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Why Do Journalists Prefer Data Journalism? A Case Study of Online Journalists & Public Relations in UAE

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Abstract

The new practices in journalism and news-making are adding every day. Consequently, data journalism adoption and usage are increasing today. This research also focuses on data journalism as one of the most considerable practices among PR& journalists in the United Arab Emirates. Theocratically supported by Audience Reception Theory; this study involves Structural Equation Modelling for data analysis purposes. Results revealed that Emirati journalists & Public relations departments much prefer using data journalism professionally (p> .000). For relevant purposes, these journalists perform data encoding by using the practical guide and rules for the encoding (p> .000) purposes. Besides, these journalists much prefer (p> .000) using graphs, charts, and other relevant data visualization approaches that further make data availability transparent and objective for the readers (p> .000). Finally, these journalists ensure easy and understandable data decoding among the audience, that may further lead to increase critical thinking among them (p> .000). Thus, it is concluded that Emirati journalists & PR are interested in readily adopting an applying the data journalism approaches not only to enhance their personal skills but also to provide the readers with the transparent data. The importance of data journalism also indicated the adoption of technology in traditional journalism as transforming the entire field where communication is based on a two-way approach. The researchers finally discussed the study limitations and made recommendations for future studies.

Keywords: Data Journalism, United Arab Emirates, Journalism Practices, Visualization, Visual Encoding, Audience Decoding, Public relations.

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1. Introduction

According to Bill Kovach and Tom Rosenstiel, the purpose and importance of journalism can be directly determined by the functions of news in the lives of the public. News is a part of our daily communication process that keeps us updated about the changing issues, characters, and events happening in the outside world (Binns, 2017). As noted by Simons et al. (2017) the primary purpose of the news is to inform the people and empower them with the basic right to know. According to Wu (2019), journalism provides people with information that can help them make decisions about their personal lives, community, society, and the government. Although a piece of information can be found anywhere, even from the people around us, journalism is different and credible in many ways (Kumari, 2019). Journalistic news is mainly represented through newspapers, television, radio, and online platforms of official news organizations and journalists. However, online resources are today considered as efficient as conventional resources due to direct access and availability of updated information with just a single click. Tracing the origin of journalism, it was first introduced in the 1830s; however, the evolution and further rise of Information Communication Technology introduced digital journalism also added to its value and role in current society (Broussard, 2020). As noted by Boyles & Meyer (2018), digital journalism is one of the progressing fields of reporting that involves using advanced technology to search, obtain, and disseminate news reports for the progressive computer-literate market. Using digital journalism involves an organized process of creating and covering the news content about the events trending at national or international levels with timely updates that can be seen online. Online journalism covers all the topics such as politics, sports, business, travel, food, weather, weather, and others (Kotisova, 2020). As Thorsen (2019) argued, digital journalism enables journalists to access the news, ensure its credibility, further modify it as needed, and disseminate it. Besides, digital journalism also helps journalists to directly assess their readers, observe their likes and dislikes, improve the quality of work to make them understandable to potential readers, and improve the quality and contribution of digital journalism.

Similarly, another major concept, "Data Journalism", adds more value to digital journalism, which involves analyzing large data sets to create a comprehensive news story (Willnat et al., 2019). According to Bhargava & D'Ignazio (2021), data journalism involves numerical data for producing and distributing news information during the current digital era. Notably, data journalism interlinks statistics, computer sciences, graphic designing, and statistics, with journalism to improve the quality and add more information for the readers. As noted by Rey (Rey, 2018), telling stories based on the data is the primary goal of data

journalism. The journalists first collect and analyze the data and then represent it in, i.e. graphical forms, including graphs, maps, etc. These visualizations create a clear picture of a complex situation that further increases understanding. Further, storytelling components can also help illustrate the findings in simple words from someone's perspective who is the primary subject of the relevant report. According to Lück & Schultz (2019), this link between the story and the data is seen as a "new arc" or a bridge between the news report and readers' understanding. As a result, journalists across the globe are acknowledging and actively prefer using data journalism. They aim to provide the readers with news accompanied by new reports embedded into the fabric of visual data. Data journalists play a significant role in removing the barriers and improving the readers' understanding by increasing data literacy among the readers on a larger scale (Lowrey & Hou, 2021).

