VISUAL PRESENTATION OF NEWS CHANNEL GRAPHICS: A REVIEW STUDY

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Abstract:

Study of news and television news; attract the attention of academicians and researchers. There are many pieces of research based on detail study of news, type, content and comparative studies but there are not many studies that gathered information about the presentation of news and significance of graphical representation in news and news channels. The objective of this review is to present the Outcome or main gaps from analysis of current research about the significance and impact of the graphical presentation of television news and news channel

1.0 Introduction:

Technology advancement led to the invention of Television during 1926. BBC (British Broadcasting Corporation) was the first service provider in the television industry which provided regular high definition telecast during 1936[1], but at that time only black and white content can be broadcasted on the television screen. With the improvement in technology over the time, television industry grew and now an enhanced picture quality that also in colors is broadcasted. Almost twenty years later BBC appointed John Sewell as a full-time graphic designer. On television news channel video content is on priority but eighty percent screen area is unused. Television graphics are used to utilize empty space in an effective manner to communicate with the audience. In earlier days, hand-drawn illustrations are used to move text on the screen but in late 1980s digital paint system make work easy and faster for the designer. This technological advancement provides appropriate mechanism to generate graphics for communication and television channel outlook.

After the advancement of technology there are two different types of television news channel screens, one is standard (only video content is focused) other on is[2]Tabloid news television screen (use graphics and screen split to provide more information in a single time: - ticker, flash news, header, breaking news). The tabloid screen is use to deliver more information to the audience, during the anchor link or any other video content. This type of graphic use is increasing day by day on the news channel screen. After the anchor link all the important information display on the screen with the use of graphics. These graphics are known as television graphics and motion graphics. News channel presentation and aesthetics of the news channel screen depends on graphics. Each and every second of news television depends on television graphics, from the opening of a news program to sign-in to sign-out of the program. Almost every program depends on television graphics.

Television graphics are a preeminent element of the television news channels. [3]Graphics are categories according to the screen; those are visible on the lower screen area, known as lower third graphics and upper screen are graphics are header graphics. Both categories of graphics are used to communicate information in an effective way. It is important aspect as without an effective presentation of the content, it would be harder to deliver the message to audience in a precise and clear manner. Presentation of the content is as important as the content itself. The fundamental purpose of the visually rich presentations is to convey news information effectively and attract the attention of the audience [4](2018).When video content is unavailable at that time textual communication is used to

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[1]Early Graphic Design in Television. (n.d.). Retrieved from
https://paulrobertlloyd.com/1999/03/early_graphic_design_in_television
[2]Rao, P. R., Vani, H., & Vandana Principal,, D. S. (2015). A study on viewers satisfaction towards hindi news channels at hyderabad. *Indian Journal of Commerce & Management Studies*, 6(1), 57-64.
[3]Rodrigues, R., Veloso, A., &Mealha, O. (2012). A Television News Graphical Layout Analysis Method Using Eye Tracking. *2012 16th International Conference on Information Visualisation*. doi:10.1109/iv.2012.66
[4]Yu, X., & Shi, L. (2018). A Comparative Research on Cognitive Effect of Infographic and Animation Presentation in News. *2018 International Joint Conference on Information, Media and Engineering (ICIME)*. doi:10.1109/icime.2018.00024

interact with the audience. It happens when information is important and urgent but the video content is not available.

Television is the multimedia medium of communication. Audio and visual contents are used for presentation; visual are used to make content easy for audience in television as compared to audio.[5] In news channels variety of graphics are used to make the presentation effective and attractive, but there are, a set of graphics available according to compatible as per the situation, each and every graphic have his importance. There are a number of television news channels and almost every news channel is handling television graphics and every news channel has a different pattern of graphics and also a different color-schemes. Few channels change the position of graphics to look different for example use of bug space for logo. Even now television graphics are the symbolic identity of a news channel, the audience can recognize channel by its graphics: a logo is one of the best examples. Even every news program also has a different opening montage and a different set of graphics according to the program category.

2.0 The Theoretical Frame Of Reference:

Aim of this study is to identify the GRAPHICAL REPRESENTATION OF TELEVISION NEWS; a study conducted through analysis one hundred eighty-six published papers by several journals. Researcher categories seventeen papers by identify the main characteristics of the several studies.

- Graphics & Info-Graphics
- Significance of Graphics
- Effect of Visual Presentation
- News Graphics
- News Channel Graphics

3.0 Graphics and Info-graphics:

Graphics is part of visual communication which consists of shapes, lines, forms, color and texture. Anyone of these (shapes, lines, forms, colors and texture) or a combination can be used for visual communication. Graphics are used for planning and projecting ideas and experiences with illustration and texts. It is also used in physical and virtual formats. Some authors define it a single graphics contain thousands of words. [6]Graphics are basically used to make communication interactive and decreases the reading time. Graphics have different types and categories symbols, illustrations, information-graphics and abstract graphics etc. Info-graphics (information- graphics) are one category of graphics those are used to present complex data in a simple and effective manner.

Info-graphics are used to convey a piece of information with graphics. Info-graphics are mainly use to present complex and large data in effective manners. It is a combination of graphs, pie-charts and bar-graphs etc. [7]Info graphics have a long history; it was developed in 1806 with the name of "polar Diagram" by William Playfair. The pie chart was developed in 1856 after that other sub type of info graphics are also developed and generated. Info graphics are used to present complex data with the advantage of less reading time.

