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**The level of use of electronic media and its effects on the caliber of scientific research, According to the members of the Social Sciences Faculty at the University of Laghouat, Algeria.**

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**Abstract:**

According to the opinions of professors at the Faculty of Social Sciences at Amar Thelidji University, Laghouat, this study seeks to determine the effect of electronic media use on the caliber of scientific research.

For the study, a sample of 83 professors was polled for data using a questionnaire.

The results of the investigation showed that:

In respect to the caliber of their scholarly work, the faculty at the College of Social Sciences at the University of Laghouat in Algeria uses electronic media to a great degree. This indicates that these faculty members' use of electronic media in their research procedures and activities is important.

Based on the faculty members' association with the college's laboratory, the investigation identifies statistically significant variations in their responses. This suggests that depending on whether faculty members are associated with the college's laboratory, the use of electronic media has a different effect on the caliber of scientific research.

Based on their academic status, faculty members' responses did not show any statistically significant differences, according to the study.

**Keywords:** electronic media, quality of scientific research, e-publishing, virtual forums, Faculty members

## 1-Introduction:

Universities all around the world work to improve the standard of scientific research within the framework of quality assurance and academic certification systems. In order to develop and train research professors who will progress science, nations invest a lot of resources—both financial and human. Society as a whole look to higher education institutions with their research skills to stimulate development, solve problems, and advance progress because of its importance, especially in light of the changes the modern world is through in a variety of domains of existence.

A brand-new civilization that has been developed by cutting-edge machine technology is just getting started. The fundamental cause of conflict in the post-industrial period, according to Alvin Toffler, is control over the flow, circulation, and access to knowledge.<sup>1</sup>

In light of this, predicts that knowledge will be essential during this time, bringing to mind Francis Bacon's well-known proverb from the sixteenth century, "Knowledge is power."<sup>2</sup>

These proverbs are still relevant in today's world, which is characterized by quickening global development and rapid technological advancement. Some of these new developments, with their effects and shadows, are novel to us. Some are obvious while others are concealed, and while some have broad global acceptance, others spark profound doubts that may have far-reaching repercussions.

From this vantage point, the electronic dissemination via the internet emerged in the world of thought, culture, and civilization. In his 1978 book "Toward Paperless Information Systems," Lancaster foresaw the rise of the paperless society. The increased demand for electronic transformation in all spheres of life is indeed strange and astonishing. Shakespeare's well-known phrase "To be or not to be" has been changed to "E or not to E," with the prefix "E" added to words like "E-learning," "E-publishing," and "E-commerce" to symbolize the enormous change in the social and cultural fabric.

The birth of E-Publishing and virtual forums, a new child from the womb of electronic culture, is not shocking to us as members of the information or digital society. This new type of publishing is dependent on modern tools like computer technology, communications, and networks, particularly the internet, that titanic force that has profoundly and quickly changed all facets of life. Our focus will be

on how electronic publishing affects the standard of scientific research because this development has helped to evolve the electronic publishing environment.

### **The first topic: The study's methodology:**

In the pursuit of a rigorous and insightful understanding how the usage of electronic media can affect the quality of scientific research, we have meticulously designed a methodology that encompasses a multifaceted approach. By integrating qualitative and quantitative techniques, our methodology strives to provide a comprehensive perspective on the subject matter. This approach enables us to delve into the intricacies of electronic media's usage from various angles, thus enhancing the robustness of our findings.

### **First Requirement: The study's issue and its considerations:**

At the heart of our research lies a compelling issue that warrants thorough investigation. We have taken into account a range of considerations that underline the complexity and significance of the chosen issue. Through an in-depth analysis of these considerations, we seek to unearth insights that contribute to the broader body of knowledge in quality of scientific research.

### **First section: Problem Statement:**

Due to its advancements and improvements in disseminating and sharing information and knowledge with beneficiaries, electronic media is one of the crucial topics on which researchers rely in scientific research. It is the best sharing method and has a big impact on information services and scientific understanding. The following is the formulation of the research problem:

- "What is the Impact of Using Electronic Media on the Quality of Scientific Research among the faculty members at the College of Social Sciences, University of Laghouat, Algeria?"

### **\*Sub-Questions:**

\* Are there statistically significant differences in the responses of faculty members at the College of Social Sciences, University of Laghouat, Algeria, regarding the Impact of Using Electronic Media on the Quality of Scientific Research based on the variable of affiliation to the college's laboratory?

\* Are there statistically significant differences in the responses of faculty members at the College of Social Sciences, University of Laghouat, Algeria, regarding the Impact of Using Electronic Media on the Quality of Scientific Research based on the variable of academic rank?

## **Second section: Hypotheses**

\* There are statistically significant differences in the responses of faculty members at the College of Social Sciences, University of Laghouat, Algeria, regarding the Impact of Using Electronic Media on the Quality of Scientific Research based on the variable of affiliation to the college's laboratory.

