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Effectiveness of the PJTSAU Agricultural Videos of the YouTube Channel

Manichandana G.[1*], Vijaya Lakshmi P.[2] and Sreenivasa Rao I.[3]
[1]Ph.D. Research Scholar, Division of Agricultural Extension, IARI (New Delhi), India.
[2]Professor, Extension Education Institute, Rajendranagar, Hyderabad (Telangana), India.
[3]Professor and Head, Extension Education Institute, Rajendranagar, Hyderabad (Telangana), India.

(Corresponding author: Manichandana G.)*
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ABSTRACT: YouTube for Indian farmers' is now a full national and international network for sharing agriculture know-how. For Indian farmers, these videos are not only a rich source of information and helping hacks, but they also help in building a community of farmers. These channels help in knowing how farm works, operating equipment's, daily activities, farm marketing, marketing solutions, organic farming, growing vegetables, usage of organic pesticides, manures and many more. Thus, PJTSAU Agricultural videos of YouTube channel is providing information on different crops and their success stories to the farming community. The study carried out in 3 districts of central Telangana zone with the help of constructed schedule to collect the research data. The findings revealed that majority of the respondents belonged to medium level category (46.7%) according to the effectiveness of the paddy videos as perceived whereas majority of the respondents belonged to medium level category (46.6%) according to the effectiveness of the cotton videos by considering the video parameters like video title, description, thumbnail, content, resolution, acoustics, frame rate, hue and colour intensity. The study had some challenges include technological adoptions and effectiveness of videos regarding production and use.

Keywords: YouTube channel, Effectiveness of videos, agriculture, growing vegetables, Computer networking.

INTRODUCTION

Electronic communication media is comprehensive, competent and presents the real information. It has tremendous potential for use in development of agriculture. Computer networking at local, national and international level establishes a proper linkage for dissemination and sharing information which is related to agriculture. Social media platforms are helping the farmers by providing information regarding current contexts to share the latest weather condition with the climatic change phenomena adversely affecting agriculture. Social media tool such as YouTube is an online video sharing platform which helped viewers in many aspects. The main purpose is to serve as a means for effective transfer of knowledge and information regarding latest technologies to the farmers directly to improve their farming output and make easy access to the market. As selecting the videos on YouTube platform with appropriate knowledge, content and quality is time consuming and challenging, the videos produced and uploaded by channel creators are considered initially as having predefined educational value and later it attracted more purposeful audiences thereby it generated meaningful and positive responses. All videos address homogenous concepts and ideas regarding the integration and use of technology in farming, but the approach to present them be unlike. Video podcasts offer a potentially successful teaching strategy for filling in knowledge gaps among farmers and students (Shaqour and Daher 2010). After viewing farmers can communicate with each other by creating and sharing material with the community, which can improve their current abilities and be a technical and communicative process that they require to become effective and capable farmers in the community (Paudi *et al.,* 2022). The advantage with this video sharing platform is that it is possible to get the response for whatever shared on the channels. It provides plentiful of opportunities to the people related to agriculture and are entirely free.

Professor Jayashankar Telangana state agricultural university located at Rajendranagar, Hyderabad have accomplished great achievements in research and also in farmer beneficial technologies. All these technologies have been proved successful in field conditions. None can deny the undertaking of struggle for the research and extension stations in disseminating the technologies in rural India. By considering the neediness of information through electronic media the University has developed a YouTube channel in the name of PJTSAU-Agricultural videos in order to provide information regarding all aspects of farming. University has provided videos regarding crop production, crop protection, farm mechanization, farmer success stories and also on agricultural innovations. Main moto is to provide the updated information which suits the needs at local level with technical and scientific expertise.

In order to know the importance of such agricultural

videos with updated content, a detailed study was carried out with the following objective.

-To find out the effectiveness of PJTSAU Agricultural videos of YouTube channel as perceived by respondents.

Srinivas and Srinivasulu (2002) studied regarding the different categories of visuals in telecasting programmes. It is observed that majority of the tele-viewers felt very good regarding photographs which used as visuals followed by fields and specimens respectively.

Anuradha (2007) revealed the effectiveness of video compact disc on post harvest technology of food grains in which 88% constitutes attention, colour, size of illustration and 82% regarding sequence, tuning commentary, whereas in case of audio quality language, sequence was found 84%, accuracy had 82% and music of 77%.