1.1 Data Journalism &PR in UAE

According to Fahmy & Attia (2021)., Arab journalism has received much criticism due to the authoritarian governments, and Middle Eastern regions stand as the fifth out of six regions regarding press freedom. As a result, freedom of the press is regulated under both self and state-imposed censorship. Many journalists covering different types of journalism are focusing on free parties, that are more data driven-credible, and efficient with greater accessibility. According to Lewis & Nashmi (2019), data journalism for Emirati journalists is not a new word. The Emirati journalists, believing in freedom of the press with normative practices, practice data journalism through their personal profiles and official platforms. According to recent statistics, more than 85% of Emirati journalists practice data journalism. These journalists consider data journalism the most sought professional practice (Fahmy & Attia, 2021b). According to Snoussi, (2019), the potential for practising data journalism in the United Arab Emirates is important for two reasons: First, the published literature on data journalism's usability for the readers is highly understandable. Second, data journalism enables Emirati journalists to address and highlight crucial social issues without any prior restriction (Darwish, 2020). The journalists can also use code-free browser extensions or Python for programming through the language to access the locked data or obtain from the application programming interface for a data source such as Microblogs. Thus, practically speaking, journalists in the United Arab Emirates are much concerned about freedom of expression and access to information as basic human right value that further magnifies the use of data journalism among them (Kabha, 2019). The public relations (PR) industry in the UAE is also growing rapidly. The country is home to a number of international PR agencies, as well as a growing number of local agencies(Al-Sartawi et al. 2022; Al Natour et

al. 2023; Thaer et al. 2023) PR professionals in the UAE work on a variety of projects, including promoting tourism, attracting foreign investment, and managing corporate reputations. The PR industry in the UAE is facing a number of challenges, including the rise of social media, the increasing cost of doing business, and the need to adapt to the changing media landscape (Al-Hattami et al. 2023). However, the industry is also growing rapidly, and there are a number of opportunities for PR professionals in the UAE (Al Adwan et al. 2023; Al Olaimat et al. 2022).

1.2 Study Aims and Structure:

This research is based on the audience reception theory by asking Emirati journalists& Public relations departments to tell about their general understanding of data journalism, their skills, and their perceptions about its adoption, usage, and outcomes. The relevant approach would observe the data journalism usage as linked with the audience reception process, where the message is sent in the form of both written text and visual manner (Fahmy & Attia, 2021). This article will be formally divided into sections per the formal research requirements. The first section will involve an introduction and problem statement, the second section will provide literature supporting data journalism. The third second will involve theoretical underpinnings, and the fourth chapter will highlight the suitable methods used in this research. The fifth section will represent the data analysis and results. While the sixth section will discuss the findings and make the conclusions accordingly.

2. Literature Review:

2.1 Importance of Data Journalism:

Numbers can express the data we observe in our everyday lives. Both "data" and "journalism" are difficult terms to use in this context. Some people use the term "data" to describe any collection of numerical information, usually presented in a tabular format. Those were the only numbers reporters ever dealt with twenty years ago (Heravi, 2019). In contrast, the modern era is a digital one in which numbers may be employed to express anything essentially. Data journalism has the potential to aid journalists in conveying complex stories through the use of visually appealing infographics. Data journalism can either utilize data as a source to inform a story or as a tool to convey an account. Like any other tool, it should be used with caution, and we should be conscious of how it can shape and restrict our stories (Treadwell et al., 2016).

According to (Zhang & Feng, 2019), data journalism has the potential to bring scientific discoveries to the forefront of a narrative and make them available to readers in a variety of formats, including static

graphics, interactive features, and supplementary analysis to provide context for breaking news. The focus of this onslaught is the media. Media outlets and news organizations formerly monopolized when using technology to get the word out about breaking news. Once the printing press was invented, new possibilities presented themselves. There has finally been a conclusion to this era. Today's breaking news is reported by several individuals and organizations, including eyewitnesses and bloggers; it is then ranked, commented on, and, most of the time, disregarded by people across a vast and diverse social network (Appelgren, 2018). This highlights the importance of data journalism . The ability to collect, sort, and visualize information beyond what the naked eye can see is growing in importance. Everything has an invisible connection to the rest of the world and the people who live in it. The language of this network is data, which consists of discrete pieces of information that may seem inconsequential in isolation but have great value when seen from the right angle (Mutsvairo, 2019).