\*There are statistically significant differences in the responses of faculty members at the College of Social Sciences, University of Laghouat, Algeria, regarding the Impact of Using Electronic Media on the Quality of Scientific Research based on the variable of academic rank.

## **Third section: Importance of the Study:**

The study's importance stems from the significance of the subject matter, which is Electronic media and its effects on the caliber of scholarly inquiry. It has resulted in important advancements and improvements in the communication of knowledge to the beneficiaries. Scientific research is now a focus for higher education institutions because it is crucial to the relationship between academia and society. These institutions work to develop, advance, and improve various fields through research. Particularly in light of the globalization of ideas and applications propelled by the rapid advancements in information technology, the standard of scientific research has emerged as a key characteristic that sets higher education institutions apart from others.

University-based scientific research is one of the fields that has been impacted by electronic media usage. Because there are so few theoretical studies about electronic media usage and how it can improve the caliber of scientific research that have been published, this study is crucial.

## **Fourth section: Study Objectives:**

The study aims to achieve the following objectives:

- Highlight the importance of scientific research, its characteristics, and benefits.
- Determine the extent of the faculty members utilization of electronic media through the internet at the Faculty of Social Sciences at Amar Thelidji University, Laghouat.
- Identify the impact of electronic media utilization on the quality of scientific research, according to the viewpoint of faculty members at the Faculty of Social Sciences at Amar Thelidji University, Laghouat.

## **Second requirement: Study's key concepts & Related previous studies:**

To establish a solid foundation for our study, we delve into the key concepts that underpin our research. These concepts provide the theoretical framework through which we approach the issue at hand. Additionally, we examine prior research that is directly relevant to our study, identifying gaps, controversies, and areas that warrant further exploration.

As we embark on this scholarly endeavor, we are driven by a commitment to rigorous inquiry and the pursuit of knowledge. Through our chosen methodology, careful consideration of the issue, and engagement with relevant literature, we endeavor to contribute meaningfully to the discourse surrounding the affect of electronic media's usage on quality of scientific research.

### **First section: Study's key concepts**

#### **1-Scientific Research:**

According to Hill and Weiss, "the means by which a specific problem can be solved by comprehensive and accurate investigation of all evidence and information related to this problem" is the definition of scientific research in general. Macmillan and Schumacher further define it as "an organized process of collecting and analyzing data or information for a specific purpose." It is "an organized effort to find answers or solutions to activities or problems faced by individuals or groups in their locations and aspects of life," according to Tokman.<sup>3</sup>

It is a research procedure that is carried out by a researcher or a team of researchers to investigate information and facts or unearth fresh connections that aid in resolving issues and providing meaningful answers. Its goal is to learn new information and add facts to the body of knowledge.

#### **2- Electronic Media:**

Electronic media is media that uses electricity, including television, radio, the Internet, fax, CD-ROMs, DVDS and online video streaming. It includes any medium that uses the digital or electronic encoding of information. Most new media forms are digital media, but electronic media can be analog electronic data or digital electronic data.

The earliest form of electronic media was the telegraph in 1795. The telephone came in 1849, followed by the radio in 1897 and the Internet in 1963. Electronic media examples also include neon, LED, computer monitors, films, RAM, barcodes, audio recordings and video recordings. Electronic media has

many uses including journalism, news, marketing, education, engineering, digital art, virtual reality, entertainment, transportation and military purposes.<sup>4</sup>

### **3- Electronic Publishing:**

According to the ODLIS dictionary, electronic publishing is broadly defined as "works that are in a digital readable form and distributed to the public electronically." It also includes digital copies of print publications, like CDs and DVDs, as well as electronic journals, e-books, websites, blogs, encyclopedias, and other online publications.<sup>5</sup>

Electronic publishing is the term used to refer to information that is published, shared, and read electronically. It is delivered electronically to recipients and includes a variety of sources, including websites, digital libraries, electronic journals, and more.

### **4- Virtual forum:**

A Virtual forum or message board is an online discussion site. Internet forums have a treelike structure: usually, different topics are discussed within different thematic sections and sometimes sub-sections. Within the sections or sub-sections, users can start a discussion a so-called thread with a starter posting.

Other users can reply to the starter posting or to other users 'comments. These messages are called a post or a posting. In many forums, threads and postings can be read by every internet user, but in order to achieve the right to post or to start a thread, users will have to register and log in. There are other forums where postings can only be read by registered users.<sup>6</sup>

### **5- Faculty Members:**

According to John Dewey, a faculty member or university professor is someone who "trains his students to use the scientific machinery, not one who learns for them," not one who "learns for them." A faculty member also encourages students to grow personally and extend that growth to their way of life.<sup>7</sup>

A faculty member or researcher is a crucial procedural pillar of the university system. They significantly contribute to the university's mission and the advancement of science and knowledge. For a faculty member to successfully complete the outlined tasks and carry out their duties, it is imperative that they be well-educated and well-prepared.