3.1 Significance of Graphics:

Graphics is an integral part of effective communication. Graphics make presentation of ideas/messages attractive, concise, and understandable. Graphics can make communication easy, and can breaks language barriers. For instance, traffic signals convey their message without the use of any language. Emergence of technology in communication has made use of use easier. Some readers don't read news in the newspaper and only scan the newspaper for visuals. Visuals are the journalist use to communicate their message in a clear way. Graphics reduce reading time. A picture or illustration conveys thousands of words and require minimum time to understand any information exemplification: logo of any company, outdoor media (hoardings) needs very few seconds to recognize. Graphic elements and colors use with designing principal do communication effective and impressive. Today in the

[5]Sundar, S. S. (2000). Multimedia Effects on Processing and Perception of Online News: A Study of Picture, Audio, and Video Downloads. *Journalism & Mass Communication Quarterly*, *77*(3), 480-499. doi:10.1177/107769900007700302

[6]Rajeev Ghode / Department of Communication Studies, Pune University, R. G. (2013). Infographics in news presentation: A study of its effective use in times of india and indian express the two leading newspapers in india. *Journal Of Business Management & Social Sciences Research*, *1*(1), 35-43.

[7]Dur, B. I. (2012). Analysis of data visualizations in daily newspapers in terms of graphic design. *Procedia - Social and Behavioral Sciences*, *51*(1), 278-283. doi:10.1016/j.sbspro.2012.08.159

era of digitalization everything is based on graphics. Printing industry is also based on graphics. Even currency of any country has graphics, and they are recognizable just because of his graphics.

Newspaper front page is face of newspaper, reader interacts with it and it also influences readers to buy it. News story can be read or understood by the image and audience applies it in his daily life. A product in market sell not just because its quality, but also how effectively qualities are conveyed to the user. And an effective way is to use a graphic on the product that displays its best qualities. Visuals have strong impact on audience but if choice of visual are not perfect than the result may be different, for instance: After a terrorist attack which type of illustration should be used to communicate with the audience? For example we have two pictures, in one image army is doing preparation and on the other hand in second picture, dead bodies are on road after the terrorist attack. What kind of picture journalist use to communicate with the audience and reader, it's totally depend on journalist what is important. Visual communication has a different impact. Visual communication is just a tool to communicate easily and effectively.

3.2 News Graphics /News Channel Graphics:

News is information for specific incident for the society. News has very strong impact on society. News modes are radio, print, television, and social-media. Every mode of news has his different impact on audience. Print, television and social-media is highly dependent on visuals.[8]News graphics are those uses with news to make it effective and attractive for the audience. Weather news totally based on graphics, such as sun, map, rain and clouds are used to interact with audience. Sports news and economics news also depend on visual graphics in particular: share market inflation is communicated with use of graphics, score board with player name or team record as compare to other team is displayed with help of info graphics. At the moment no single news is broadcasting with-out graphics or visual presentation. Every news network wants more eyes on his news, that's why they make news more attractive with the use graphical presentation.

News channels are basically to communicate news. [9]News channels use graphics to present news effectively, after the news or during the news those graphics is not related to current news is called news channel graphics for instance: Television channel logo, sponsor name or logo, montage, background of anchor, headline presentation, L-shape advertisements, and digital watch on television screen and appearance of double window and multi windows for news program, there are more graphics also used in news channel during the news bulletin and off the bulletin. News channel graphics provide other news during the main news bulletin. Tabloid type appearance use to display more news in single screen. A news program from start to end presentation is based on graphics. Every news channel has his different news channel graphics and color combination with different placements. News channel screen is fully overloaded with graphics and information.

4.0 Methods and Research Techniques:

The study is an integrative and systematic review. It presents a useful analysis to gather the result of studies on graphical presentation of television news and news channel. Related to topic two hundred papers are downloaded from well-known journals in April 2019. It made it possible to analyses the main studies to the related topic; also identify challenges for futuristic research in visual journalism and graphically news presentation. The researcher chooses grounded theory as a reference to analysis research material. Paper is selected for review those are focused on topic-related content, again categories paper according to year (latest published in last ten year. 2010 to 2019). The research is divided into the following categories.
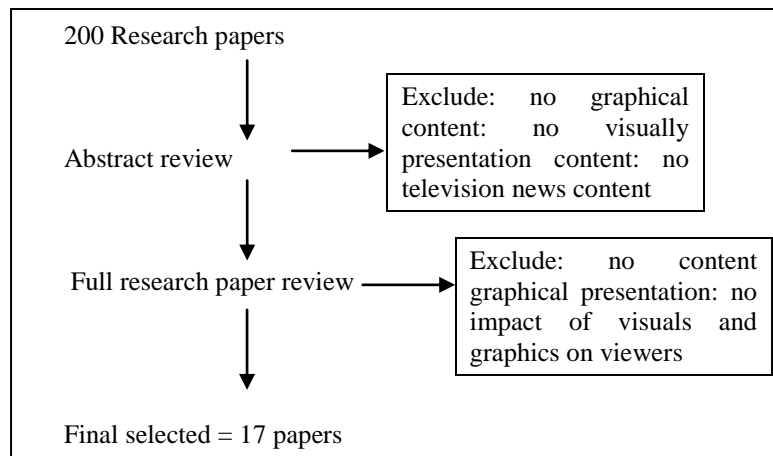
Systematic Review Paper of Five Key Database (April 2019)
Social Science / Technology: J Store, Semantic Scholar, Web of Science, and Science direct, and Research gate. **Keyword search:** "Graphics in Television News Channel", "Visuals in News" , "Presentation of News"

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[8]SHIR / Department of Visual Communication and Photography, Tehran University, M. F. (2014). THE role of motion graphics in visual communication. *International Journal of Science and Research*, *7*(1), 820-824.
[9]Moga, A. L. (2019). The role of graphics in the positioning of romaine news tv stations. *LITERATURE AS MEDIATOR. Intersecting Discourses and Dialogues in a Multicultural World*.