Swati and Rajendra (2009) studied the visual quality of various messages related to management of organic farming in which 93% constitutes sequence and tuning with commentary, followed by impressiveness (86%) and size of illustration (80%) respectively, whereas in case of audio quality pitch & language constitutes of 93% and interest orientation & sequence were 84%.

Ankita and Rajendra (2012) observed the visual quality of videos where sequence and tuning with commentary (88%) followed by attention, catching and impressiveness (86%). Also studied audio quality where language, music, pitch (88%) followed by accuracy (80%).

Anukumari and Oroan (2016) reported farmers opinion regarding audibility of voice in farm video and radio programmes. Majority of the farmers considered the audibility as good (65%) and poor (5%) in radio programmes whereas majority of the farmers considered the voice audibility as good (75%) and poor (5%) through television.

Harneet (2016) studied the preferred quality of the videos. Majority (70%) of the administrators felt that quality of video should be medium-360p, whereas 20% of them felt that video should be in HD-720p and 10% of the administrators felt that low quality videos-144p would be effective.

Vijay and Sawant (2016) reported that majority (70%) of the televiewers of ABP majha channel perceived the agricultural programmes as useful and 16% of them perceived as somewhat useful. It is also observed that most of the televiewers (68%) of ABP channel understood the information to great extent whereas only 24% of them reported that information is to only some extent.

Ashima and Gyanendra (2018) reported the qualitative aspects of the video in which 70% of the respondents felt that title of video was highly satisfactory whereas 50% of the respondents reported the caption used as highly satisfactory and majority (84%) of respondents felt the attractiveness of video as satisfactory.

Vijay and Gyanendra (2018) revealed that quality parameters of the video in which majority (53%) of the respondents felt that visuals were fully clear and 46% of the respondents felt visuals were partially clear.

METHODOLOGY

The present study was conducted in the Telangana state in the year 2021 by adopting an experimental design (one group pre-test and post-test design) method and was primarily used to study the effectiveness of PJTSAU Agricultural videos-YouTube channel as perceived by therespondents. *i.e.*, crop production and crop protection videos of Paddy and cotton crop. The locale of the study was in Central Telangana Zone of Telangana state consisting of Warangal, Khammam & Medak districts. Out of 3 districts in which six mandals (2 from each district) were selected randomly. Two villages from each mandal were selected randomly to make a sample of twelve (12) villages for the study. All the villages were treated as experimental villages according to one group pretest and posttest design. Ten (10) respondents from each selected village were selected randomly, thus a total of one hundred and twenty (120) respondentswere selected.

In this study, the effectiveness of the videos as perceived by the respondents were tested at post exposure after the treatment. Data on effectiveness of the videos was collected with the help of video parameters with constructed statements from 60 paddy farmers and 60 cotton farmers after viewing the videos separately. Frequency and percentages were calculated separately in both paddy and cotton crops and possible range effectiveness of the videos were given.

RESULTS AND DISCUSSIONS

PADDY

According to the Table 1, results indicated that that majority of the respondents (80.0%) felt that title of the videos uploaded were precise followed by both (73.3%) motivating and (73.3%) attracting.

In case of video description most (61.6%) of them felt that descriptions of the videos were saving the time of user in understanding the content and (61.6%) has links of related videos followed by (60%) keywords related to the content in the video, (55.0%) attracting the users to watch the videos, (53.3%) says what the videos is about, (51.6%) brief and clear and (36.6%) timestamps related to the video whereas in case of video resolution majority of them felt the quality is high (66.7%) followed by medium (20.0%) and low (13.3%) respectively.

It is indicated that majority of the respondents felt (70.0%) explicitly indicated what is the video about followed by (66.6%) thumbnails of videos has different designs, (66.6%) logo of PJTSAU, (61.6%) attractive titles and (61.6%) correct size whereas in case of video content most (81.6%) of the respondents felt that content in the videos has explicit information followed by (78.3%) adequate, (73.3%) focused on farmers problems and solutions, (68.3%) systematically classified content, (60.0%) clarity, (51.7%) self-learned (simplicity) and (41.7%)relevant respectively.

It is indicated that majority of the respondents (68.3%) felt that there were no background and atmospheric noises followed by (60.0%) audio video synchronization, (56.6%) good sound effects, (55.0%) clear and (55.0%) action sounds whereas in case of

video framerate most (71.6%) of them felt videos are with 50 FPS (high) and (33.3%) felt the videos are with 24 FPS (low). It is also indicated that (73.3%) felt that the intensity/brightness of video uploaded was high.

