

Dr. Ibaa A.E.O.Awad

King Abdul Aziz University
College of media and communication (Saudi Arabia, Jeddah)
e-mail: ibaa2011@hotmail.com

USAGE OF TV STUDIO TECHNOLOGY IN THE PRODUCTION OF CONTEST PROGRAMS

This research is concerned with comparing the usage of TV studio technology in the production of contest programs in official and private Sudanese TV channels at different times, to reach accurate findings.

This research is classified under the umbrella of the descriptive studies, by applying content analysis as it is an accurate tool, depending on answering the questions of the study besides denying or proving research hypotheses.

The most important findings of this study are the private sector TV channels, depends on TV studio technology in the contesters program production, whereas, the official channels did not depend on it as modern technology was not common thirty years ago. The private sector TV channel relies on sponsoring companies in providing kind and cash prizes for the contesters of the competition programmes.

The most necessary recommendations of this study are the importance of applying modern technology of the TV studio in producing high quality programmess, particularly, that programs which require attraction of viewers inside and outside the studio, the necessity of reducing the number of the TV production crew, in the case of applying the virtual TV studio, because, this type of the studio depends on the computer programmes in the production stages and offering Sudanese official TV channel more concern with supplying it with modern equipment to keep pace with technical development, which contributes to the best television production.

Key words: Sudanese TV channels, TV studio technology, the production of contest programs.

Ибаа А.Е.О. Авад

Аддул-Азиз атындағы университет, Медиа және байланыс колледжі
Сауд Аравия, Джидда қ., e-mail: ibaa2011@hotmail.com

Конкурстық бағдарламалар өндірісінде телестудия технологиясын пайдалану

Зерттеу нақты нәтижелерге жету үшін әртүрлі уақытта ресми және жеке судандық телеарналардағы конкурстық бағдарламаларды өндіруде телестудия технологияларын пайдаланудың салыстырмалы талдауына негізделеді. Бұл ғылыми жұмыс сипаттамалық зерттеу ретінде жіктеледі, оның барысында проблемаларды зерттеу және гипотезаларды қайта қараудың ең нақты құралы ретінде контент-талдауы жүргізілді. Негізгі қорытынды жеке сектор телеарналарының бағдарламалық-конкурстарды өндіру кезінде телестудия технологияларына тәуелділігін, сондай-ақ ресми арналардың осы факторға тәуелділігінің төмендігін анықтау болып табылады. Отыз жыл бұрын теледидар өндірісінің инновациялық технологиялары таратылмағанын ескеру қажет. Қазіргі жеке телеарналар жарыс бағдарламасына қатысушыларға жүлделер беруде демеушілік компанияларды белсенді түрде пайдаланады.

Зерттеудің авторлары жоғары сапалы бағдарламаларды өндіруде, атап айтқанда көрермендерді тартуды талап ететін телестудияда заманауи технологияларды қолданудың маңыздылығын атап өтті; студияның бұл түрі өндірістің барлық кезеңдеріндегі компьютерлік бағдарламаларға байланысты болғандықтан, виртуалды телевизиялық студияны қолданған жағдайда, телевизиялық өндірістің түсіру тобының санын қысқарту қажеттігін атап өтеді. Мақала авторлары судандық ресми теледидар өндірісін жетілдіру үшін телестудияны қазіргі заманғы жабдықтармен жарақтандыруға көбірек қамқорлық жасауды ұсынады.

Түйін сөздер: Судан телеарналары, теледидар студиясы технологиялары, бәсекеге қабілетті бағдарламаларды шығару.

Ибаа А.Е.О. Авад

Университет короля Абдул-Азиза, Колледж СМИ и коммуникации, Саудовская Аравия, г. Джидда,
e-mail: ibaa2011@hotmail.com

Практика использования телевещательных технологий в производстве конкурсных программ

Исследование базируется на сравнительном анализе использования технологий телестудий при производстве конкурсных программ на официальных и частных суданских телеканалах в разное время для достижения конкретных результатов. Данная научная работа классифицируется как описательное исследование, в ходе которого был проведен контент-анализ как наиболее точный инструмент изучения проблематики и обзора гипотез. Основным выводом является выявление зависимости телеканалов частного сектора от технологий телестудий при производстве программ-конкурсов, а также более низкая зависимость официальных каналов от данного фактора. Следует учитывать, что инновационные технологии телевизионного производства не были распространены тридцать лет назад. Современные частные телеканалы активно используют спонсорские компании в предоставлении призов участникам соревновательных программ.

Автор исследования подчеркивает важность применения современных технологий на телестудии при производстве высококачественных программ, в частности, тех, которые требуют привлечения зрителей; отмечает необходимость сокращения количества съемочной группы телевизионного производства, в случае применения виртуальной телевизионной студии, поскольку этот тип студии зависит от компьютерных программ на всех этапах производства. Ученый рекомендует суданскому официальному телевизионному каналу больше заботиться об оснащении телестудии современным оборудованием, чтобы идти в ногу с техническим прогрессом и совершенствовать телевизионное производство.

Ключевые слова: суданские телеканалы, технологии телестудий, производство конкурсных программ.

Introduction

Communication technology and the efficient impacts of concourse are changing the style that helps the audience to have access to audio-visual content; this content has become more attractive than what had being presented in the near past.

The new technology lets the TV program producers face a great challenge which urges them in finding ways of producing the best of TV programs, particularly that TV is a medium which has characteristics which lead the viewers to thrill, excitement and vitality.

The TV has various types of programmes which can provide the surveillance of environment, transmission of the social inheritance, servicing the political systems and entertainment besides other functions of communication.

The TV content programme also includes advertisements which are considerable for business activities and concerning future demand for people. The TV channels also benefit from advertisements revenues for supporting their finance, moreover, sponsoring companies, and other bodies. The sponsoring companies provide common benefits between them and the TV channels. Sponsorship programmes realize promotion targets of the products (Thomas H. Brivins, 1994).

Communication technology is neutral; it requires issuance of regulations besides the application of contest rules. Sometimes, the application of regulations and competition rules are complicated as swift technological changes and increases requirement which can tangle the process of designing related markets and increase the danger of overlapping regulatory jurisdictions. This study is interested in TV studio technology usage for broadcasting contest programmes, such as quizzes and competition programmes, which realize enjoyment and refresh of information. This type of programmes enjoys the inside audience and outside the TV studio. Quizzes and contests programmes benefit from the promotion and sponsorship in providing money and prizes for the winners, at the same time sponsoring companies and other bodies have an opportunity to show their commercial activities. The study selected two programmes in deferent ages with the aim of been acquainted with the differences in official and private TV channels in Sudan. (*Forsan Fee El-Midan*) programme which had been broadcasting during the 1980s in Sudan TV. This programme represents the official sector and (*Fakker Anta Fee El-Khartoum*) programme has been launched in 2017, which symbolizes the private sector TV channels.