This includes expertise in teaching and scientific research, as well as intellectual and professional skills, values, attitudes, and experiences that enable students to make meaningful contributions to the overall development of society.

## **Second section: Related previous studies:**

### **1- MESSIF Aisha (2019), "Electronic Scientific Communication and Its Role in Activating Scientific Research at Algerian Universities: A Field Study at Constantine Universities"**

In light of the pervasive influence of information and communication technology, the study sought to understand faculty researchers' perceptions and attitudes toward electronic scientific communication, its importance, and its effects on academic and research activities at Algerian universities. The study discovered that Algerian universities work to provide means for electronic scientific publication and communication among the academic research community by employing a descriptive methodology and distributing questionnaires to 297 professors. Despite some limitations of electronic scientific communication, faculty researchers frequently use it to communicate their research. A small percentage of faculty members are still hesitant to use electronic communication, though, for both personal and practical reasons related to the subscription and publication procedures.<sup>8</sup>

### **2-Ali Ahsan in (2018), "The Use of Electronic Publishing by Research Professors in Searching for Scientific and Technological Information in Medical Colleges in Western Algeria."**

This study aimed to emphasize the significance of utilizing scientific and technological information in electronic publishing. The study highlighted the contribution of the web in developing electronic publishing to access scientific and technological information. The researcher employed a sample of 238 participants from different medical colleges in the western region of Algeria and explored the relationship between professors, physicians, and electronic publishing, and their reliance on information.<sup>9</sup>

## **Second Topic: The study's conceptual framework:**

In this topic, we will delve into the conceptual framework that underpins the study's exploration of the role of electronic media in enhancing the quality of scientific research. This framework encompasses a comprehensive analysis of electronic media, its various roles, types of scientific outputs, and the challenges it presents. Furthermore, we will examine the pivotal role that electronic media



plays in elevating the caliber of scientific research, considering both the reasons for its adoption and the associated advantages and disadvantages.

### **First requirement: Generalities of electronic media:**

In today's digital age, the landscape of information dissemination has undergone a remarkable transformation. Electronic media has emerged as a powerful conduit for the distribution of knowledge and research. This shift has necessitated an understanding of the generalities that define electronic media and its various roles in the realm of information sharing. This work delves into the multifaceted dimensions of electronic media, exploring its roles, the different types of scientific outputs it facilitates, and the challenges that accompany its integration into our scholarly and academic pursuits.

### **First section: electronic media Roles:**

The initial roles of electronic media were centered on the military's ability to transmit written files over networks. Such objectives grew over time to include academic institutions, scientific societies, and even individuals. Electronic media's ultimate goals became:

- facilitating scientific communication and introducing a new technological concept.
- In today's fast-paced knowledge society, scientific research processes must be accelerated.
- Offering an opportunity for academic publishing.
- Presenting nations' and universities' intellectual output in electronic formats.<sup>10</sup>

### **Second section: Kinds of scientific electronic media outputs:**

#### **1-E- Books:**

Electronic books are also known as e-books. E-books are electronic version of books, delivered to readers in digital formats. They are read on all types of computers, including hand held devices designed specifically for reading e-books. Hence an electronic book should have electronic text and that text is to be represented to the reader visually. The electronic text is either saved to a floppy disk, transferred onto a CD-ROM, downloaded from the Internet or built into a palm-sized digital reader. There are a large number of devices being developed to make reading e-books easier for consumers. E-books can be as familiar as their

print counterparts or as unique as the electronic medium itself, containing audio, video or live hyperlinks.<sup>11</sup>

## **2-Electronic Journals:**

Electronic journal, e-journals in short, is a serial, produced, published and distributed in electronic media. Basically e-journal is one which is available in electronic form and can be accessed using computer and communication technologies. Often e-journals are called virtual journals, paperless journals, online journals, scholarly electronic journals, networked journals and CD-ROM journals, etc. Generally, they are full text delivery systems and differ from conventional online bibliographic databases. All the activities of publishing from the initial stages of paper submission to publishing and distribution including accessing are performed using electronic media. With the emergence of Internet, the prominence of e-journal has enhanced greatly. Electronic journal saves considerable time and effort on the part of authors, users and publishers.<sup>12</sup>