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  200 Research papers
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                            ┌─────────────────────────┐
                            │ Exclude:    no  graphical│
  Abstract review   ──────> │ content:    no   visually│
          |                 │ presentation content:  no│
          |                 │ television news content  │
          v                 └─────────────────────────┘
                                  ┌──────────────────────────┐
                                  │ Exclude:    no    content │
  Full research paper review ───> │ graphical presentation: no│
          |                       │ impact  of  visuals   and │
          |                       │ graphics on viewers       │
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  Final selected = 17 papers
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- Analysis articles published from 2010 to 2019.
- Proofreading of a brief summary of the research paper and choose focused papers.
- Classify and code features of research papers.
- Discuss the pros and cons of these researches, based on gaps in a particular study.

In this following, researcher use first three of methodology and the last step is related to analysis the result.

5.0 Characterization of the Instrument and Execution of the Research:

The researcher chose the method and analysis research studies published in, various journals (J Store, Semantic Scholar, Web of Science, and Science direct, and Research gate) focused on news graphics and news channel graphics. Researcher analysis of papers, and revels overall aspects and citation in table 1. The objective of this analysis is to identify the contribution of study in the academic area.

Researcher follows the serial number of the research studies which was presented in Table 1, throughout this; researcher arranges research studies according to the raised issue by the authors and evaluates impact and context for better understanding of readers between news graphics. In Table 2, the researcher presents a brief intro of each study those analyzed in current research. Data collected from the analysis of studies, the researcher classified and coded them for better understanding of news graphics and news channel graphics.

Classification of the studies focused on six objectives those quoted by the author in different topics keyword, a number from A to F as shown in Table 1. The first classification identifies the context analysis of selected research studies published by different authors. Research classifies A to D codes for context analysis about news; it is helpful to understand the study. In the context parameter, researcher objective is to identify the graphical representation of news and news channel during the broadcasting national news, international news and local news.

Second classification related to identifying the geographic region of the research study countries. Given codes is A to K. this classification help to the researcher to compare two or more than two countries and identify which geographical region country has which type of presentation. The impact can also study according to geographic region.

Classification named objective is third in this study and coded by alphabets A, B, C, D, E and F. This classification related to what is the objective of the researcher for a particular research study. It is helpful for the reader and researcher to understand analysis is focused on which objective. In this classification, researcher merge-common objective after identify. Categories and subcategories are present in Table 1. Next classification is detailed focused objective to the main topic; in one research studies researcher have more than one objective and variable. Main topic name classification related to subject and variables, six codes are used to present them A, to F. this classification is purely related to the key subject of the research study. The fifth classification is related to the research method, which method researcher adopts to analysis various variables. The researcher uses A to F six alphabets to code methods for research. The researcher aims to identify which research method is frequently used to analyses what type of variable.

Research also wants to identify which sector research choose to do research, is researcher work only on the public sector, private or both sectors. Researcher classifies analysis sector and other subcategories coded from A to D. This classification can be the base of future studies. The research will ravel which sector use which type of journalism presentation. The seventh classification focused on the dimension of the output and result of the study. This classification uses five dimensions to identify the result. The eighth classification is focused on how much period research chooses for particular studies. It will reveal what is the sample period is used by a great number of researchers. Researcher classifies five subcategories from A to F for better and clear vision. Next is last, Ninth classification related to what sample size researcher choose frequently to prove the null hypothesis or alternative hypothesis.

6.0 Results and Discussion:

This Section is related to present all different categories used by the researcher and classification also. In Table 2, data are presented by the researcher after creating code and analysis them. Nine categories classify by researcher to identify gaps. Each category has subcategories. Researcher classifies them for analysis. Total seventeen researcher studies selected for reviews. The table shows what the out of this study is.

Table 2

Sr. no	Context	Geographic Region	Objective	Main subject	Method	Sector analysis	Results	Analysis period	Sample Size
1	D	A	A	B/E/F	A	D	A/D	E	A
2	B	B	B	B/F	B	A	A/B/C/D	E	E
3	D	C	c	E/F	B	C	A	E	B
4	D	D	C	F	B	A	A	D	A
5	B	D	D	B/E/F	A	C	A	E	A
6	A/B	E	A/B	B/E/F	A	A	B	B	D
7	B	D	A/C/E	A/B/C/D/F	B	A	C/D	D	D
8	B	F	C	A/B/C/D/F	A	C	A	D	D
9	B	G	C/F	A/B/C/D/E/F	A	D	A	E	A
10	D	G	A/C/F	B/C/D/E	A	D	A	E	A
11	A/B/C	H	A/B/C	B/E/F	A	D	A	E	D
12	D	I	E/F	A/E	A	D	A	E	A
13	D	A	A/C/F	A/B/C/D/E	G	D	B	E	E
14	D	J	B	A/F	A	D	A	A	D
15	D	K	A/D	A/C/F	B	D	E	E	A
16	D	D	C/D	E/F	A	C	A	C	D
17	D	G	B/C/F	A/B/C/D/F	A	D	A	E	A