Table 1: Distribution of respondents according to the effectiveness of the paddy videos (protection and production technology) perceived by respondents (n=60).

Sr. No.	Indicators	Agree		Undecided		Disagree		Total	
I.	**Video title**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**
1.	The title of thevideos uploaded is precise	38	63.3	10	16.7	0	0	48	80
2.	The title of the videos uploaded is attractive	26	43.3	14	23.3	4	6.7	44	73.3
3.	The title of videos uploaded is motivating	32	53.3	10	16.7	2	3.3	44	73.3
II	**Video description**								
1.	The description of videos uploaded is brief and clear	17	28.3	13	21.6	1	1.7	31	51.6
2.	The description of videos uploaded says what the videos is about	18	30.0	12	20.0	2	3.3	32	53.3
3.	The description of videos uploaded attracts the users to watch the video	20	33.3	10	16.7	3	5.0	33	55
4.	The description of videos has keywords related to the content in the video	17	28.3	15	25.0	4	6.7	36	60
5.	The description of the videos uploaded have links of related videos	19	31.6	10	16.7	8	13.3	37	61.6
6.	The description of videos uploaded will save the time of user in understanding the content	21	35.0	13	21.6	3	5.0	37	61.6
7.	The description of videos uploaded have time stamps related to the video	18	30.0	2	3.3	2	3.3	22	36.6
III.	**Video Resolution (quality)**								
1.	Low (144p-240p)	2	3.3	6	10.0	0	0	8	13.3
2.	Medium(360p-480p)	10	16.7	2	3.3	0	0	12	20.0
3.	High(720p-1080p)	30	50.0	10	16.7	0	0	40	66.7
IV.	**Thumbnail**								
1.	The thumbnails of the videos uploaded explicitly indicated what the video is about	30	50.0	10	16.7	2	3.3	42	70.0
2.	The thumbnails of the videos uploaded have attractive titles	23	38.3	11	18.3	3	5.0	37	61.6
3.	The thumbnails of the videos uploaded have logo of PJTSAU	30	50.0	7	11.6	0	0	37	61.6
4.	The thumbnails of the videos uploaded have different designs	26	43.3	14	23.3	0	0	40	66.6
5.	The thumbnails of the videos uploaded have different designs	40	66.6	0	0	0	0	40	66.6
V.	**Video content**								
1.	Explicit information is available on videos in the channel	48	80.0	1	1.7	0	0	49	81.6
2.	Systematically classified content is available in the videos	37	61.6	4	6.7	0	0	41	68.3
3.	Content on videos covers all location specific information needs(relevancy)	24	40.0	1	1.7	0	0	25	41.7
4.	Videos provide complete and detailed information to users (clarity)	36	60.0	0	0	0	0	36	60.0
5.	Content in videos can be self learned without help of others (simplicity)	30	50.0	1	1.7	0	0	31	51.7
6.	Content in the video focuses on farmers problems and solutions	39	65.0	5	8.3	0	0	44	73.3
7.	Content in the video is adequate	46	76.6	1	1.7	0	0	47	78.3
VI.	**Video Acoustics(sounds)**								
1.	There are no background and atmospheric noises in the uploaded videos	36	60.0	5	8.3	0	0	41	68.3
2.	Voice of the person speaking in the videos is very clear	33	55.0	0	0	0	0	33	55.0
3.	Sound effects in the videos are good	34	56.6	0	0	0	0	34	56.6
4.	There are action sounds in the videos uploaded	30	50.0	3	5.0	0	0	33	55.0
5.	Audio video synchronization is good in the uploaded videos	35	58.3	1	1.7	0	0	36	60.0
VII.	**Video framerate**								
1.	The framerate of the videos uploaded is low-24FPS	14	23.3	6	10.0	0	0	20	33.3

2.	The framerate of the videos uploaded is low-50FPS	22	36.6	21	35.0	0	0	43	71.6
VIII	**Video Hue (colour combination)**								
1.	The colour combination of the videos uploaded is good	48	80.0	0	0	0	0	48	80.0
IX	**Colour Intensity/Brightness**								
1.	The intensity/brightness of colour of videos uploaded is high	44	73.3	0	0	0	0	44	73.3

Table 2: Overall Distribution of respondents according to the effectiveness of the paddy videos perceived by respondents (n=60).