## **3-Electronic Theses and Dissertations**

An ETD (Electronic Thesis and Dissertation) is a document self-explanatory by its name that is prepared as a result of research work carried out by students of post-graduate course or research degree. It is presented in a form simultaneously suitable for machine archives and worldwide retrieval. A rather related project should be mentioned here. The Networked Digital Library of Theses and Dissertations (NDLTD) is a collaborative effort of universities around the world to promote creating, archiving, distributing and accessing Electronic Theses and Dissertations (ETDs). Since its inception in 1996, a large number of universities have joined the initiative, underscoring the importance institutions place on training their graduates in the emerging forms of digital publishing and information access. The outreach and training mission of NDLTD is an ongoing project. Recent research has focused on creating a union database that will provide a means to search and retrieve ETDs from the combined collections of NDLTD member institutions. In response to the need for a focused and accessible catalog with a low barrier to participation, NDLTD has adopted a solution that uses the Open Archives Initiative's Metadata Harvesting Protocol (OAI-PMH) to gather metadata in the ETDMS format and then to make it accessible at a central portal. NDLTD project has international members from over a dozen countries sharing electronic theses and dissertations.<sup>13</sup>

#### 4-E-Reference Sources

Hundreds of websites dealing with reference resources are available on different websites. Of late vendors and publishers are providing users with various reference sources through their websites and databases, such as dictionaries, yearbooks, encyclopedias, etc.<sup>14</sup>

#### 2-Other Types of documents:

In addition to electronic books (e-books), print-on-demand (POD), e-zine or email publishing, a number of different e-publishing models are in picture at present, more types of e-publishing are sure to be developed in the near future. However, one of them are more important and mentioned here:

**\*Digital Content:** Digital Content generally refers to the electronic delivery of fiction which is shorter than book-length, nonfiction, documents and other written works of shorter length. Publishers of digital content deliver shorter sized works to the consumer via download to handheld and other wireless devices.<sup>15</sup>

#### Third section: Challenges of Electronic Media:

Despite its advantages, electronic media faces several challenges that can limit its adoption compared to traditional media. Some of these challenges include:

- The need for advanced technological infrastructure, which can be costly and might not yield the desired benefits.
- Difficulty in understanding electronic media technologies, requiring expertise.
- Exclusion of individuals without access to electronic communication channels from benefiting and accessing electronic materials.
- Susceptibility of electronic media to fluctuations in available resources such as electricity and communication.
- Despite the challenges associated with electronic media, there is a significant trend towards its adoption, especially among researchers. Electronic information sources offer numerous advantages, including speed, accuracy, and comprehensiveness.<sup>16</sup>

#### Second requirement: The Role of Electronic media in Enhancing the Quality of Scientific Research:

In the contemporary landscape of scientific research, the role of electronic media has emerged as a pivotal factor in shaping and elevating the quality of

scholarly endeavors. The digital age has ushered in a profound transformation in the way information is disseminated, accessed, and utilized. This paradigm shift towards electronic media necessitates a comprehensive exploration of its impact on the enhancement of scientific research. This exploration delves into the advantages and disadvantages that electronic media brings to the fore, thereby paving the way for an informed understanding of its multifaceted influence.

### **First section: Reasons for the Shift towards Electronic media:**

Electronic media's importance and effectiveness in advancing the research culture within academic communities are reasons given for its use in the field of scientific research. This is accomplished by making use of academic websites and scientific communication platforms to disseminate and discuss rigorous research standards. Electronic media also makes it easier for all research and articles to be shared, encouraging complete openness among authors, reviewers, and editors while upholding the dual standards of fairness and transparency.

Furthermore, by utilizing the capabilities of computer networks and the internet, which present fresh opportunities for scientific communication in terms of quality, effectiveness, and speed, electronic media boosts the effectiveness of scientific research. On the basis of predefined axis, specialized readers can provide assessments and opinions on research and articles submitted for publication.<sup>17</sup>

### **Second section: The pros and cons of electronic media as a new challenge in enhancing the quality of scientific research:**

#### **1-Advantages of electronic media in enhancing the quality of scientific research:**

- Accuracy, thoroughness, and quick accessibility are the hallmarks of electronically published sources, which also save time and effort when looking up the needed information.
- Information from electronic sources is very recent, keeping readers informed of the most recent advances in science across the spectrum of human knowledge.
- After receiving the publishing committee's approval, scientific content can be uploaded directly to the World Wide Web in a matter of minutes or seconds.
- Lower costs have led to the emergence of scientific journals that are only available electronically, which has helped many journals that require financial support find a solution.

## **2-Disadvantages of Electronic Media:**

- The high cost of devices used to access electronic documents;
- The issue of internet speed and availability, particularly in developing nations;
- One of the most important issues arising from electronic media is intellectual property rights;
- Difficulty in putting copyright laws into practice;
- The potential for data modification, replication, and reuse, which raises questions about control and reliability.<sup>18</sup>

## **Third topic: field investigation**

### **First requirement: Procedures for the field study's methodology**

#### **First section: Study Fields:**

**1- Spatial Field:** This study was conducted at the College of Social Sciences at Amar Thelidji University in Laghouat, Algeria.

**2- Temporal Field:** This study was carried out from April 15, 2023 until August 12, 2023. The study period included both the exploratory study and the final study.