Context This classification related to identifying context analysis by the researcher. The context have categories in three subcategories from alphabet A – D. Code A is used for national news; Code B for international news; C code for local news and D code for not-applicable. The result gets after review the 17 research papers Shown in Figure 1 and Table S1 Most of the studies focused on identifying significant impact of graphical presentation of news, But 56% sample is showing they didn't study national and international news for this type of study

In figure 1 researcher present very few studies graphical presentation significance in the context of international news 29%. Result also revels national and local news have equal values as study subject chosen by the researcher.
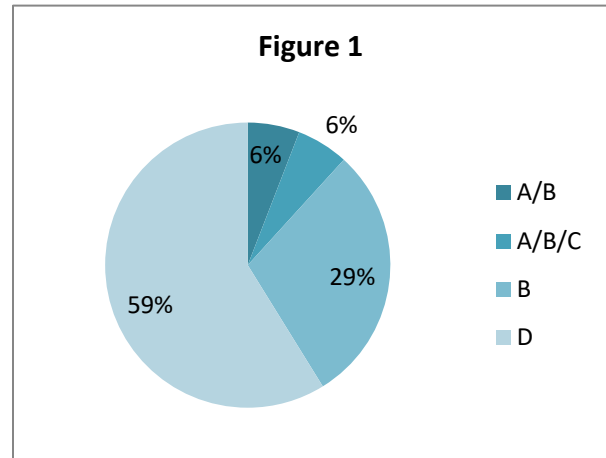
Gap: Not focused on broadcasted television news presentation with a different news program.

Figure 1

Table S1

Context Table		
Code	**Value**	**Percentage**
A/B	1	5.88
A/B/C	1	5.88
B	5	29.41
D	10	58.82

Table S1: Context of analysis studies

7.0 Geographic Region:

This classification is related to identify the specific geographic region for the research study countries. Alphabetical codes are used for the sub-categories of geographic regions: A- China; B- Turkey; C-Germany; D-USA (United States of America); E-India; F-South Korea; G-Portugal; H-Australia; I-Belgium; J-UK (United Kingdom); K-Egypt; This classification used to identify which country is working on topic related research in past ten years. Figure 2 shows the geographic region of 17 research studies.
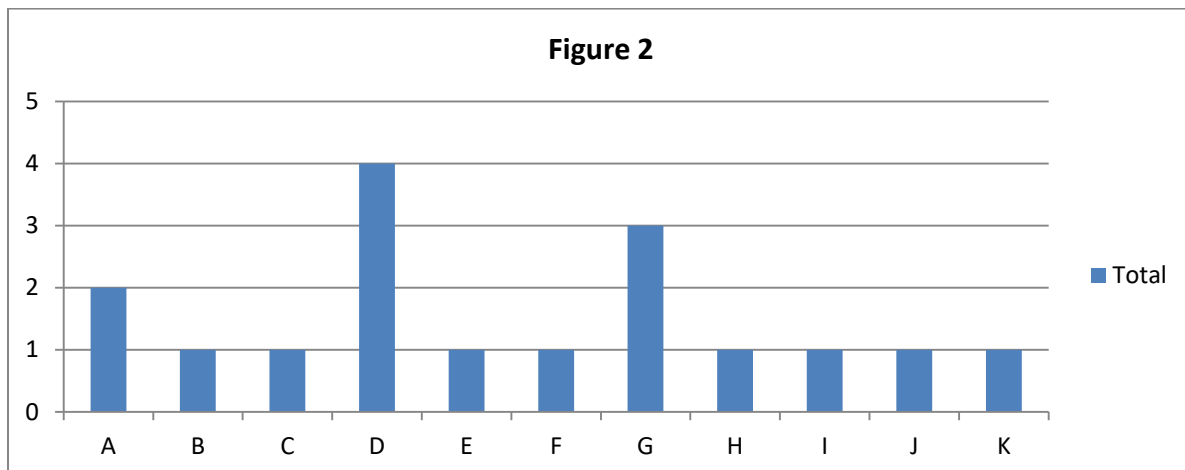

Figure 2

Figure 2: Analysis of Geographic Region

The study is concerning geographic region, there were a variety of possibilities. That's the reason data was divided into a large series of alphabetical codes, as shown in figure 2. Total 11 countries according to figure 2 those researchers worked on graphical presentation of news, some of countries researchers' greater number of publication as compare to others. USA and Portugal have a great number of publications.

Gap: Category E represents India, and the figure shows very less work on a related topic is done in this country. Some other countries are also on the same values according to figure 2.

8.0 Objective:

Third classification related to the objective of the researchers in the published study. Researcher use alphabetical codes to reviews all 17 published research studies; A-Effect of multimedia news presentation on news audience; B-Analysis Visualization in News; C-Significance of news visual Presentation / multimedia presentation; D-Impact of visual news / photojournalism on society; E- Technology Impact on journalism; F- Placement of graphics on television news channel. Figure 3 shows the results of the obtained categories. Most research related to the significance of news visual presentation/multimedia presentation 29% in this study. Concern about; Placement of graphics on television news channel 23% according to figure 3. Categories C and F have a high percentage as compare to other objectives according to figure 3. Most of the researcher from different region works on the significance of news visual presentation/multimedia presentation.