Data journalism is an emerging set of skills for accessing, evaluating, and visualizing digital sources, which are increasingly important in a field where traditional journalism skills are no longer sufficient. It is supposed to be complementary to established news outlets rather than a replacement for them. In an era where many sources are digital, journalists may and should move closer to their sources (Kabha, 2019). According to Bradshaw (2017), the Internet has opened doors to opportunities we cannot even begin to fathom. We have only just begun with data journalism to adapt our conventional practices to the online environment. Data journalism serves an important dual role for news organizations, helping find unique stories and filling the watchdog role. These are some of the most important goals for newspapers to have, especially during tough economic times.

2.2 Data in Data Journalism:

Using data, journalists can shift their attention from breaking the story to interpreting its significance. Numerous options for the subject area are available. The process leading to the next financial crisis has begun. The things we use are based on economics. An irrefutable data visualization is especially useful in cases of financial embezzlement or political gaffes, where little room remains for debate (Lewis et al., 2020). As noted by Westlund & Hermida (2021), Journalists should view statistics as a source of inspiration. They can demonstrate, for instance, how the effects of a general risk greatly depend on demographic variables like age, gender, and level of education. The use of data has the potential to transform an intangible concept into one that can be understood and related to by a wide audience. They may deconstruct the backdrop of a complex event, such as a riot or a political debate, uncover inaccuracies, and aid everyone in identifying

potential solutions to complex problems (Vural & Masip, 2021). Those who work in the field of information collection can benefit from learning how to search for and organize data and visualize it. Journalists who gain this understanding will be free to write more objectively about the world. A journalist's ability to develop an argument from evidence, rather than relying on speculation or searching for quotes, can have a big impact on the field (Fahmy & Attia, 2021b).

Significantly, the first step in every data narrative is locating a dataset to study. The findings portion of any article that, in your opinion, tells a compelling story is an obvious source for scientific writers. When considering a suitable dataset for a project, consider whether the data suggest an engaging story (Bradshaw, 2017). Exploring uncharted regions is a lot like working with data. Raw data is confusing to both the eyes and the mind at first. This information is tedious. It is tough to visualize the correct form. It requires the perseverance of seasoned journalists to examine usually complex or uninteresting raw data and unearth the hidden story therein (Borges-Rey, 2016).

2.3 Visualization in Data Journalism:

Numerous factors necessitate giving data visualization some thought. A well-designed data visualization may have an immediate and significant effect on viewers and cut through the complexity of a story to get to the point (Palomo et al., 2019). In contrast to other visual media such as photography and video, Cushion and their colleagues consider data visualization is firmly founded on quantifiable facts. It is more concerned with shedding light than heat, even though it is aesthetically appealing (Lewis & Nashmi, 2019). In an era of narrowly focused media that are frequently geared to audiences with a certain point of view, data visualization and data journalism, in general, provide the compelling prospect of narratives driven by facts, not fanaticism (Cushion et al., 2017). Moreover, data visualization, like other forms of narrative journalism, can be effective for both breaking news, such as the location of an accident and the number of casualties, and feature articles, where it can delve deeper into a subject and offer a new perspective, allowing you to see something familiar in an entirely new light (Fahmy & Attia, 2021).

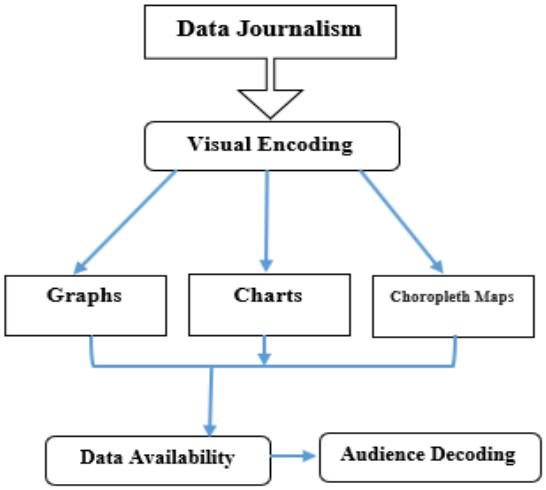
According to Porlezza & Splendore (2019), data visualizations and the aesthetic connections they create can even become cultural touchstones, such as the depiction of substantial political splits in the United Regions following the 2000 and 2004 elections, when "red" Republican-held states dominated the Midwest and "blue" Democratic states assembled in the Northeast and far West. The fact that, before the year 2000, the two major broadcast networks in the United States freely alternated between the colours red and blue to represent the two major political parties, with some even opting to do

it every four years, is mostly ignored. As a result, Ronald Reagan's "blue" landslide victory for the Republicans in 1984 is still vivid in the minds of some Americans (Snoussi, 2019). Further, the New York Times published a map in 2006 using circles of varying sizes to depict the locations of hundreds of thousands of New Orleans citizens who had been displaced by Hurricane Katrina and were now living across the country as a result of a combination of personal connections and relocation programs (de-Lima-Santos & Mesquita, 2021).