#### **Second section: Exploratory Study:**

We conducted an exploratory study on a sample of 30 people from the study community. The objective was to improve the instruments used for research. The researcher may construct the measuring instruments for the phenomena under study on a sample of roughly 30 people before applying them to the complete or final study population.<sup>19</sup>

#### **Third section: Methodology:**

We employed the correlational method in this work, which is one of the different phases of descriptive-analytical methodology. It was the best method to tackle the research topic and related inquiries. This strategy was chosen based on previous studies that had employed it. To answer questions and validate hypotheses, the correlational technique involves gathering information and assessing the phenomenon using scientific research methodologies and instruments.<sup>20</sup>

#### Fourth section: Data Collection Instrument:

To construct the study questionnaire, we did the following:

Identified the dimensions of variables based on the study's objectives, hypotheses, previous studies on each variable, and the theoretical literature on the variables.

Each variable contained a set of dimensions, and each dimension included a set of items. The variables and their dimensions were as follows:

Electronic Publishing: Originally included 8 items, which were reduced to 7 items in the main study.

Virtual forums: Originally included 8 items, which were reduced to 7 items in the main study.

The decisions on the items were based on the theoretical literature of the variable and previous studies.

The questionnaire for each variable was designed with choices rated from 1 to 3 according to the Likert method, as shown in the table:

**Table (1) : questionnaire key for the study variables (by researchers):**

Choice	Degree
Disagree	1
Neutral	2
Agree	3

**Table (2): Estimated Response levels: (by researchers):**

Choice	Estimated Level
Disagree	1-1,66
Neutral	1,67-2,32
Agree	2,33-3

These values were obtained by subtracting the smallest value (1) from the largest value (3) on the adopted scale and dividing the result by the number of alternatives (3). The result is 0.66, which is then added to 1, and the process is repeated until reaching the largest value on the adopted scale, which is 3.

## **Fifth section: Population and Sample of the Study:**

### **1- Study Population:**

The study population consists of 105 professors registered at the Faculty of Social Sciences at Ammar Thelidji University in Laghouat.

### **2- Final Study Sample:**

To determine the size of the primary study sample, the researchers relied on Stephen Thompson's equation, as follows:

$$n = \frac{N \times p (1 - p)}{[N - 1 \times (d^2/z^2)] + p(1 - p)}$$

Where: n = Sample size N = Population size Z = Critical value corresponding to the significance level of 0.05 (equal to 1.96) d = Error rate, set at 0.05 p = Proportion of the characteristic, set at 0.50. <sup>21</sup>

$$n = \frac{105 \times 0.50 (1 - 0.5)}{[105 - 1 \times (0.05^2/1.96^2)] + 0.5(1 - 0.5)} = 82,63$$

By applying the above equation, the study sample size (n) is calculated as:

Thus, the final sample size of our study is 83.

## **Second requirement: Psychometric Properties of the Study Instrument:**

### **First section-Internal Consistency Reliability:**

The internal consistency reliability of the scale was verified after applying it to the exploratory study sample. The researchers calculated the correlation coefficients between the scale statements and their corresponding dimensions, as well as between the dimensions and the scale as a whole. The statistical significance of the correlation coefficients was determined at the 0.01 and 0.05 significance levels, as shown in the following table:

**Table (3): Internal Consistency Reliability for the Electronic Media (by researchers):**

N°	Statement	Pearson correlation	Significance level
01	Electronic publishing has accelerated the dissemination of scientific research findings.	**0.241	0.009
02	Electronic publishing has contributed to the democratization of scientific knowledge and reduced barriers to entry for researchers.	**0.309	0.001
03	Electronic publishing has improved the accessibility of scientific research to a wider audience.	**0.386	0.000
04	Electronic publishing has led to a decline in the overall rigor and credibility of scientific research.	**0.596	0.000
05	Electronic publishing has made it easier to detect and correct errors in scientific research.	**0.533	0.000
06	Researchers are more likely to engage in unethical practices due to the less stringent nature of electronic publishing.	0.185	0.092
07	Virtual forums are less effective than traditional conferences for building meaningful professional connections.	0.092	0.125
08	The anonymity in virtual forums often leads to a decline in the quality of discussions and debates.	**0.406	0.000
09	The informal nature of virtual forums can lead to the spread of inaccurate information in the scientific community.	**0.514	0.000
10	The quality of peer review in electronic publishing is comparable to traditional print journals.	**0.541	0.000
11	Traditional print journals still hold more prestige in the academic community compared to electronic publishing.	**0.717	0.000
12	Researchers who actively participate in virtual forums tend to have their work cited more frequently.	**0.488	0.000
13	Virtual forums encourage healthy competition among researchers, thus improving the overall quality of research.	**0.541	0.000
14	Virtual forums have the potential to revolutionize the way scientific collaborations are formed and sustained.	**0.383	0.000
15	Virtual forums help in addressing research challenges by allowing researchers to seek advice from a global community.	**0.394	0.000
16	Virtual forums provide valuable platforms for researchers to engage in interdisciplinary discussions.	**0.341	0.000

**\*\* Correlation is significant at the 0.01 level (2-tailed).**

Based on the table, we observe that most correlation coefficients are statistically significant, which indicates that the statements should be kept as part of the scale, except for statements (6) and (7), which were removed.