These two programs represent the contest TV programs for thirty years. Content analysis tool has been used to measure how TV technology been applied in producing various programmes. The study depends on answering the questions and denying or verifying the hypotheses to reach convincing findings (Sudania 24, 2018).

A– Methodology of the study. 1– Necessity of Study

The necessity of this study derived from the importance of being aware of how the usage of studio TV technology for producing contest programs, comparing with that programs which have been transmitting during the 21st century and what were transmitted during the 1980s. It is important that for the concerned people and researches to know how the current technology helps viewers to reach the dazzling stage, excitement and thrill. Thus, this research aims at being acquainted with the benefits of the TV studio technology in producing good quality contest programmes which maintains and increases the number of TV channel viewers. These kinds of programmes also realize two functions of communication; the first one is to enrich the viewers' information and beside the entertainment.

2 – Problem of the Study

The problem of the study is an expression about a certain field of interest or a condition to be developed on, a problem to be solved, or a difficult question in scholarly literature, in theory, or in existing practice these areas which required to be understood intentional check (<http://libguides.usc.edu/writingguide/>). As it is known that, TV is a distinguish medium which has characteristics, such as animation, sound and colouring. These characteristics attract viewers of all age groups.

The problem of this study is that there is unclear awareness with the benefits of using current TV studio technology to improve the quality of TV programs for the realization of more attraction and excitement, compared with TV technology which was used three decades ago; moreover, there is lack of studies in this field. This study has been carried out to unveil the information about the usage of the technology in the competition programs, which are watched by viewers of official and private sectors, after a long working or educational day which is full of stress.

3 – Theory of Study

This study has chosen two fields of the theoretical level, which they are as follow:

A– Approach of the Theory: Media richness theory.

This theory is related to the richness of a certain medium. This theory is a frame to portray

a communication medium through its capability to re-create the content which is transmitted on this medium. This theory was also designed by Richard L. Daft and his partner. A telephone call for example, isn't capable to reproduce visual nonverbal communication signs such as gestures and body language. This makes it less rich (as a communication medium) than TV and video, which manage to communicate non-verbal communication and body language. Mainly, this theory explains that the more uncertain and ambiguous a task is, the richer form of media it. The theory also depends on contingency theory and communication processing theory. The shows that richer, more personal communication means are as general, more effective for communication of ambiguous issues than meager, less rich media. The most quick and deep application of media richness theory is for the communicators selecting a communication medium. This theory pointed to that a communicator may apply the richest available medium to illustrate the required content. The communicators are occasionally persuaded to apply less-rich forms of communication. Communicators who apply less-rich mass media should consider the limitations of the medium dimensions of feedback, multiple cues, message emotion and tailoring. In this study, TV has been selected as a rich medium because it has some characteristics which make it different from other media. These characteristics include motion and colours. Contest program is a classification of TV programs, which is concerned with providing information and entertainment to its viewers and participants (<http://sphweb.bumc.bu.edu>).

B – Diffusion of Innovation Theory

This theory can be applied in this study details because TV studio new technology is considered as an innovation. The adoption of an innovation, idea or information is a difficult issue because people are cautious of new things as they are mysterious to them.

Rogers developed the Diffusion of Innovation Theory in 1962. It was created in communication to clarify how, an idea or product obtains momentum and spreads in a certain area over time. The result of this diffusion is that people adopt an innovation (TV studio technology).

There are five established adopter groups, which are mentioned in this theory; they are innovators, early adopters, early majority, late majority and laggards which are the last group in adopting the new innovation either an or a commodity.

Sudanese citizens who are concerned with TV program production are classified as the late

majority who adopted TV studio new technology, not because they don't accept it, but because they were not aware of it three decades ago (Melfin Defleur, Ball and Rokeach, 1982).

Similarities between the selected theories and the study

1 – Media Richness theory is similar to the study in the following:

A – TV is described as a rich medium because it has advantages, as it is audio– visual and animated coloured picture.

B – TV turns fantasy into reality.

C – It transmits the scene as it is.

2 – Diffusion of Innovation Theory is suitable to be applied in this study because the adoption of TV studio technology in Sudan is gradual and takes a long time, so Sudanese TV production crew are classified as laggards. They have been adopted the idea of applying modern TV studio technology late.

4 – Previous Studies

There are some relevant previous studies, appear in this study as follows: which are mentioned, they are as follows:

A – This study was carried out by Virginia Beal, Jenni Romaniuk & Byron Sharp, published in (2017); it is concerned with measuring the capability of the TV promotion to provide ratings of TV programmes applying single-source data, The TV entertainment programmes attract the viewer. Thus, these programmes can be utilized in presenting the advertisements.

This research reviews a mean to study the effects of on-air TV promo, or what is known by promotion programmes, on viewing behaviour, depends on a strong single-source mean of finding out the causal effect of advertising on sales.

It illustrates this method which has applied on eighteen new prime-time programmes, demonstrating that promotions programmes have a positive effect on viewing behaviour. Exposed viewers are basically more likely to view the premiere episode of a new series, across a wide range of different TV-viewing weights, the frequency of promotion programme s exposures. This study also reviews evidence of reach-based programming strategies being generally more effective than frequency-based strategies. The results of this study reach guideline in helping networks to achieve the promotion strategy more efficiently, and a method for future studies into the efficient of TV promotion programmes as this approach could be applied anywhere with a TV rating panel (WLVI The Ten O'Clock News Preview/Promo, 1999).

B – This research has been carried out by Osama El-Hassan, published in 2015 in Sudan University of Science Technology Journal. It aimed at introducing a new virtual reality technology unit in the of media, and to understand the usage of multimedia elements in the production of TV programs, concentrating on the uses of virtual reality technology in the media in general specifically the Shorouq TV channel beside Sudan TV, to be aware about the of TV studio application of virtual reality. The study also is concerned with the benefit of global technical devices in the upgrading of manpower who work for TV channels, such as technicians, designers, and directors by the support of global expertise.

The applied study of this research was in the Sudan TV and Shorouq channel, whereas the time limitation of the study was the period of 2013 to 2015.