Audience Reception Theory

The Audience Reception Theory theoretically supports this research originated by Stuart Hall, during the 1960s by the work of Hans Robert Jauss (Friedman-Romell, 1995). As an advanced form of readers' response literary theory, this theory proposes readers' interpretation of the content provided to them. The concepts of reception theory are also applied in other disciplines such as story, psychology, and others. It has its role in communication research. Thus, in this research, the concept of audience research remained applicable as the focus is on data journalism, especially the data visualization that further enhances the audience's message reception and decoding abilities (Stalph & Borges-Rey, 2018). According to Young (2017), data journalism is accompanied by the use of several software tools, techniques, and environments to interface with the data. Consequently, it increases and ensures an easy understanding for the audiences and adds more value to journalistic practices. Today, several journalism projects prefer engaging with other methods to support meaning-making using other epistemological frameworks (Munoriyarwa, 2022). Therefore, data journalism mainly focuses on individual audience members as the strong unit for change and development. The information through data journalism is considered to have incredible information that may help the readers understand well and explore the relevant data and gain further insights. Therefore, the narrative, representation styles, linear storytelling methods, and other visual approaches increase the audience's interest and trust, leading them to develop critical thinking and an urge for change at every level (Nelson, 2021).

Figure 1: Conceptual Framework



H1: There is a significant effect of Emirati Journalists on data journalism

H2: Emirati journalists prefer using visual Encoding in their data journalism practices

H3: Emirati journalists prefer using graphs and charts in their data journalism practices

H4: Emirati journalists ensure data availability for the readers in their data journalism practices

H5: Emirati journalists ensure simple decoding of the visuals for the readers in their data journalism practices

3. Research Methods:

3.1 Research Design and Data Gathering:

This study is based on the case study method. According to Cousin (2005), case studies provide an in-depth and transparent picture of a phenomenon under study. The case studies can be of different designs that can be consistent with the problem and aims of the research. Further, the researchers used the survey method for data gathering purposes. The questionnaires were close-ended, based on the five-point Likert scale (Okada & Suto, 2003). Data were gathered from July 15 2022, to September 1 2022. After the data gathering, the researcher coded the data and conducted the statistical analysis by using Statistical Package for Social Sciences and Amos Ver 23.

3.2 Study Population and Sampling:

The population of this research was the journalists & workers in public relations departments in the United Arab Emirates. However, the

researchers used a convenient sampling approach for sample selection purposes. According to Etikan (2017), despite much criticism of the convenient sampling method, it is one of the most preferred techniques in social sciences research. Convenient sampling helps the researchers select and gather responses from the individuals considered suitable for their research. Notably, this research involved n= 330 respondents currently working as data journalists in organizations and public relations departments. However, the current sample size is selected according to two criteria. First, the study involves Structural Equation Modelling. According to Tenenhaus et al., (2009), the research involving Structural Equation Modelling should contain a sample of a minimum of n= 200 individuals to ensure the validity of the results. The sample selection was also made by using the G* Power analysis (See figure 1) as suggested by Ali & Bhaskar (2016). Thus, the calculation revealed a minimum sample size of n= 74 with one predictor variable, effect size (f2) at .015, and error of approximation value at .330. Thus, according to both criteria, the selected sample size for this research was ideal.

3.3 Response Rate:

After the gathering, the researchers carefully examined the collected questionnaires. The overall response remained 98.7% as n= 4 questionnaires were missing or incompletely filled by the respondents.

3.4 Common Method Bias:

According to Jeljeli et al. (2022), Common Method Bias (CMB) occurs when the variations in the study occur due to the research instrument rather than the gathered responses. In simple terms, Common Method Bias (CMB) indicates the error in the instrument. Thus, analyzing the Common Method Bias (CMB) revealed the total percentage at 27, which is lower than the threshold value of 50%, indicating that the Common Method Bias (CMB) is under control.