## Second Section: Study of the Reliability and Self-Validity of the Research Instrument:

The validity of the instrument refers to the extent to which the tool is suitable for measuring the aspect it intends to measure. On the other hand, the reliability of the questionnaire means the stability of the results and their lack of significant changes if the questionnaire is redistributed to the sample individuals several times over specific time periods.

The reliability of the questionnaire was verified by calculating Cronbach's alpha coefficient, while the self-validity coefficient was calculated as the square root of Cronbach's alpha coefficient. The results are shown in the following table:

**Table (4): Shows the stability and self-reliability coefficients for the study instrument (prepared by the researchers)**

Axis	Sample Size	Number of Statements	Cronbach's Alpha	Self-Reliability
E-Media utilization	30	16	0.711	0.843

The above table shows that the stability coefficient value of 0.711 for the research instrument.

As estimated, the self-reliability coefficient for the axis of scientific research quality was 0 0.843, indicating a high level of accuracy, even though it may be considered weaker than other forms of reliability.<sup>22</sup>

**Table (5) : stability for the study variables using the Split-Half method (prepared by the researchers).**

Axis	Items	Cronbach's Alfa	Spearman brown Coefficient	Variance	Gutman split Half coefficient	Correlation between Forms
E-Media utilization	8	0.546	0.696	3.00	0.670	0.533
	8	0.584	0.696	5.95		

From the above table, it is observed that there is a difference between the stability coefficients in the first and second halves. Additionally, the variance does not equate in both halves of the variables. Therefore, the stability coefficient for these variables through the Split-Half method is the Gutman coefficient. This coefficient was estimated to be 0 0.670, indicating high stability of the study variables.<sup>23</sup>

**Third section: Normality Test:**

The Kolmogorov-Smirnov test and Schapiro walk were used to test whether the data follows a normal distribution or not. The results are as shown in the following table:

**Table (6): Normality Test (prepared by the researchers)**

Axis	Test Statistic Z	Significance level	Schapiro walk	Significance level
E-Media utilization	2.351	0.072	2.961	0.075

From the results provided in the above table, it is evident that the probability value is more than the significance level of 0.05. Therefore, the data distribution for this variable does follow a normal distribution. Parametric tests were used to answer the study hypotheses.

**- Statistical Methods:** A variety of statistical tools were utilized to determine the characteristics of the study sample and analyze the responses of the individuals to the study variables. These tools included percentages, means, standard deviations, T-test one sample, and variance Anova.

**Third requirement: Study’s results:**

**First section: Characteristics of the Study Sample:**

**Table (7): Distribution of the study sample individuals based on social characteristics (prepared by the researchers).**

Gender	frequency	Percentage
Male	51	61.4%
Female	32	38.6%
Total	83	100.0%
Academic Rank	frequency	Percentage
Assistant Professor	27	32.5%
Lecturer Professor	40	48.2%
Higher Education Professor	16	19.3%
Total	83	100.00%
Laboratory Membership	frequency	Percentage
Not a member	32	38.6
Research Team Member	42	50.6
Research Team Leader	7	8.4
Laboratory Director	2	2.4
Total	83	100.00%

From the above table, it is evident that the number of males in our sample is greater than females, with 51 male professors accounting for 61.4% and 32 female

professors accounting for 38.6% of the total sample. As for the academic rank, Lecturer professors constitute the majority with 40 professors, accounting for 48.2%, followed by 27 assistant professors, accounting for 32.5%, and 16 higher education professors, accounting for 19.3%. Regarding laboratory membership, there is the members of the research team, with 42 professors, accounting for 50.6%, and those who are not research team members, with 32 individuals, accounting for 38.6%. Next are the research team leaders with 7 leaders, accounting for 8.4%, and laboratory directors with 2 individuals, accounting for 2.4% of the total sample.

## Second section : Presentation, Analysis, and Interpretation of study results

### 1- Presentation, Analysis, and Interpretation of main question:

Calculated using the hypothetical (theoretical) mean formula:  $(\text{Minimum level} \times \text{Number of instances}) + (\text{Maximum level} \times \text{Number of instances}) / 2$ :  $(14 \times 1) + (14 \times 3) / 2 = 28$ .