This research is classified under descriptive studies. It applied questionnaire, interview and observation study tools for data collected. The research population contains graphics, directors, producers and décor technicians in the Sudan TV and Shorouq channel.

The sample of the study included 25 persons. The interview had also been carried out with graphic designers and directors (5 members).

The most important findings of this study are; the graphics designing is more attractive technologies in program production in the sample of this study.

The virtual reality techniques are not used accurately in Sudan TV programs production. Virtual TV studio application can reduce the financial cost more than the traditional TV studio. Sudanese TV staff is well-qualified and they can apply the virtual reality studio in the programme production accurately (Osama El-Hassan, 2015).

C – This study has been carried out by J Sonia Huang, Hong-Yu Chang-Yu Chang on the effects of the virtual studios VSs on Taiwanese TV production. VSs have had a great effect on the TV broadcasters who are fascinated with the TV technology and the potentials of supporting the TV production.

Nevertheless, it remains to be decided whether VSs have replaced real background sets once they had been applied in 1994 and what are their benefits and the limitations.

The sample of this research includes 205 programmes for applying content analysis and questionnaires which was distributed to 68 experts who work for the TV broadcasting establishments of Taiwan to test the impacts of applying VSs.

The most important findings of this study illustrate that VSs were applied for a third of

programme production processes and the news programme was the only programme in which VSs has been adopted, representing more than 50%.

This research also reached 9 common factors that represent an experimental outline of VSs' advantages and limitations of 20 years after they were introduced in Taiwan (J. Sonia Huang, Hong-Yu Chang, 2004).

D – This study was carried out by Ramadan Zubair Chaouch and Laila Fakiri on (Virtual Studio and the Problem of Managing mass Media, case study on Algerian Television (2013) on how the media organization can be managed by the lowest costs and increase revenues through the economy of modern technologies, to reduce the costs of production through the right of studio and manpower and increase the attraction of the viewer through the use of virtual decoration (Ramadan Zubair Chaouch and Laila Fakiri, 2013).

E – This study was on an academic paper which was presented on 22nd of October in 2006 at the International Workshop on Mixed Reality Technology for Filmmaking, at the University of California at Santa Barbara. This study overviewed the technologies for the real-time mixing of real and virtual pictures of live TV programmes production which were transmitted on-set visualization in film making. This activity is much famous with the filmmaking field. The study target was to produce a view of the scene, which includes virtual devices, in real-time, to assist TV production crew in their performance for example shot framing. A summarized review shows how some techniques applied in TV film production. A relevant field of this activity is pre-visualization, where computer graphics are used to simulate a view of a scene before shooting happens. This paper found that pre-visualization is actually used widely in film making; however, in the TV traditional production, tools of paper-based storyboards and cardboard models of a set are still extensively used in TV production. An example of a tool that provides an intuitive way of planning and visualizing a production is shortly presented, which can be applied in both TV and film production.

The virtual TV studios win more acceptance by the development of the computer graphics and camera tracking. The commercial studios cannot still have full interaction between actors and virtual scene because actors data are not completely digital available as well as the feedback for actors is still not sufficient.

Markerless full body tracking might revolutionize VSs technology as it allows better

interaction between real and virtual world. This article reports about using a markerless actor tracking in a virtual studio with a tracking volume of nearly 40 cubic meters enabling up to three actors within the green box.

The tracking is used for resolving the occlusion between virtual objects and actors so that the Tenderer can output automatically a mask for virtual objects in the foreground in case the actor is behind.

It is also used for triggering functions scripted within the tenderer engine, which are attached to virtual objects, starting any kind of action, such as animation. This system is used for controlling avatars within the virtual set.

All tracking and rendering are done within a studio frame rate of 50 Hz with about 3 frames delay. The markerless actor tracking within virtual studios is assessed by experts in the field of filmmaking, applying an interview approach. The statistical evaluation is based on a questionnaire (Jens Herder, 2013).

Relations of the previous studies with the current research

There are some similarities between this study and the previous studies, they are:

- The first study illustrates promotion programs and the viewing behaviour among the viewers and how can programs producers exploit them in attracting the audience

- The second research reviews how TV studio technology has been applied for better TV production.

- The third study illustrates a comparison between the use of traditional and virtual TV studios over twenty years

- The fourth research concentrates on how the media is managed by the lowest costs and increase revenues through the economy by applying virtual TV studio.

- Finally, the academic paper reviews how VSs have now much more acceptance through the development of the computer graphics and camera tracking in filmmaking.

5 – Questions of Study

There are some questions for this study, they are as follows:

A – How can TV studio technology be used for transmission of contest programs?

B – How can TV studio technology be used for the realization of attractive contest programs?

C – Is the technology used for selection of the participant of a contest episode?

D – Is the TV studio technology used in participant selection of the field of which the questions of the contest?

E – Is the TV studio technology applied in asking the participant questions during an episode of the contest program?

F – Is the third screen used for counting the participant scores?

G – Can the TV studio technology help the participant when it is needed?

6 – Hypothesis of the Study

In this study, there are some hypothesis; they are:

1 – There is a relation between the time and the quality of TV production

2 – There is a relation between the number of TV production crew and the usage of the virtual TV studio.

3 – There is a relation between the time and being concerned with the advertisement.

7 – Methodology of the Study

This study can be classified under descriptive studies, which describes a certain phenomenon in the field of communication. In this study, the usage of current TV studio technology is required to be described in comparison with the one which was applied in the past.

8 – Tool of the study

The content analysis tool can be defined as (a class of research methods at the intersection of the qualitative and quantitative traditions. It is promising for the rigorous exploration of many important...)

Specifically, the content analysis has been applied in this study on two contest programmes, which were transmitted in 1988 compared with what was transmitted in 2018, in order to reach accurate findings.

Six episodes were selected from both of the programmes to be analyzed, applying of this tool has led to accurate findings for this study (Duriau, Reger, & Pfarrer, 2007).

9 – Sample of Study

The sample of the research can be defined as a group of people, objects, or items that are taken from a larger population for measurement. The sample of the study represents the population to make sure that the findings of this study can be generalized from the research sample to the population.

It is difficult for any researcher to represent the population of the research in the study, thus a sample can be selected to represent the population of the study.

Six episodes of each contest programs have been chosen. The sample was selected from the Sudanese official TV channel and Sudania 24, a private TV channel, to compare between the usages of TV studio technology in different ages.

As it is known that the development in the field

of communication and information has reached a great level and it is continuing, according to the speed of time. It is expected that changes in the TV programs production will proceed (Organization Research Methods, 2010).