Sr. No.	Category	Class interval	Frequency	Percentage
1.	Low	71-79	11	18.3
2.	Medium	80-88	28	46.7
3.	High	89-97	21	35.0
	Total		**60**	**100.00**

The results in the Table 2, indicated that, majority of the respondents (46.7%) belonged to medium level category followed by high (35%) and low (18.3%) respectively.

Hence from the above Table 2, it could be concluded that majority (46.7%) of the respondents belonged to medium level category. The possibility might be due to all the respondents have felt the information was reliable, simple and focusing on farmers problems. The efficiency of the videos will increase by highlighting the prevailing issues in case of relevancy by considering location specific information needs and taking feedback into the account. The results were in accordance with the findings of Harneet (2016).

COTTON

According to the Table 3, results indicated that majority (60.0%) of the respondents felt that title of the videos uploaded were precise followed by motivating (30%) and attracting (26.6%) respectively. In case of video description most (65.0%) of them felt that descriptions of the videos uploaded says what the videos is about followed by (61.6%) it is attracting the users to watch the videos,(53.3%) saving the time of user in understanding the content, (48.3%) it has links of related videos, (46.6%) brief and clear, (40.0%) timestamps related to the video, (23.3%) keywords related to the content in the video whereas in case of video resolution majority of them felt the quality is medium (70%) followed by high (20.0%) and low (10%) respectively.

It is indicated that majority of the respondents felt (85%) thumbnails of the videos have attractive titles followed by (61.6%) correct size, (60.0%) different designs, (50.0%) logo of PJTSAU and (46.6%) explicitly indicated that what is the video about whereas in case of video content most (78.3%) of the respondents felt that content in the videos can be self-learned (simplicity) followed by (65%) systematically classified content, (53.3%) explicit information, (41.6%) adequate, (26.6%) clarity, (23.3%) focused on farmers problems and solutions, (13.4%) relevant respectively.

It is indicated that majority of the respondents (71.6%) felt that sound effects are good followed by (63.3%) clear, (50.0%) no background and atmospheric noises, (40.0%) audio video synchronization, and (35%) action sounds whereas in case of video framerate most (63.3%) of them felt videos are with 50 FPS (high) and (40.0%) felt the videos are with 24 FPS (low). It also indicated that 56.6% felt that the intensity/brightness of video uploaded was high.

Table 3: Distribution of respondents according to the effectiveness of the cotton videos(protection and production technology) perceived by respondents (n=60).

Sr. No.	Indicators	Agree		Undecided		Disagree		Total	
I.	**Video title**	**F**	**P**	**F**	**P**	**F**	**P**	**F**	**P**
1.	The title of the videos uploaded is precise.	34	56.7	2	3.3	0	0	36	60.0
2.	The title of the videos uploaded is attractive.	11	18.3	5	8.3	0	0	16	26.6
3.	The title of videos uploaded is motivating.	15	25.0	1	1.7	2	3.3	18	30.0
II	**Video description**								
1.	The description of videos uploaded is brief and clear.	22	36.6	4	6.7	2	3.3	28	46.6
2.	The description of videos uploaded says what the video is about.	35	58.3	3	5.0	1	1.7	39	65.0
3.	The description of videos uploaded attracts the users to watch the video.	26	43.3	10	16.6	1	1.7	37	61.6
4.	The description of videos uploaded has keywords related to the content in the video.	11	18.3	3	5.0	0	0	14	23.3
5.	The description of the videos uploaded have links of relatedvideos.	18	30.0	9	15.0	2	3.3	29	48.3
6.	The description of videos uploadedwill save the time of user in understanding the content.	26	43.3	6	10.0	0	0	32	53.3
7.	The description of videos uploaded have timestamps related to the video	17	28.3	7	11.7	0	0	24	40.0