4. Data Analysis:

According to Carlson (2010), convergent validity helps determine the extent to which the new scale is associated with the other measures of the same construct. The construct under study should contain internal consistency and should not correlate with dissimilar ones. Thus, the researchers examined the internal consistency by conducting two calculations including Factor Loading and Average Variance Extracted (See Table 1). Notably, the threshold value for both Factor Loading and Average Variance Extracted is 0.7 (Genser et al., 2007), indicating that the lower values will affirm the convergent validity of the measurement model. Thus, in the current research, most of the Factor Loading values surpass the threshold value of .7.

Besides, the Average Variance Extracted value also ranges from .705 to .964. Thus, the calculation revealed that the convergent validity of the measurement model is established.

Table 1: Convergent Validity of Measurement Model

Variables	Items	FL	AVE
Data Journalism	Jou1	.727	.791
	Jou2	.825	
	Jou3	.743	
	Jou4	.807	
Visual Encoding	Encod1	.651	.705
	Encod2	.592	
	Encod3	.759	
	Encod4	.582	
Visualization	Viz1	.987	.812
	Viz2	.019	
	Viz3	.568	
	Viz4	.637	
Data Availability	Data1	.547	.836
	Data2	.795	
	Data3	.794	
	Data4	.919	
	Data5	.273	
Audience Decoding	Deco1	.987	.964
	Deco2	.919	
	Deco3	.273	
	Deco4	.986	

The researchers examined the Composite Reliability of the measurement model by using the two-step approach, including Cronbach Alpha and Construct Reliability (Bagozzi & Yi, 2012) (See Table 2). Calculation first revealed the Cronbach Alpha values ranging from .730 to .801, which are greater than the threshold value of 0.7. Besides, the calculation of Composite Reliability values is also found ranging from .779 to .945, which are greater than 0.7. Thus, the construct reliability of the measurement model is also established.

Table 2: Construct Reliability of Measurement Model

Variables	Cronbach Alpha	Composite Reliability
Data Journalism	.794	.779

Visual Encoding	.761	.799
Visualization	.801	.945
Data Availability	.799	.901
Audience Decoding	.730	.896

The researchers examined the discriminant validity based on two criterion approaches (Voorhees, 2016), including the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio. According to Shiu et al. (2011), both AVE-SV comparison and HTMT with a 0.9 cutoff point provide the best estimation and are considered standard tests to examine the discriminant validity in research. In this regard, first, the Fornell-Larcker criterion approach was used, which indicated that all the Average Variance Extracted Value squares were greater than the correlation values mentioned in Table 3 below. Further, the researchers used the Heterotrait-Monotrait Ratio scale. Analysis revealed the HTMT value of 0.472 (See table 4), which remained lower than the threshold value of 0.9 (Jeljeli et al., 2022b). Thus, results indicated that the discriminant validity is also affirmed.

Table 3: Fornell-Larcker Criterion

	Jour	**Encode**	**Viz**	**Data**	**Deco**
Jou	**.625**				
Encode	.287	**.497**			
Viz	.426	-.629	**.659**		
Data	-.045	-.125	-.051	**.698**	
Deco	.073	.561	.576	.147	**.929**

Note: Jour is Data Journalism, Encode is Visual Encoding, Viz is Visualization, Data is Data Availability, and Deco is Audience Decoding

Table 4: Heterotrait-Monotrait Ratio Scale

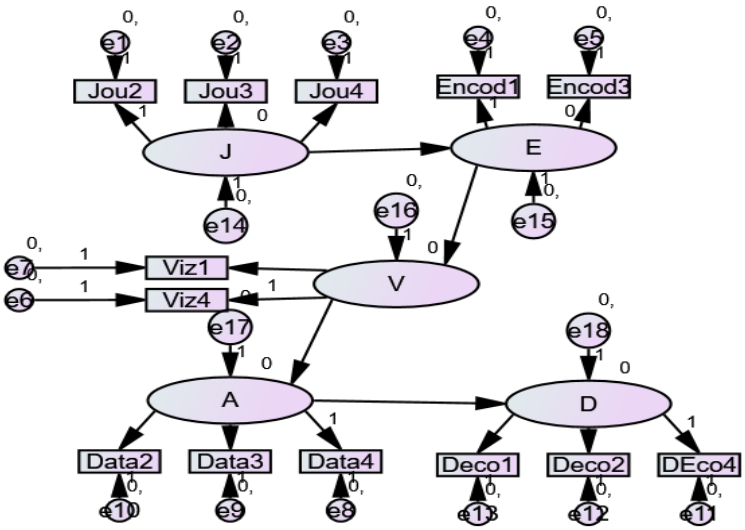
	Jour	**Encode**	**Viz**	**Data**	**Deco**
Jour					
Encode	.453				
Viz	.464	.754			