**Table (8): The impact of using electronic media on the quality of scientific research:**

Variable	Theoretical Mean	sample	Mean	Std-dev	Df-degree	T. Value	Sig lvl
e-Media	28	83	32.68	2.69	82	16.48	0.000

It is evident from Table 8. that the observed t-value of 16.48 is considerably higher than what could be expected by chance alone. This indicates statistical significance. The calculated significance value of 0.000, which is smaller than the chosen significance level of  $\alpha=0.05$ , further confirms the statistical significance.

The implication of this is that there are statistically significant differences between the calculated mean of 32.68 and the hypothetical mean of 28, favoring the calculated mean. Therefore, it can be concluded that there exists a high level of utilization of electronic media and affect the quality of scientific research from the viewpoint of the sampled participants.

The increase in faculty members' use of electronic media in the social sciences can be attributed to a number of developments in technology, shifting academic standards, economic conditions, and communication trends.

The way that information is created, shared, and accessed has undergone a significant transformation because of the digital revolution. Faculty members have a more effective and economical way to share their research findings thanks to electronic media. Researchers now find it more straightforward to publish their

work electronically thanks to developments in digital platforms, online repositories, and content management systems.

In recent years, the open access movement has gained strength. Researchers are aware of the advantages of freely sharing their work with a global audience because it can increase visibility, citations, and impact. Electronic media with open access is consistent with the ideas of information democratization and knowledge sharing.

The rapid dissemination of research findings is made possible by electronic media. Electronic publications can be made public almost instantly after peer review and editing procedures are finished, in contrast to traditional print publications that require longer production times. This speed is essential in fields like the social sciences where keeping up with new issues and trends is crucial.

Geographical boundaries are removed by electronic media. Without the restrictions of physical distribution, faculty members can reach a wider international audience. Their research has a greater global impact thanks to this increased reach, which also makes it easier for international researchers to work together.

Video, interactive graphics, and hyperlinks are just a few examples of the multimedia elements that can be included in electronic media. Compared to traditional print publications, these features can improve the presentation of research findings in the social sciences, provide additional context, and engage readers more actively.

The academic environment is changing, and digital engagement and literacy are becoming more important. It is expected of faculty members to effectively communicate and disseminate their work using technology. Electronic media fits in with the academic community's transition to digital engagement and communication.

Real-time metrics on the impact and visibility of published work are offered by many electronic media. download counts, citation rates, and social media shares are a few examples of these metrics. Faculty members are frequently driven by a desire to make themselves more visible and keep track of the impact of their research, which electronic media can make easier.

The rise in faculty members' use of electronic media in the social sciences can be attributed to a confluence of technological advancements, shifting academic standards, economic factors, and the need to quickly and effectively

reach a global audience. The advantages of open access, quick global reach, and the inclusion of interactive content have all helped to increase the preference for electronic media in this academic field.

## 2- Presentation, Analysis, and Discussion of the First Hypothesis:

**Table (9): Level of e-media's utilization from the perspective of faculty members:**

Laboratory Membership	Number	Mean	STD-Dev
Not a member	32	2.37	0.17
Research Team Member	42	2.36	0.16
Research Team Leader	7	2.18	0.27
Laboratory Director	2	2.00	0.00
Total	83	2.34	0.19

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.477	3	0.159	4.926	0.003
Within Groups	2.551	79	0.032		
Total	3.028	82			

(I) Laboratory Membership	(J) Laboratory Membership	Mean Difference (I-J)	Std. Error	Sig.
Not a member	Research Team Member	.00818	.04217	.847
	Research Team Leader	.19356*	.07498	.012
	Laboratory Director	.37723*	.13098	.005
Research Team Member	Not a member	-.00818	.04217	.847
	Research Team Leader	.18537*	.07336	.014
	Laboratory Director	.36905*	.13006	.006
Research Team Leader	Not a member	-.19356*	.07498	.012
	Research Team Member	-.18537*	.07336	.014
	Laboratory Director	.18367	.14408	.206
Research Team Leader	Not a member	-.37723*	.13098	.005
	Research Team Member	-.36905*	.13006	.006
	Research Team Leader	-.18367	.14408	.206

From the previous table, it becomes evident that the "F" value reached 4.926 at a significance level of 0.003, which is smaller than the significance level of 0.05. Consequently, there is a statistically significant difference among the three groups. Thus, the hypothesis stating:

"There are statistically significant differences in the responses of faculty members at the College of Social Sciences, University of Laghouat, Algeria, regarding the level of electronic media utilization based on the variable of affiliation to the college's laboratory."

Regarding the post hoc comparisons using the LSD equation, we have found statistically significant differences between non-member professors of the college and heads of research teams in favor of non-member professors. Similarly, there are significant differences in favor of research team members over heads of research teams and laboratory directors.

Based on the previous findings, we can conclude that Faculty members with lab affiliations at the college may have more access to resources like funding, technology, and research assistance. Comparatively to those who are not affiliated.