Gap: Placements and colors trends change after a particular time, some new graphics are now included for graphical representation but researcher objective is not too much clear about the placement of graphics. They only study ticker, news anchor, over the shoulder and logo. There are more graphics that can be studied.
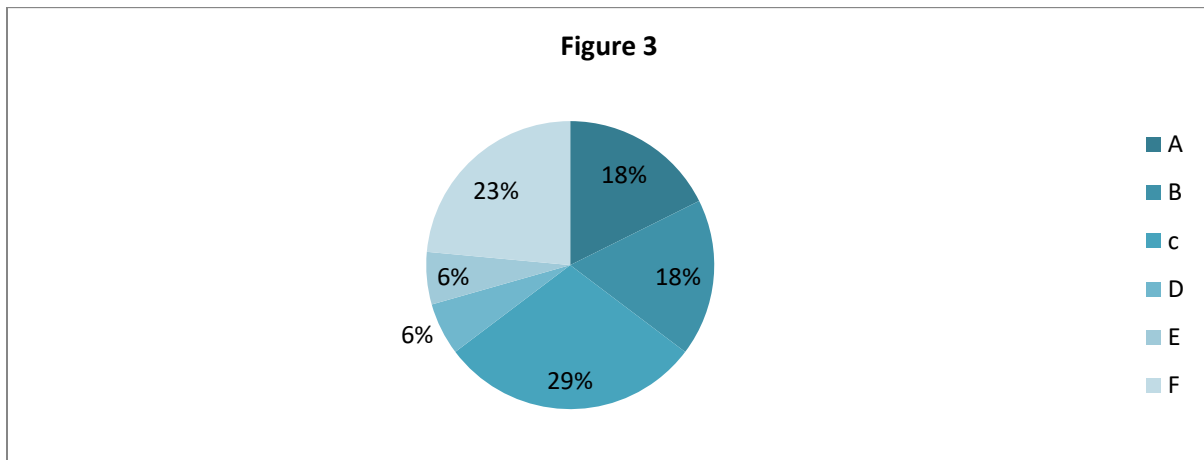

Figure 3: Analysis of objective

9.0 Focus On Main Subject:

This Classification analysis what is the main subject of the researcher in his study according to the topic. Alphabetical codes are used to the categorization of subcategories, A- Related to news channel content; B- Related to news graphics; C- Related to Television news; D- Related to news channel graphics; E- Effect on viewers; F-Significance of Graphics & Visual Presentation as shown in figure 4.

Figure 4
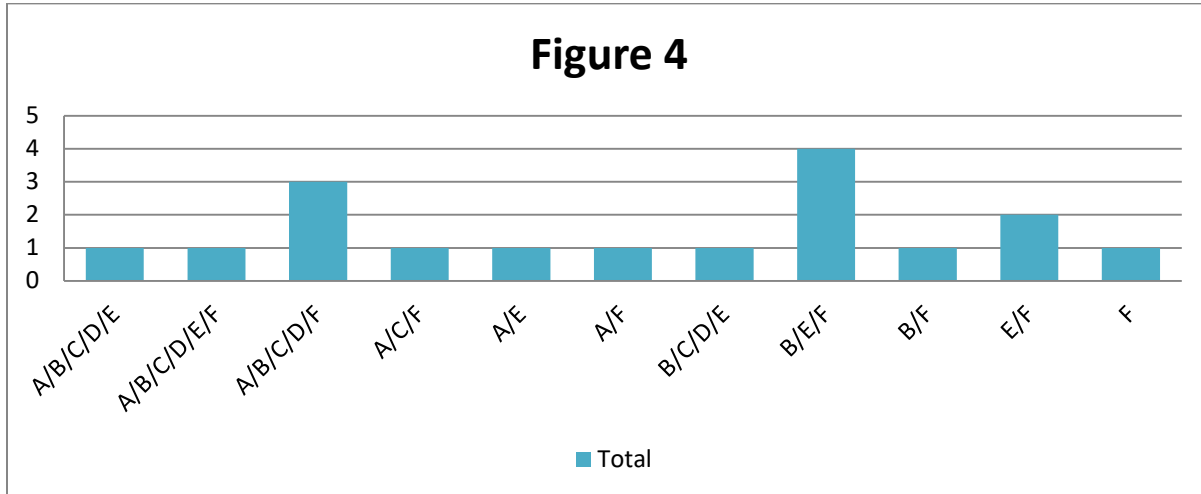
This category indicates what the researcher chooses to identify the significance and placements of graphics in the news. Total of 6 subcategories researcher identifies or choose. F category is common in every research study. A is also common but not as F. B, E, F category most of studied in published researches 23%. Categories A, B, C, D, and F is the second-highest 17% as shown in figure 4. All subcategories of the main focus of studies are chosen, some categories are highly common in every published research studies.

Gap: Work on category D is less common as compared to others. Category D is related to news channel graphics, not news graphics.