10 – Time Limitation

The sample was chosen from the episodes of (*Forsan Fee El-Midan*) programme which were transmitted by Sudanese national TV in 1988 in comparison with other six episodes of (*Fakker Anta Fee El-Khartoum*) programme which were transmitted in 2018. These episodes of the two programmes were selected from, that were transmitted in Ramadan programme cycles.

11 – Terms of the study

1 – Quiz shows

A – They are radio or TV shows in which people answer a series of questions and compete with each other to see who can win the most money or prizes.

B – A TV show that describes a real competition, typically a trivia contest or physical challenge, with rewards in money or prizes (The Hillingdon Hospital.March 2006).

2 – Games programmes

It is a TV programme in which people answer questions or play games to win prizes (<https://quizlet.com/19658539/>).

3 – Sports competitions

The broadcasting of sports contests (also known as a sportscast). It is the live coverage of sports as a type of TV programmes, on the radio, and other broadcasting media. It always involves one or more sports commentators to describe the event as it occurs (<https://en.wikipedia.org/>).

4 – Promotion programme

A – It is called a promo (a shorthand term for promotion). It is a form of commercial advertising used in broadcast media, either radio or TV, which promotes a programme airing on a radio station TV channel or a network to the viewing or listening audience. The audience may attend the program airing or recording (The Ten O'Clock News Preview/Promo 1999).

B – Promo takes the form of graphical messages over programming, short channel identification pieces, and longer commercial-length spots driving viewers to programming priorities. The aim of promotion is to enhance knowledge for shows, create the view intent, and increase channel viewership (Harper's Magazine, 1999).

This part of the study illustrates some details of traditional and virtual TV studios beside examples of audiovisual game programs around the world which show competition and excitement. It also includes

both of the TV channels besides the programs which have been chosen as the samples of the study.

A – TV Studio

It is also known with a TV production studio. It is a specialized place where TV production is achieved, either for the TV videos recordings or the acquisition of raw footage for post-production which is presented later.

The shape of a TV studio is the same as or derived from, the cinema studios, with some amendments for the special needs of TV production.

The vocational TV studio, in general, has a number of rooms, which are placed separately to avoid noise, practicality and technical purposes. The rooms are linked via intercom, and personnel. These rooms are divided.

1 – Studio floor

It is the real stage on which the works of recorded and viewed are achieved. The ideal studio floor has some characteristics and installations, they are as follows:

A – Video camera: sometimes one camera is used and usually several cameras are needed.

B – Decoration sets

C – Microphones and holdback speakers are always used for improving the quality of voice.

D – Lighting rigs and the related controlling equipment.

E – Video monitors are fixed for visual feedback. They are placed in the Production Control Room (PCR)

F – Public address system is necessary for efficient communication

G – Glass window which is placed between PCR and studio floor for direct visual contact is often desired; however, it is not always possible

While production is in progress, people composing a television crew work on the studio floor.

1 – On-screen presenters and any guests besides the subjects of a TV show.

2 – A floor manager is the person who has comprehensive responsibility for the studio area stage management. S/he also depends on timing and other information from the TV director.

3 – Camera operators are responsible for operating the cameras, though in these cameras are also operated from the PCR using remotely controlled robotic pan tilt zoom camera (PTZ) heads. Camera operators can be more than or just one.

4 – Teleprompter operator. It is required if a piece of live TV news is broadcasted.

5 – Production-control room

It is a room of the TV studio where the composition of the outgoing programme is created.

This room is sometimes known by a studio control room (SCR) or a gallery.

The gallery name was derived from the original placement of the director on an ornately carved bridge spanning of the BBC's first studio which was placed at Alexandra Palace in London. The SCR was once referred to as like a minstrels' gallery (Birmingham and others, 1984).

6 – Master control is the broadcast operation, common among most over-the-air TV channels and networks. Master control is differ from a PCR in TV studios where the processes of production such as switching from camera to camera are achieved. The transmission control room (TCR) is smaller in size and is a scaled-down version of centralcasting.

7 – Master control room MCR

It is the place where the equipment is located. It is noisy or runs hot for the production control room (PCR). It also makes sure that coax cable and other wire lengths and installation requirements keep within manageable lengths since most high-quality wiring runs only between devices in this room. This can include the actual circuitry and connections between:

A – Video servers

B – Character generator (CG)

C – Camera control units (CCU)

D – Vision mixer or video switcher

E – Digital video effects (DVE)

F – Video Tape Rooms VTRs

G – Patch panels

The master control room in the United States' TV channels is known as the places where the on-air signal is controlled. It includes controls to playout TV programmes and TV commercial programmes, switch local or TV network feeds, record satellite feeds and monitor the transmitters; these items may be located in an adjacent equipment rack room (Millerson, Gelard, 1980).

The term (studio) refers to the place where a certain local programme is produced. If the programme is a broadcast live, the signal travels from the PCR to MCR, then out to the transmitter.

There are some other rooms are affiliated to the TV studio with no technical needs beyond broadcast reference monitors and studio monitors of audio – visual medium (“Behind the scenes at the cradle of TV”, 2011).

These rooms are as follows:

1 – Make-up and changing rooms.

2 – The reception area for crew, talent, and visitors. It is generally known as the green room (“Television Studio Facilities / Components”, 2014).

B – Virtual Studios VSs

Virtual studios VSs allow actors to interact with characters which are generated by the computer besides creatures in real time. VSs have been created by the British Broadcasting Corporation, the BBC. They lead to a new generation of programmes and films which are produced with developed special effects with low cost.

This system was originated by the BBC is named by Origami. It has been developed during the two years by German and Italian researchers.

By using traditional “chromakey” special effects, the actor stands in front of a blank background which is covered with very small reflective beads. The camera lens is ringed with blue LEDs whose light bounces off the background and back at the camera, silhouetting the actor. This background can be replaced with a pre-recorded scene.

There are some advantages of the virtual TV studio; they are as follow:

1 – Professional virtual sets

VSs is nice to look at, outstanding quality and contemporary set which creates thrill for TV viewers makes viewers amazed .

2 – Easy to customize

Every VS is received as separate layers, with a complete Photoshop version too, so new creations may be added by a skillful designer. Skylines drop in a logo, and colour changing is available, and no additional costs will be a burden. All the original elements are included.

3 – Flexibility, professional broadcast quality

All the various layers of the VSs are fully compatible with all major editing and graphics packages such as Final Cut, After Effects, Premiere Pro. High-quality TV programs can be produced in VSs better than what are produced in the traditional TV studio.