Data	-.368	-.091	-.074	
Deco	.215	.618	.657	.337

Note: Jour is Data Journalism, Encode is Visual Encoding, Viz is Visualization, Data is Data Availability, and Deco is Audience Decoding

The Goodness of Fit, also known as Model Fit, helps to determine how much the obtained data fits with the normal distribution (Jeljali et al., 2018). In other words, Goodness of Fit tells if the sample data represents the data the researchers are expecting to find in the actual population (Mazouz et al., 2019). Thus, Goodness of Fit in this research revealed the chi-square value at X2= .018(06), and the probability level remained at 000. Besides, the Standardized Root Mean Square (RMSEA) value was found ta .314, indicating the RMSEA was significantly lower than the threshold value of 0.85, while the AGFI value remained at 0.097. Figure 2 represents the Goodness of Fit model.

Figure 2: Goodness of Fit Model



According to Lee et al. (2012), Coefficients of Determination R2 predicts how well the statistical model anticipates the outcomes. The lowest value of R2 can be 0, and the highest value can be. If the model has a strong predictive potential, the R2 value(s) would be near 1. Piepho argued that when the R2 value ranges from 0 to 1, the model partially helps to partially determine the scores (Piepho, 2019). Determining the R2 value in the current research reveals predictive values ranging from .450 to .629, indicating the strong to moderate power of the current statistical model (See Table 5).

Table 5: Coefficients of Determination R^2

Variables	R^2	Strength
Visual Encoding	.629	Strong
Visualization	.450	Moderate
Data Availability	.623	Strong
Audience Decoding	.499	Moderate

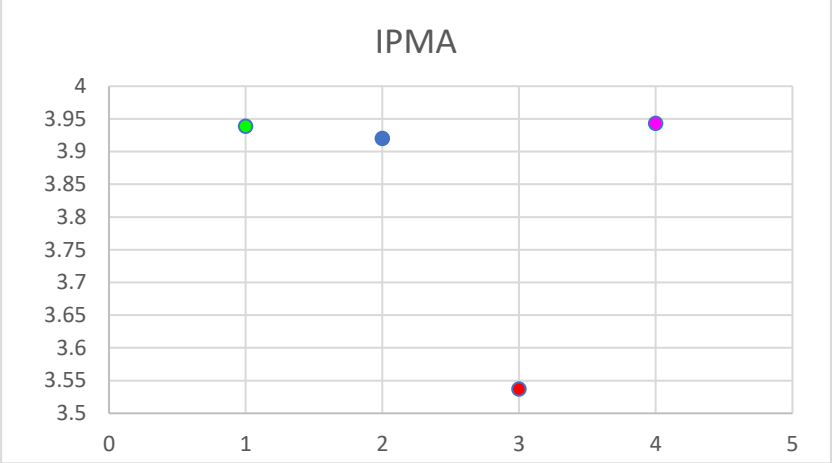
Hypothesis testing is considered a prerequisite in studies where hypotheses are formulated. Especially in the cause effect-relationships based studies, the regression analysis is preferred. As in the current research, the hypotheses provide the relevant assumptions; the researcher used Path analysis. According to Bagozzi & Yi (2012), path analysis is an important part of Structural Equation Modelling (SEM) as it determines the effects of the variables acting on certain outcomes through different causal pathways. Thus, the path analysis in this research revealed potential support for the proposed hypotheses. First, the hypothesis "There is a significant effect of Emirati Journalists on data journalism" was consistent with the propositions given by Fahmi and Attia, witnessing an increased inclination toward Data Journalism among Emirati journalists (Fahmy & Attia, 2021). Results revealed that journalists in the United Arab Emirates have a strong interest in Data Journalism with the path value at 3.879 and significance level at p> .000. The second hypothesis "Emirati journalists prefer using visual encoding in their data journalism practices" was consistent with the arguments proposed by Schapals and Bruns. Visual Encoding in data journalism is important as it involves translating and converting the written narration into a chart or map. Visual Encoding is important as it involves a creative idea and graphical illustrations that attract the readers and further generate critical thinking among them (Schapals & Bruns, 2021). Thus, the findings indicated a significant interest of Emirati journalists in visual Encoding with the path value at 3.232 and significance level at p> .000. The third study hypothesis, "Emirati journalists prefer using graphs and charts in their data journalism practices", was consistent with the study conducted by Zamith (2019) indicating charts and graphs as the main considerations for the data journalists. According to the researcher, graphs and charts are easy to understand as they illustrate what the new reports want to reflect and show. The relevant argumentation also remained validated in this research with the path value at 1.071 and significance level at p> .000 (See Table 6 and Figure 4).