10.0 Research Method:

Table S2

Research Method	
A	11
B	5
G	1

Table S2, Analysis of research method

This classification is exploring the method applied by the researcher to analyses the study. Alphabetical codes are used as A- Quantitative; B- Qualitative; C- Quantitative/Qualitative or Qualitative/Quantitative; D- Case study; E- Non-applicable as shown in figure 5. Total 6 researcher methods categories by the researcher for this review study. The method used in the published study present different results. However, a large figure of the studies focused on quantitative method 65%. Total seventeen researcher studies choose for review and 11 research studies choose a quantitative method to analyses the results as Table S2.
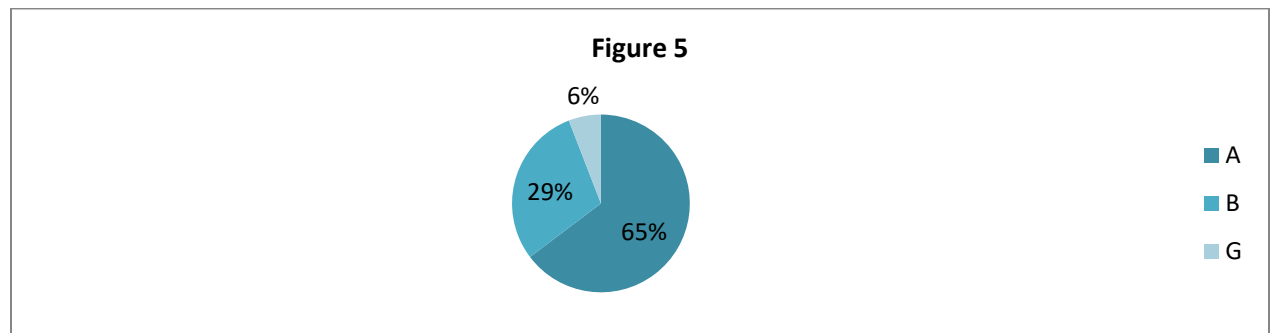

Figure-5, Analysis of research method

11.0 Analysed Sector:

The sixth classification related to identifying which sector research chooses for study, alphabetical codes for subcategories: A- Private; B- Public; C- Public/Private or Private/Public; D- Non-applicable as shown in figure-6. The great majority of the study addresses the private sector and public sector, both are studied by an equal percentage of 23 %, 23% according to figure 6. Both additions are also less 50%. The researcher chooses constructed sample to analysis the influence of 53%. This category helps the reader to understand which sector can be more study.
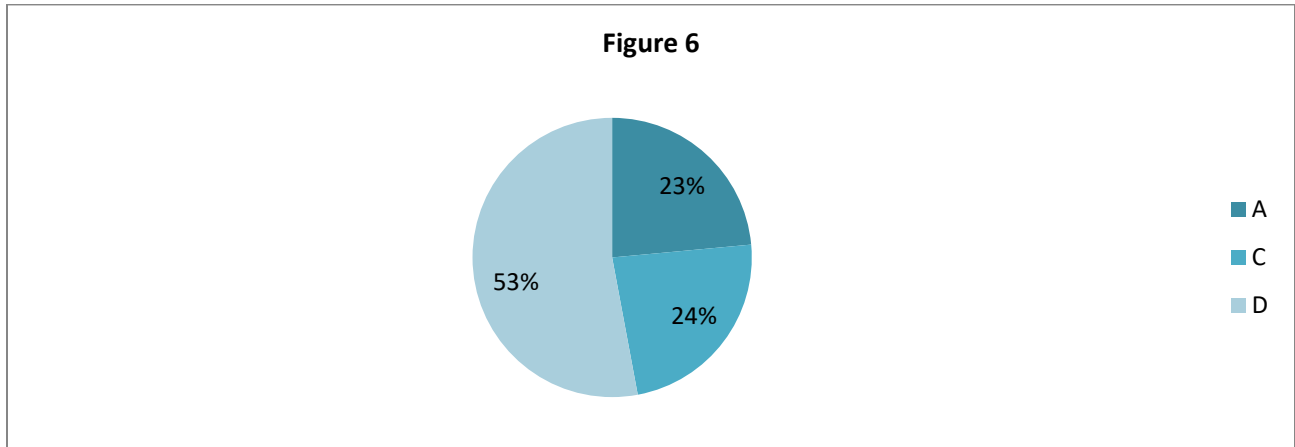

Figure 6, Analysis of Analyzed sector

Gap: The news channel is owned by the private sector and public sector, but the study related to visual presentation is not up to mark.

12.0 Results of the Studies:

The seventh classification shows the results of the study were classified with alphabets: A- New perspectives; B- Consistent with previous literature; C- Previous model with different dataset/time period; D- Comparative study; E- Non-applicable. Obtained results are shown in figure 7. This category compares researcher studies published in the last ten year from 2010 to 2019. Results as shown in figure-7, researcher found new perspective which is 64% in the last ten years. 12% category B shows in figure-7, consistent with previous literature with different database and time period. Category D is used in some researches but not too much.