4 – Compatible

Every VSs also have a Photoshop version as standard. Not only does this give all the layers in one place, but also layers are grouped and named correctly to integrate seamlessly with the new Virtual Set Editor. There are special UV gradients already set up to handle all the live inputs and real-time reflections.

5 – Low cost

VSs application can reduce programmes production cost. A number of production devices and tools are not required because most of the production processes are carried out by computer sets.

6 – Reducing the production crew

Most production processes are achieved by a computer, thus, many staff members are not needed.

Low cost and a small number of staff members versus high quality of TV production (<https://virtualstudiosets.com/>).

TV VSs have been used for tackling the production problems such as the high cost of traditional TV production, and some items can be generated by the computer programs which solve graphics obstacles. Decoration accessories also can be generated by a computer.

However, VSs has disadvantages, such as colours cannot be controlled as well as that the production in VSs requires full lighting system to avoid the shadows of the objects (Tawhida Sulieman, 2018).

Games Programmes

In the late 1930s, game shows started in the USA on radio and TV. The first TV game show, was Spelling Bee programme, and the first radio game show, was Information Please programme, were both broadcasts in 1938; the first great hit in the game show genre was Dr. I.Q. programme, a radio quiz show started in 1939.

Truth or Consequences programme was the first game show to air on commercially licensed TV and the CBS TV Quiz programme followed shortly thereafter. In 1941, the first episode of Quiz programme was aired as an empirical broadcast.

In the 1950s, as TV started to broadcast the popular culture and game shows rapidly together and they became suitable for the viewers.

Daytime shows were transmitted for lower stakes to targeted housewives. Higher-stakes programmes were aired in primetime. High-stakes games such as Twenty-One and The \$64,000 Question started a quick increase in popularity by the late 1950s .

But, the increase of competition programmes confirmed to be short-lived. A number of the higher stakes game programmes appeared to be boring and rating decreases led to most of the primetime shows being cancelled in 1959.

An early different of the game programmes, the panel game, survived the quiz show scandals. On shows like What’s My Line?, I’ve Got A Secret, and To Tell the Truth, panels of celebrities would interview a guest in an effort to determine some fact about them; in others, celebrities would answer questions.

They also made a comeback in the American daytime TV (where the lower budgets were tolerated) in the 1970s through comedy-driven shows such as Match Game and Hollywood Squares.

Commercial feature domination was not as prominent, and limitations on game shows made in the wake of the scandals restricted the style of games that could be played and the amount of money that could be given in the UK.

CBS is the dominant network in the USA in airing daily national game shows. It still airs The Price Is Right programme and, as of 2009, is also airing a revival of Let's Make a Deal programme.

Deal was aired during weekdays at a time selected by each CBS affiliate, and Price was aired on weekdays.

ABC's syndication wing Disney-ABC local TV distributes Who Wants to Be a Millionaire? and a number of their domestic affiliates also aired it in syndication.

The oldest, continually aired radio quiz show in the USA was Simply Trivia, which aired on the public radio station WYSO in Yellow Springs, the of Ohio.

Sponsorship

A number of programmes are sponsored by a foundation, company or an organization. Advertisement for the sponsoring body appears on the screen to achieve marketing objectives, by advertising tape on the TV screen or fixing the logo of the item.

The programmes was produced by the sponsoring body on the screen during the broadcast of the program or audio advertisement is broadcast from time to time. Most of the times, the sponsoring body provides either in kind and material prizes ("Programmes A-Z". wyso.org.).

Prizes

A number of the prizes are given on game shows are clear through product placement; however, sometimes they are transmitted by private media or sold at either the full price or at a discount by the show.

Promotional consideration has been taken in account, in such a game show have a subsidy from an advertiser in return for awarding that manufacturer's product as a prize or consolation prize.

Some products which are provided by manufacturers may not be intended to be offered at all and are instead just used as part of the gameplay (such as the low-priced items used in several pricing games of The Price Is Right).

SPORTS

Sport broadcasting is classified as a type of competition programmes. Sports competitions are full of excitement; thrill and sports broadcasting is a great activity, with channels regularly caught up in bidding wars to secure the rights to screen premium fixtures and not frequent; however, very famous world competitions are the Olympics and the World Cup.

Live sports competitions, talk shows, post-match analysis and other spin-off content bring excitement, however, it is difficult to work on.

Outside broadcasting (OB) has its challenges. But if the viewers like to exposure to sports, the players relish playing in this environment and to be aware of sports information history, laws and logistics will be considered in their favor. If they have information about news, factual, or documentary – then they will enjoy well the sports match. It would be a lot difficult (though not impossible) to transition from a deal in drama to a business in sports (<https://www.myfirstjobintv.co.uk/tv-genre-guide.html>).

Channels and programmes used in the study

A– Sudan TV

It's pilot broadcast was launched in Khartoum the capital of Sudan on 23rd of December 1962. It is located in the vicinity of Khartoum, which includes three largest cities, Khartoum, Omdurman and Khartoum North. It is the official TV channel of the Republic of Sudan. It is a general TV channel focusing on all forms of programmes.

It has achieved a high rate of viewing, because of its wide range of content that aims to preserve the Sudanese traditions and customs. The Sudan channel seeks continuous development in its form and content which is provided to its viewers.

Sudan TV is also keen on providing various programmes that meet the Satisfaction of viewers. It is transmitted on Arabsat and Nilsat.

In this study, (*Forsan Fee El– Midan*) programme, was one of the quiz programmes which had been enjoying Sudanese viewers inside and outside the studio. It was concerned with quizzes in general knowledge and a tracer in poetic verses. Some lyrical breaks were included in these episodes of the programme. It depended on arbitration committees to judge the scores of the testers. This programme was launched during the 1980s (<https://g.co/kgs/5dxqfJ>).

B – Sudania 24 TV channel

It was established on the 19th of August in 2016, as a private economic channel with a variety of programmes. It focuses on the news and various types of programmes. It joined the Sudanese private channels, used the technology of virtual studios, looking for the quality of production and keeping pace with the age and attracting all segments of its viewers in Sudan and abroad.

This channel is viewed on Arabsat. (*Fakker Anta Fee El–Khartoum*) programme started in 2017, which has been prepared for the month of Ramadan especially.

The two programmes have been selected to represent the population of the study– quizzes and contest programmes, for different periods of time and to find out the technical development in the field

of producing competitions programs (<https://www.alnilin.com/12805114>).