III.	**Video resolution (quality)**								
1.	Low (144p-240p)	5	8.3	1	1.7	0	0	06	10.0
2.	Medium (360p-480p)	40	66.7	2	3.3	0	0	42	70.0
3.	High (720p-1080p)	12	20.0	0	0	0	0	12	20.0
IV.	**Thumbnail**								
1.	The thumbnails of the videos uploaded explicitly indicate what the video is about.	24	40.0	4	6.6	0	0	28	46.6
2.	The thumbnails of the videos uploaded have attractive titles	43	71.7	6	10.0	2	3.3	51	85.0
3.	The thumbnails of the videos uploaded are of correct size	30	50.0	5	8.3	2	3.3	37	61.6
4.	The thumbnails of the videos uploaded have logo of PJTSAU	30	50.0	0	0	0	0	30	50.0
5.	The thumbnails of the videos uploaded have different designs	35	58.3	1	1.7	0	0	36	60.0
V	**Video content**								
1.	Explicit information is available on videos in the channel	30	50	2	3.3	0	0	32	53.3
2.	Systematically classified content is available in the videos	34	56.7	3	5.0	2	3.3	39	65.0
3.	Content on videos covers all location specific information needs (relevancy).	6	10.0	1	1.7	1	1.7	08	13.4
4.	Videos provide complete and detailed information to users (clarity)	14	23.3	2	3.3	0	0	16	26.6
5.	Content in videos can be self- learned without help of others (simplicity).	30	50.0	14	23.3	3	5.0	47	78.3
6.	Content in the video focuses on farmers problems and solutions.	8	13.3	3	5.0	3	5.0	14	23.3
7.	Content in the video is adequate	22	36.6	2	3.3	1	1.7	25	41.6
VI.	**Video acoustics (sounds)**								
1.	There are no background	20	33.3	10	16.7	0	0	30	50.0
2.	Voice of the person speaking in the videos is very clear.	35	58.3	3	5.0	0	0	38	63.3
3.	Sound effects in the videos are good.	40	66.6	3	5.0	0	0	43	71.6
4.	There are action sounds in the videos uploaded.	18	30.0	2	3.3	1	1.7	21	35.0
5.	Audio video synchronization is good in the uploaded videos	19	31.7	5	8.3	0	0	24	40.0
VII.	**Video framerate**								
1.	The frame rate of the videos uploaded is low-24 FPS	20	33.3	4	6.7	0	0	24	40.0
2.	The framerate of the videos uploaded is high-50 FPS	36	6.0	2	3.3	0	0	38	63.3
VII.	**Video Hue (colour combination)**								
1.	The colour combination of the videos uploaded is good	44	73.3	0	0	0	0	44	73.3
IX.	**Colour intensity/Brightness**								
1.	The intensity/brightness of colour of videos uploaded is high	34	56.6	0	0	0	0	34	56.6

Table 4: Overall Distribution of respondents according to the effectiveness of the cotton videos perceived by respondents (n=60).

Sr. No.	Category	Class interval	Frequency	Percentage
1.	Low	72-77	7	11.8
2.	Medium	78-83	28	46.6
3.	High	84-89	25	41.6
	Total		**60**	**100.00**

The results in the Table 4, indicated that, majority (46.6%) of the respondents belonged to medium level category followed by (41.6%) of high and (11.8%) low respectively.

Hence from the above Table 4, it could be concluded that majority (46.6%) of the respondents belonged to medium level category. This is due to lack of internet facility and buffering issues and to increase the efficiency, videos should provide information in a better and effective way by analyzing the parameters like type of video, duration, quality, content and acoustics. The results were in accordance with the findings of Harneet (2016).

CONCLUSION

Based on the discussions of findings, it is clear that the video-based learning technology opens up many opportunities to farmers, department officials, scientists, change agents, administrators and many more. Videos as an emerging tool, popular trends on the web and new ways of media production are widely offered for producing and sharing the agricultural information. As per farmers, most of time using YouTube online is very difficult due to the weakness of

the internet connection (Paul Van Mele, 2011). By considering both internet accessibility and bandwidth as key issues, there is a need to address improvement of networking between organizations and physical sharing of video discs. Apart from offering an excellent experimental ground on structuring and monitoring a web-based platform, the videos along with the statistics and farmer feedback could offer a good starting point to make decisions for better quality scripted videos that will be suited for global sharing and use by a wide range of service providers.

FUTURE SCOPE OF THE STUDY

An attempt has been made in this study to explore the effectiveness of the Agricultural videos among the farmers regarding the videos of selected crops like Paddy and Cotton includes production and protection aspects from PJTSAU Agricultural videos of YouTube channel in Warangal, Medak and Khammam districts which comprised of Central Telangana zone in Telangana state. The findings of the study could be gainfully utilized by the farmers, extension personnel's and also channel administrators to know the present status of PJTSAU agricultural videos of YouTube channel in Telangana state in particular and helps them for the further refinements to tune up with the current needs. The results of the study could be effectively used in the areas where similar conditions prevail with slight structural changes depending on the situation.

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