Gap: The graphical presentation is part of visual communication; communication mode is changed with technology influence and artistic influence. Researcher always finds some new perspective in the last ten year. But they leave to comparative studies.
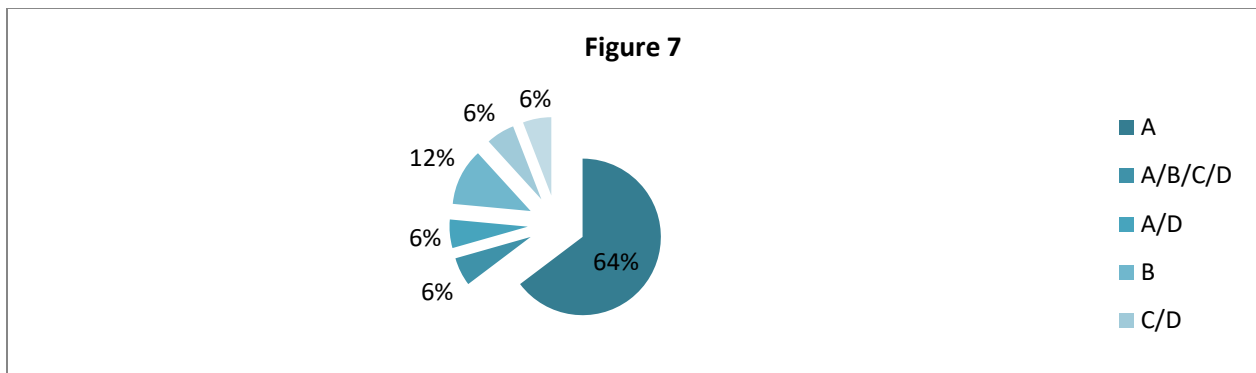

Figure 7, Analysis of Results of Each Study

13.0 Analysis Period:

The eighth classification is related to identify what analysis period research to choose to study or analysis. Five subcategories choose and code them alphabetically: A- Three month; B- Six month; C- One year; D- more than one year; E- Non-applicable and show in figure-8. This category defines large data in a compact way. Category E describes when research not defined analysis period in his study or they don't use it in his study.

Table 8 shows the results of the analysis period. Category E- Not applicable has more percentage as compared to other categories 65%. Category D- more than one year has the second-highest percentage of 17% others is equally 6%.
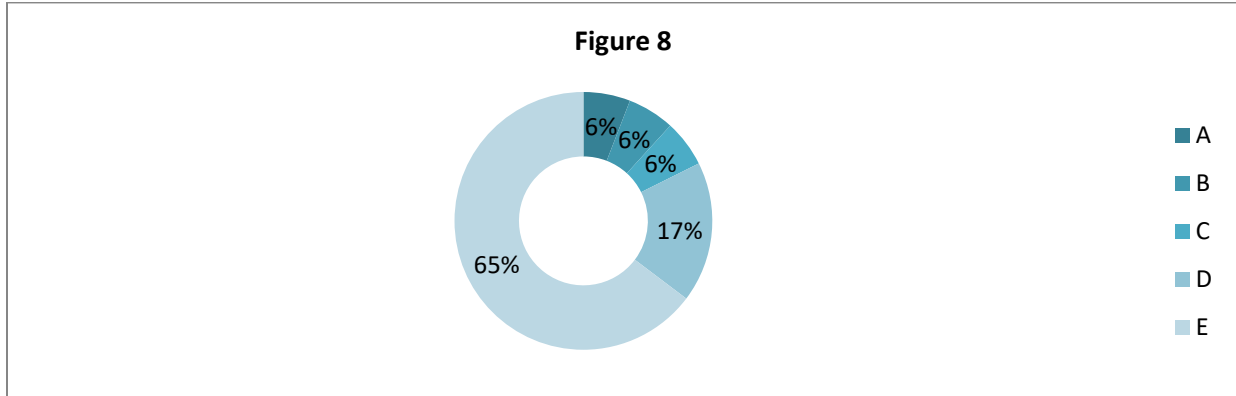

Figure 8, Analysis of Analysis period

Gap: Researchers used self-constructed samples that why analysis period category E has the highest percentage.

14.0 Sample Size:

Last ninth category to identify what sample is used to analysis; alphabetical codes are used for categorization: A- 0-100; B- 101-300; C- 301-500; D- 500>; E- Non-applicable and shown in figure-9. Total five interval scaling is used to compile or categories complex data, to make it understandable and also for finding a research gap.
Results are shown in figure-9. Category A- 0-100 has 47% used; it is almost 50% result of research. From Last ten, year researcher uses 0-100 sample for research. Category D- 500> has 35, then E- on- applicable 12, B- 101 – 300 has 6%.
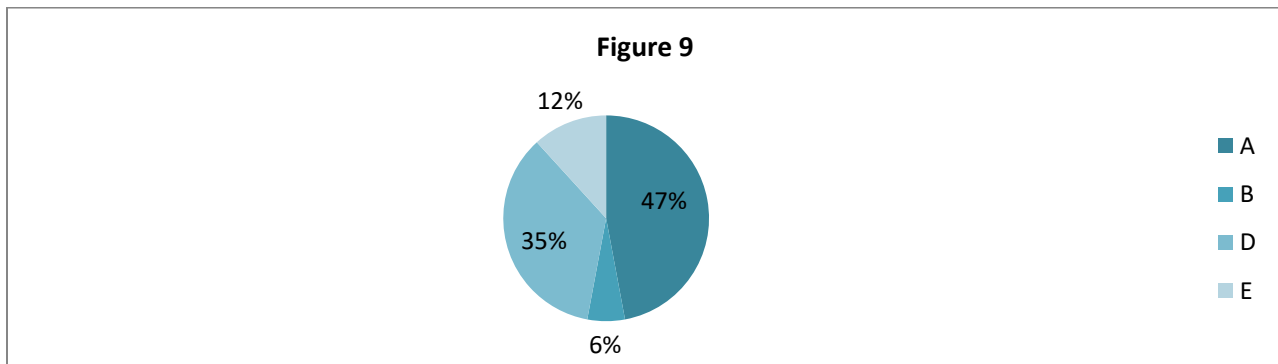

Figure 9, Analysis of Sample Size

Gap: A small sample is used very frequently to analysis, large sample is also used in many studies but it can be used in future studies to make it reliable results.