C Analysis

1 – Discussion of the findings

In this study, content analysis tool has been used to reach accurate results. Six episodes of a contests programme – (*Fakker Anta Fee El- Khartoum*) programme and another six episodes of (*Forsan Fee El- Midan*) programme were selected.

(*Fakker Anta Fee El- Khartoum*) programme was presented in Ramadan – 1439 H– 2018, in comparison with (*Forsan Fee El- Midan*) programme which was presented during Ramadan – 1408H – 1988. The episodes of the two were

selected randomly to represent the population of the study.

This research is a descriptive study for comparing between the two programmes in different times to study the differences in the usage of TV studio technology presenting contests programmes in 30 years to reach the variety of the means of using the technology.

The analysis is based on the questions and the hypothesis, which have been included in the methodology of this research. The aim of using tools of the study is to reach reliable findings.

A– Answering the questions of the study

The following table shows the findings of the study:

Table No (1) explains the way of selection of contestants of the programme

Tittle of the program	Iteration	Percentage
Fakker Anta Fee El- Khartoum	9	3.6
Forsan Fee El- Midan	0	0

The above table shows the following:

1 – 3.6 % of the ways of selection of the contestants of the episodes, were carried out on air in (*Fakker Anta Fee El- Khartoum*) programme by using studio technology, whereas, (*Forsan Fee El- Midan*) programme, testers had been chosen before the transmission of the episode, because TV studio developed technology such as computer sets and third screens weren't used during the 1980s in Sudan.

2 – The contestants of (*Fakker Anta Fee El- Khartoum*) programme are also selected before the episode broadcast in the first stage, but they are selected during the episode in a group of four to participate by using TV studio technology.

A question is directed to contestants to measure the speed of giving the answer, by using the electronic counter which chooses the tester who presses the bell first, his /her name would appear on the screen, and then she or he will be the tester in competition.

Table (2) shows the usage of TV studio technology in selecting questions

Tittle of the program	Iteration	Percentage
Fakker Anta Fee El- Khartoum	5	2
Forsan Fee El- Mida	0	0

The above table shows the usage of TV technology in selecting the questions by the contestants, by using the computer and the third screen, represents 2% of the total activity of presenting a contest episode of (*Fakker Anta Fee El-Khartoum*) programme; however, this technology was not used in (*Forsan Fee El- Mida*) programme.

The above-mentioned table shows the fields of knowledge which is chosen by the contestants as follows:

1 – 1.6% of the selected area of knowledge in (*Fakker Anta Fee El- Khartoum*) programme, was a religious field and 0.4% was sports fields; however, this wasn't available for (*Forsan Fee El- Midan*) programme.

2 – In *(Fakker Anta Fee El– Khartoum)* programme, contestants are offered a right of selecting the field of knowledge on which the quizzes concentrate, in a stage of the competition.

In the case of *(Forsan Fee El-Midan)* programme, the quizzes and questions of competition are chosen and arranged by the programmer who exerts a great effort in this concern.

Table No (3) illustrates the competition fields of knowledge for the contestants

Field of knowledge	Fakker Anta Fee El– Khartoum	Forsan Fee El-Midan	Percentage
Religion	4	-	1.6
Humanities	-		
Sciences	-		
Politics	-		
Economics	-	-	
Sports	1	-	0,4
Total	5	-	2

Table No (4) presents the usage of technology for directing the questions during the competition programme

Title of the programme	Iteration	Percentage
Fakker Anta Fee El– Khartoum	89	35.7
Forsan Fee El– Midan	-	-
Total	89	35.7

The above table illustrates the usage of technology for directing questions and quizzes, as follows:

1 – 35.7% of the activities of the usage of TV studio technology in directing questions and quizzes

to contestants are achieved by *(Fakker Anta Fee El–Khartoum)* programme, whereas, in the case of *(Forsan Fee El–Midan)* programme these activities had not been used.

Table No (5) presents using of technology for scores counting during the contest programme

Title of the programme	Iteration	Percentage
Fakker Anta Fee El– Khartoum	77	30.9
Forsan Fee El– Midan	-	-
Total	77	30.9

The above table shows using technology for score counting during the two programmes which represent the population of the study as follow:

1 – 30.9 % of the activities of using TV studio technology in scores counting were carried out in

(Fakker Anta Fee El– Khartoum) programme.

2 – In the case of *(Forsan Fee El– Midan)* programme, score counting was determined by arbitration committees then the presenter used to announce the results.

Table No (6) presents the usage of TV studio technology in helping the contestant

Title of the programme	Question's changing	Percentage	Omitting options of answers	Percentage
Fakker Anta Fee El- Khartoum	8	3.2	4	1.6
Forsan Fee El- Midan	-	-	-	-
Total	8	3.2	4	1.6

The above table illustrates ways of helping contestants in the competition as follows:

1 – 3.2% of the usage of TV studio technology was devoted for helping contestant by changing the difficult questions in (*Fakker Anta Fee El- Khartoum*) programme; however, this technology was not available during (Forsan Fee El- Midan) programme production time.

2 – 1.6% of the usage of TV studio technology concentrated in helping the contestants, by omitting two options of an answer, when the questions or quizzes are difficult for the contestants in (*Fakker Anta Fee El- Khartoum*) programme, whereas, this technology was available in (*Forsan Fee El- Midan*) programme because the sample of this programme was chosen from the episodes which were broadcasted three decades ago.

Table No (7) shows the usage of technology in the implementation of breaks during the contest programmes

Title of the programme	Advertisements	%	Reminding with the rules of contest	%	Total
Fakker Anta Fee El- Khartoum	6	2.4	20	8	10.4
Forsan Fee El- Midan	-	-	-	-	-

The above table using TV studio technology in the implementation of the breaks classifications and during the contest programme, as follows:

1-2.4% of the breaks which have been implemented, in (*Fakker Anta Fee El- Khartoum*) programme were advertisements breaks; however, there were no advertisements breaks in (*Forsan Fee El- Midan*) programme.

2 – 8% of the breaks which have been implemented, in (*Fakker Anta Fee El- Khartoum*)

programme, were for reminding the contestants and viewers with the rules of the contest, whereas, there were no brakes for reminding the viewers with the rules of the contest in (*Forsan Fee El- Midan*) programme.

The presenter implicitly mentioned the contest rules while he was presenting an episode.

Thirty years ago there were no advertisements breaks during the programmes on Sudan TV.

