message acceptance by the audience.

The contribution to knowledge shows the Artificial Intelligence approach can be effectively used in the production of public enlightenment film, designed to address the prevention of drug abuse

in human communities. The approach removes backlashes on the reputation of human characters, engaged in the produced film. Public enlightenment should be clear, understandable and believable.

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