Table 6: Path Analysis, Regression Weights

S/R.	Hypotheses	*Path*	*t*	*Sign*
H1	Journalists → Data Journalism	3.879	239.044	.000***
H2	Data Journalism → Visual Encoding	3.232	24.610	.000***
H3	Visual Encoding → Visualization	1.071	5.474	.000***
H4	Visualization → Data Availability	3.876	10.466	.000***
H5	Data Availability → Audience Decoding	3.676	36.776	.000***

The fourth study hypothesis, "Emirati journalists ensure data availability for the readers in their data journalism practices", was compatible with the assumption of Munoriyarwa (2022). As noted, data availability is one of the distinct features of data journalism. The available data is transparent as the journalists have to go through data gathering, wrangling, data analysis, visualization, and reporting, which further ensures that the data with authenticity is available with just a single click. Thus, these assumptions were also affirmed by the Emirati journalists with the path value at 3.876 and significance level at p> .000. Finally, the last hypothesis, “Emirati journalists ensure simple decoding of the visuals for the readers in their data journalism practices” was compatible with the argumentations by Borges-Rey. As noted Borges-Rey (2020), decoding is a broad yet complex process. The decoding process becomes more feasible when the sent message can match the audience's understanding level. The current study respondents also agreed that data availability helps to decode process among the audiences with the path value at 3.676and significance level at p> .000. Therefore, all the study hypotheses were validated, indicating their consistency with the prior literature and further applicability in the current research.

Figure 3: Importance of Performance Map Analysis



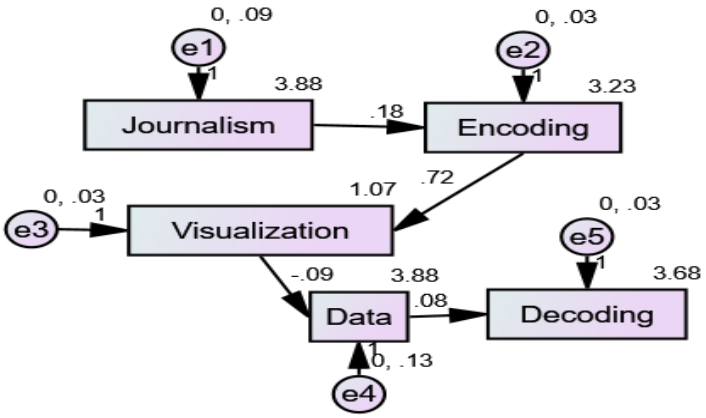
According to Barrett (2007), Importance Performance Map Analysis further extends the results of the Structural Equation Modelling by indicating the importance and performance of the constructs in the mode. IPMA determines the relative importance by determining the performance of constructs by comparing them with each other. In this regard, the Importance Performance Map Analysis in this research also revealed the performance of the latent variables, including Visual Encoding, Visualization, Data Availability, and Audience Decoding. Results revealed that Audience Decoding (3.942) remained the highest performing variable. Followed by Visual Encoding (3.938), Data Availability remained the third highest scoring variable (3.920). Finally, Data Availability was the lowest performance variable (3.536). Figure 3 graphically represents the results of the Importance Performance Map Analysis.