Table No (8) shows Lyrical breaks during the programmes

Title of the programme	Lyrical breaks	Percentage
Fakker Anta Fee El- Khartoum	-	-
Forsan Fee El- Midan	12	100

– The above table shows that the implementation of Lyrical breaks in (*Forsan Fee El- Midan*) programme, whereas, there were

no Lyrical breaks during (*Fakker Anta Fee El- Khartoum*) programme.

Table No (9) illustrates help provided by the inside studio audience to the contestants by voting

Title of the programme	Help testers by voting	Percentage	Total
Fakker Anta Fee El– Khartoum	7	3.2	3.2
Forsan Fee El– Midan	-	-	-

1 – The above table shows, the help which provided by the inside studio audience to the contestants, when it is required by voting for the expected answer, and that represents 3.2% with the possibility of showing the result of voting by showing the graphs in the illustration screen inside the studio during (*Fakker Anta Fee El– Khartoum*) programme broadcast. The screen is a sort of TV studio technology, which wasn't common thirty years ago, thus it wasn't used in the production of (*Forsan Fee El– Midan*) programme, as it was produced in the traditional TV studio.

2 – Rules of the participation in (*Forsan Fee El– Midan*) programme did not include the option of helping the contestants.

3 – Participation in (*Fakker Anta Fee El– Khartoum*) programme is in individual bases, whereas, it is in (*Forsan Fee El– Midan*) programme in bilateral bases.

4 – The sources of knowledge thirty years ago were books, documents and manuscripts, thus, the setting up of TV programmes requires great efforts. The internet wasn't commonly used at that time.

Table No (10) shows outside TV studio viewers participation in the programme

Title of the programme	Participation of the viewers	Percentage	Total
Fakker Anta Fee El– Khartoum	6	2.4	2.4
Forsan Fee El– Midan	-	-	-

1–Participation of the outside TV studio viewers in the contest, represents 2.4% in (*Fakker Anta Fee El–Khartoum*) programme; whereas, there was no outside TV studio viewers participation in (*Forsan Fee El–Midan*) programme, even by telephone calls. However, the participation of the studio audience in (*Forsan Fee El–Midan*) programme, was available, according to the programme's rules.

3– The outside TV studio viewers of (*Fakker Anta Fee El–Khartoum*) programme, participated in answering a daily based question, is by using Google play application which offers a chance for the largest number of the viewers to participate in the competition, then the presenter of the programme chooses the winner of the episode by lottery randomly (Sudania 24, 2018).

The technology of communication helps in developing the methods of producing TV programmes in comparison with which were produced in the past.

B – Hypothesis of the Study

1 – There is a relation between the time and the quality of TV production.

TV production in the past depended on traditional TV studio technology which was considered as developed at that time, but in the 21st century a number of innovations have been used, so there is a great difference between the past the present, and the future will definitely unveil new ones.

In Sudan, thirty years ago, the analogue system was used in TV production and broadcast. Traditional methods of production were used at all levels, besides, traditional TV studio also was used, whereas TV VS is used currently in most of the TV channels in Sudan especially private sector TV channels, such as Sudania 24.

2 – There is a relation between the number of the TV production crew and the usage of the virtual TV studio.

Production in TV VS depends on the computer programmes, thus, a large number of the crew members is not required. Studio decoration can be produced and generated also by the computer.

3 – There is a relation between the time and being concerned with the advertisement.

In the past, communicators in Sudan TV were concerned with presenting informative stuff more than advertisements, they had been hardly any broadcasted during the day, moreover, promotion programmes were rare at that time.

However, advertisements and are presented heavily currently. In Sudan TV and Sudaia 24, for example, promotion programmes are produced for financial support, because most of the mass media are supported by the advertisements,

Findings of the Study:

There are important findings of this study, they are as follows:

1 – (*Fakker Anta Fee El-Khartoum*) programme, as it is affiliated to a private sector TV channel, depends on TV studio technology in the contestants' selection inside the studio. They had been chosen before the episode broadcast, whereas, (*Forsan Fee El-Midan*) programme, contestants had been chosen before the transmission of the episode, and the presenter announced their names before the competition started, because TV studio developed technology such computer sets and third screens weren't used during the 1980s in Sudan.

2 – (*Fakker Anta Fee El-Khartoum*) programme, uses TV studio technology in the selection of the field of knowledge of the contestants. The most prominent field of knowledge which is selected by the contesters is the religious; however, developed TV studio technology wasn't available when (*Forsan Fee El-Midan*) programme started to be broadcasted.

3 – In (*Fakker Anta Fee El-Khartoum*) programme, the contesters have a priority to choose the field of knowledge on which the quizzes concentrate, in a stage of the competition, whereas, in (*Forsan Fee El-Midan*) programme, the quizzes and questions of competition are chosen and arranged by the programmer who had been exerting a great effort in this concern. Information was available in the libraries and databases because the internet wasn't common thirty years ago in Sudan.

4 – TV studio technology – such as the illustration screen – is used in directing questions and quizzes to contesters, in (*Fakker Anta Fee El-Khartoum*) programme, whereas, this technology wasn't common when (*Forsan Fee El-Midan*) programme had been broadcasted.

5 Scores counting, was carried out in (*Fakker Anta Fee El-Khartoum*) programme by using the computer and illustrated on the screen; however, in the case of (*Forsan Fee El-Midan*) programme, score counting was achieved by arbitration committees then the presenter used to announce the results.

6 – TV studio technology activities were devoted for helping contestants by changing the difficult questions or omitting two options of the answers in (*Fakker Anta Fee El-Khartoum*) programme; however, this technology was not available during (*Forsan Fee El-Midan*) programme production time

7-The breaks which have been implemented, during (*Fakker Anta Fee El-Khartoum*) programme, were for advertisements or reminding the contestants and viewers with the rules of the contest; however, there were no advertisements breaks and the presenter implicitly reminded the contest rules as he or she presented an episode of (*Forsan Fee El-Midan*) programme.

8 – There were Lyrical breaks in (*Forsan Fee El-Midan*) programme, whereas, there were no Lyrical breaks during (*Fakker Anta Fee El-Khartoum*) programme broadcast.

9 – The contestants can receive a help of inside studio audience, when it is required by voting and giving the expected answer, with the possibility of showing the result of the votes on graphs illustrated on the screen of the studio, during (*Fakker Anta Fee El-Khartoum*) programme broadcast, whereas, this screen wasn't used in the production of (*Forsan Fee El-Midan*) programme.