15.0 Conclusion and Recommendation:

The study is related to a review of published studies that objective is news graphics, television news graphics and news channel graphics. The researcher chooses seventeen studies and analysis them on the basis of nine categories. Each category has the number of sub-categories. Category is focused to identify the gap in published studies.

Context related result is shown in figure 1, and revels recently published studies related to graphically presentation of news, news graphic is less focused on national and international, and local news. The researcher constructed videos used most of the researches. Geographical region: country USA (United States of America) has great percentages of studies as compare to other Geographical regions. Portugal Geographical region also has good percentages. China Geographical region is third, those are worked on a related topic. India and other Geographical regions worked on this area but not too much. These are also developed counters they also should work on it. The objective is also one strong category to identify some new facts. As per figure 3, maximum work is the significance of graphics. Researchers should also know about effect and impacts on audiences. Placement of graphics in news is also one strong objective chooses by researchers to analysis, but variables are less used to analysis.

The research method is also an important factor for any study. In this study researcher also identify which research method is chosen by a maximum number of researchers to analyze. Figure 5 reveals quantitative method is frequently used in most studies. Qualitative method used less, in future studies research can choose it to find a new perspective. Analysis sector: which sector researcher chooses to analysis or research: In the last ten year published studies, researcher analysis own constructed videos: video with graphics and another video without graphics use it as sample. Any sector: private and public can also analysis in future researches. Result of previously published studies have different aspects, more than 60% has a new perspective. Analysis period: how much period analysis in previous studies. In maximum studies researcher not defined about analysis period. One year and more than one year is analysis period researcher choosing maximum as compared to other categories. Sample size also very less in these seventeen studies as compare to other categories.

16.0 References:

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Appendix- I

Table 1, Categories and subcategories used

Serial no.	Category	Codes
1	Context	A. National News B. International News C. Local News D. Not Applicable
2	Geographic Region	A. China B. Turkey C. Germany D. USA E. India F. South Korea G. Portugal H. Australia I. Belgium J. UK K. Egypt
3	Objective	A. Effect of multimedia news presentation on news audience B. Analysis Visualization in news C. Significance of news visual Presentation/multimedia presentation D. Impact of visual news/photo journalism on society E. technology impact on journalism F. Placement of graphics on the television news channel
4	Main subject	A. Related to news channel content B. Related to news graphics C. Related to Television news D. Related to news channel graphics E. Effect on viewers F. Significance of Graphics & Visual Presentation

5	Method	A. Quantitative B. Qualitative C. Quantitative/Qualitative or Qualitative/Quantitative D. Case study E. Non-applicable
6	Sector analyzed	A. Private B. Public C. Public/Private or Private/Public D. Non-applicable
7	Results	A. New perspectives B. Consistent with previous literature C. A previous model with different dataset/time period D. Comparative study E. Non-applicable
8	Analysis period	A. Three month B. Six month C. One year D. more than one year E. Non-applicable
9	Sample Size	A. 0-100 B. 101-300 C. 301-500 D. 500> E. Non-applicable

Appendix- II

The study analyzed citation on the web of Science, J Store, Google and Scopus etc.
Till April 29, 2019

Sr.	Author	Title	Google
1	Xinyi Yu	A Comparative Research on Cognitive Effect of Info graphic and Animation Presentation in News	146
2	Banu □nanç Uyan Dur a *	Analysis of data visualizations in daily newspapers in terms of graphic design	5
3	Ferdinand Stebner	The role of process information in narrations while learning with animations and static pictures	14
4	Susan Jacobson	The digital animation of literary journalism	15
5	Gordon Coonfield & John Huxford	News Images as Lived Images: Media Ritual, Cultural Performance, and Public Trauma	8
6	Rajeev Ghode	Info graphics in News presentation: A Study of its Effective Use in Times of India and Indian Express the Two Leading Newspapers in India	6

7	Dean Cummings	The DNA of a Television News Story: Technological Influences on TV News Production	4
8	Jeongsub Lim	Representation of data journalism practices in the South Korean and US television news	0
9	Rui Rodrigues	A Television News Graphical Layout Analysis Method Using Eye Tracking	15
10	Rui Rodrigues	Influence of the graphical layout of television news on the viewers: An eye-tracking study	1
11	HANS-JÜRGEN BUCHER	The relevance of attention for selecting news content. An eye-tracking study on attention patterns in the reception of print and online media	127
12	Jonas De Meulenaere	An Audience Perspective on the Second Screen Phenomenon	11
13	Yan Zhu	Research on the Application of Multimedia Computer in News Technology	1
14	Nick Redfern	Time series analysis of ITV news bulletins	2
15	Mustafa Yousry	Effects of Editing Style on the Perceived Meaning: A Comparative Study Between Old and Young Egyptian Television Audiences	3
16	W. James Potter	The Context of Graphic Portrayals of Television Violence	78
17	Rui Rodrigues	Analysis of the Layout on TV News Reception: The use of Eye Tracking in the "Jornal da Tarde"	0