5. Discussion on Results:

Media texts are encoded and decoded in a certain manner. The content sender encodes the messages sent to the audience for decoding and interpretation purposes. Despite different audience members having different ways and levels of decoding (Friedman-Romell, 1995), the propositions given by Stuart Hall are highly applicable both in traditional media and new media-based scenarios. In this regard, data journalism also involves translating data into visual elements on a graph/chart/map; as basic as the idea is, the more people look at the illustration, the more they will understand the relevant report. However, Warnes considers visual Encoding as mainly driven by a certain set of rules to follow as when data journalists make a rule, it is important to think rationally by keeping in view the audience's level of understanding (Warnes, 2018).

Thus, this research also focused on data journalism usage and specific visualization through data encoding, availability, and encoding perspectives in the United Arab Emirates. The first theme, followed by four root questions, was focused on investigating the attitude and interest of Emirati journalists in using data journalism. The study's respondents agreed that they fully understand the importance of data journalism as the trending journalistic practice today. Consequently, they acknowledge the data journalism adoption by Emirati journalists and consider data journalism training as an integral part of modern journalism practices today (Fahmy & Attia, 2021).

Figure 4: Path Analysis of the Conceptual Model



The respondents were scrutinized about their perceptions and use of visual Encoding in data journalism practices in public relations departments (Lewis & Nashmi, 2019). The study respondents widely agreed that they consider visual Encoding an important part of their data journalism practices. For visual Encoding, the respondents indicated their compliance with the rules as a prerequisite of the encoding process. According to the respondents, they first determine their data's nature and select the most relevant visual properties. The respondents modify their Encoding accordingly as different data types contain different properties. The study respondents also revealed that they keep two basic points under consideration during visual Encoding. First, naturally ordered and distinct values. Naturally ordered and distinct values help them determine whether the visual coding is suited to the relevant data types (ordinal, quantitative, relational, or categorical data) (Beiler et al., 2020). Further, regarding the visualization practices and types, the respondents revealed their interest in using graphs and maps (Palomo et al., 2019) as an easy-to-understand visual demonstration. According to the respondents, they prefer using different online approaches such as Scribbles, Storymaps,

cart, Mapbox, and others to fix, render, and represent the visual demonstration in the best possible manner (Zamith, 2019).

Similarly, the theme regarding data availability in data journalism was primarily based on the root questions about data availability, objectivity, and transparency for the readers, as also witnessed by Westlund & Hermida (2021). The respondents see algorithms and databases as comparatively strong, objective, and transparent means of making and publishing news. The study respondents also consider data journalism as an accountable approach in news writing that further enhances the importance of journalism in Emirati society (Parasie, 2019). Finally, regarding the perceptions about audience decoding of the visual data. The respondents revealed that they consider data journalism a new approach to news reporting and storytelling. The data they provide along with the new report is extensive and may further help the audience understand and interpret. According to the respondents, they also ensure that the representation is easy, without complexity. Graphs, maps, and charts are designed using effective graphical tools, providing the audience with the possible understanding to facilitate their interpretation and critical thinking capabilities (Túñez-López et al., 2020).

Therefore, wider adoption of data journalism in the United Arabs also indicates the number of available options to design and create data visualizations is expanding. Data journalists focus on different tools to create appealing and meaningful visualizations for their readers. As a result, data journalism in the UAE is considered a rapidly accepted and integrated approach today (Borges-Rey, 2020).

6. Conclusion:

The current scenario regarding data journalism & public relations departments in the United Arab Emirates is of greater importance. This study also revealed that Emirati journalists are interested in readily adopting and applying data journalism approaches to enhance their personal skills and provide readers with transparent data. The importance of data journalism also indicated the adoption of technology in traditional journalism as transforming the entire field where communication is based on a two-way approach. In simple terms, the reader can not only read or view the news but also share their opinion. Besides, sharing the report on their profiles further adds more value to the importance and use of data journalism.

6.1 Study Limitations & Recommendations:

This research comes up with some basic limitations. First, the researchers only focused on data journalism and public relations departments in the United Arab Emirates. The generalizability of the results is questionable in other regions. Second, the researchers only

focused on graphs and charts as the data visualization approaches, further narrowing the scope of current research. Finally, the third limitations involve the convenient sampling technique, which involves the researchers' own bias and criticism of the selection criteria in the study. However, this study recommends more research examining data journalism in the United Arab Emirates. Especially the studies exploring the training and education of data journalism in the Emirati scenario can further help to dig out the concerns and barriers linked to data journalism practices.

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