10 – The outside TV studio viewers of (*Fakker Anta Fee El-Khartoum*) programme, participated in answering the daily questions, by using Google play application which offers a chance for the largest number of the viewers to participate in the competition, then the presenter of the programme chooses the winner of the episode by lottery, randomly and offered a prize which is given by the programme sponsor body.

11 – TV production in the past relied on the technology which was considered as a developed method at that time; however, in the 21st century a number of innovations have been used, so there is a wide difference between the past the present and the future will unveil newer technologies.

12 – (*Fakker Anta Fee El-Khartoum*) programme is aired directly without recording, but (*Forsan Fee El-Midan*) programme had been recorded and the editing process had been carried out to correct the expected mistakes, to shorten the time of the episode and omit unnecessary parts of the episode. The editing is an important process in the recorded content (Robinson, J. F and Beards P. H., 1982).

Results of the Hypotheses

1 – There is a relation between the time and the quality of TV production.

While time is passing, innovations emerged that helped to develop TV production. In Sudan, thirty

years ago, the analogue system was used in TV production and broadcast. Traditional methods of production were used at all levels.

2 – There is a relation between the number of the TV production crew and the usage of the virtual TV studio. TV production depends on the computer programmes, thus, a number of the crew members are not required in this case.

3 – There is a relation between the time and being concerned with advertisements. In the sponsored TV programmes were not common as they are currently, thus advertisements broadcasting increased and their breaks also are presented during the news bulletins and programmes.

According to the diffusion of innovation theory, the adoption of a new innovation or an idea is not an easy issue, because people stick to that innovation or the idea which they used to. The adoption process takes time beside that it also depends on how easy to apply.

Adoption of the usage of the technology of the TV studio in Sudan depends on the TV production crew acceptance of the idea of applying modern technologies in their work.

This innovation requires sufficient finance to meet the expenses of updating the studios to meet the development in the field; however, the concerned bodies don't care about the matter of funding mass media in the country. Thus, Sudan TV equipment is out of date and still is used.

Recommendations

In this study there are some recommendations, they are as follows:

1 – The necessity of applying modern technology of TV studio in producing high-quality programmes, in particular, that programmes which require attraction of viewers inside and in the studio.

2 – The importance of reducing the number of the TV production crew, in the case of applying virtual TV studio, because, this type of the studio de-

pends on the computer programmes in the production stages.

3 – Offering Sudanese official TV channel more concern with supplying TV with modern equipment to keep pace with technical development, which contributes to the best television production.

4 – The necessity of continuous training of the TV production crew to find out the latest production methods, in order to compete for the production of Sudanese television the production of other channels.

5 – Benefiting from sponsoring companies and bodies, in case of masses programmes, especially competitions programmes that require prizes in kind and cash for the contestants.

Conclusion

This research studies the usage of TV studio technology for broadcasting contest programmes, such as quizzes and competition programmes, which realize the improvement of mood, surprise, excitement, thrill and refreshing the information. This type of programmes enjoys the audience inside and outside the TV studio. It also compared between the usage of TV studio technology in 1988 and 2018, to reach the changes that has occurred in the past and the present in Sudan, especially that private TV channels have been established recently accompanied with the latest technology of TV studio.

This study concluded that TV studio modern technology is used currently more than in the past in Sudan TV channels particularly in the private sector TV channels. These channels attract the viewers in Sudan and abroad.

TV channels in Sudan, at the same as other TV channels depends on the sponsoring companies in financing contests programmes in providing kind and cash prizes for the testers. Sponsoring companies also benefit from this sponsorship by reminding the viewers with their products.

References

- A Content Analysis of the Content Analysis Literature in Organization Studies: Research Themes, Data Sources, and Methodological Refinements. *Organization Research Methods*, 10: 5–34.
- Behind the scenes at the cradle of TV". BBC News. 2 November 2011. Retrieved 2 November.
- Birmingham and others, *The Small TV Studio*, Focal Press London, 1984
- Daily News, By Barry Fox. November 2003 <https://virtualstudiosets.com/>
- J. Sonia Huang, Hong-Yu Chang, *Substitution Effects of Virtual Studios on Taiwanese TV Broadcasting*, 2004.
- Jens Herder, *Markerless actor tracking for virtual (TV) studio applications*, November 2013 Conference: Awareness Science and Technology and Ubi-Media Computing (iCAST-UMEDIA)
- Education Centre, The Hillingdon Hospital. March 2006
- Millerson, Gelard, *Effective TV Production*, Focal Press London and Boston, 1980
- Video of features of Alexandra Palace. 2011.

- Tawhida Sulieman, producer at Sudania24, channel Interview carried out. 30/7/2018
- Television Studio Facilities / Components”. Broadcast West. 2 April 2014. Retrieved 10 January 2015.
- Thomas H. Brivins, Public relations writing, New Jersey. Prentice Hall, Eagle Wood, 1994.
- <http://libguides.usc.edu/writingguide/introduction/researchproblem3->
- <http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories4.html>, Boston University Content 2018. All Rights Reserved, Date last modified: August 29, 2018.
- Melfin Defleur, Ball and Rokeach, theories of mass communication, 4th edition, N Y, Longman Inc, 1982
- Osama El- Hassan, published in Sudan University of Science Technology Journal, 2015
- Ramadan Zubair Chaouch and Laila Fakiri on (Virtual Studio and the Problem of Managing mass Media,2013
- From Duriau, Reger, & Pfarrer, 2007.
- <https://quizlet.com/19658539/types-of-tv-show-flash-cards/>
- https://en.wikipedia.org/wiki/Broadcasting_of_sports_events
- WLVI The Ten O’Clock News Preview/Promo 1999
- Frank, Thomas, Publication: Harper’s Magazine, 1999
- “Programmes A-Z”. wyso.org.a
- <https://www.myfirstjobintv.co.uk/tv-genre-guide.html>
- <https://g.co/kgs/5dxqfJ>
- <https://www.alnilin.com/12805114>.
- Interview with Tawhida Sulieman, producer at Sudania24, channel, 30/7/2018
- Robinson, J. F and Beards P. H, Using Video Tape, Focal Press, London Boston,1982.
- WLVI The Ten O’Clock News Preview/Promo (1999) Virginia Beal, Jenni Romaniuk & Byron Sharp, Pages 463-481 | Received 14 Mar 2016, Accepted 13 May 2017, Published online: 14 Jun 2017
- Sudania 24, (2018), Interview with Tawhida Sulieman, producer at Sudania24, channel, 30/7/2018