In a laboratory setting, faculty members may have more chances to collaborate and network with colleagues who are involved in electronic media. Their habits may be affected by this exposure, which may also motivate them to engage more in electronic media.

The type of research done and, ultimately, the method of publication, could be influenced by the laboratory's research focus. Due to the nature of the data, methodologies, or target audience, some research areas may be better suited for electronic media.

Faculty members' utilization's e-media can be significantly influenced by laboratory leadership and mentoring. Junior faculty members may be more likely to participate if lab directors or senior researchers do so actively.

There are frequently specific academic standards and expectations in laboratories. Faculty members might feel more compelled to participate if electronic publishing is valued and encouraged in the lab.

Affiliated faculty members may have easier access to software, digital tools, and assistance with formatting for online platforms, as well as other technological resources and technical support.

The laboratory's incentives, rewards, and promotion procedures may have an impact on faculty members' choices regarding electronic media utilization. Faculty members might give electronic publications priority if the lab places a higher value on them.

Faculty members' availability may be impacted by their affiliation with a laboratory. The amount of time that those affiliated can devote to research and publication may be impacted by their having more or fewer obligations.

It's possible for laboratories to have specific output-related objectives

Communication among lab participants may have an impact on faculty members' understanding of the advantages of using e-media and their expectations in this area.

### 3- Presentation, analysis, and discussion of the second hypothesis:

**Table (10): Level of utilization e-media from the perspective of faculty members:**

Laboratory Membership	Number	Mean	STD-Dev
Assistant Professor	27	2.3836	0.16234
Lecturer Professor	40	2.3518	0.18040
Higher Education Professor	16	2.2768	0.25271
Total	83	2.3477	0.19217

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.116	2	0.058	1.592	0.210
Within Groups	2.912	80	0.036		
Total	3.028	82			

From the previous table, it becomes evident that the "F" value reached 1.592 at a significance level of 0.210, which is greater than the significance level of 0.05. Consequently, there is no statistically significant difference among the three groups. Thus, the hypothesis stating:

"There are statistically significant differences in the responses of faculty members at the College of Social Sciences, University of Laghouat, Algeria, regarding the level of electronic media's utilization based on the variable of academic rank." has not been fulfilled.

Thus, faculty members' attitudes and behaviors towards using electronic media seem to be fairly consistent regardless of their academic rank. This discovery can be examined from a number of angles:

It's possible that professors at various academic levels have fairly equal access to resources like technology, funding for their research, and publishing venues. The effect of these resources on participation in electronic media utilization may not differ significantly across ranks as a result.

Regardless of academic standing, the college may have a common culture that supports electronic media utilization as a standard practice. This might lead to comparable levels of engagement among all ranks.

Depending on the situation, academic rank may not make much of a difference in how much faculty members are aware of the advantages of electronic

media uses for their professional advancement. Regardless of their current position, they may see it as a way to gain more visibility and influence.

It's possible that the state of utilization electronic media has advanced to the point where the majority of professors, regardless of rank, understand its significance. Any differences that may have previously existed may have gradually disappeared as a result.

Electronic media utilization may be viewed by faculty members of all ranks as equally practical and beneficial for sharing their research findings. Differences in engagement may not therefore be caused by academic standing.

How faculty members perceive and interact with electronic media utilization may be influenced by the unique cultural and organizational context of the college of social sciences at the University of Laghouat in Algeria. Differences based on academic rank might be reduced if this context supports equal engagement opportunities.

Academic rank may not be the only factor influencing faculty members' utilization electronic media habits; the institution's policies, faculty development initiatives.

### **-Conclusion:**

The quality of scientific research is impacted by using electronic media in the following ways, per study on the instructors at the College of Social Sciences at the University of Laghouat in Algeria.

There is a high level of usage of electronic media among the faculty members at the College of Social Sciences, University of Laghouat, Algeria, in relation to the quality of their scientific research. This suggests that electronic media plays a significant role in the research processes and activities of these faculty members.

The research identifies statistically significant differences among faculty members' responses based on their affiliation to the college's laboratory. This implies that the utilization of electronic media has a varying impact on the quality of scientific research depending on whether faculty members are affiliated with the college's laboratory. This variation could stem from the specific resources, collaboration opportunities, or research focus associated with the laboratory affiliation.



Contrary to the affiliation variable, the study finds no statistically significant differences in the responses of faculty members based on their academic rank. This suggests that the impact of using electronic media on the quality of scientific research remains relatively consistent across different academic ranks. In other words, regardless of their positions or seniority within the academic hierarchy, faculty members experience a similar influence from electronic media on their research quality.

In conclusion, the study demonstrates a strong presence of electronic media usage in influencing the quality of scientific research among faculty members at the College of Social Sciences, University of Laghouat, Algeria. The results also highlight the significance of laboratory affiliation in shaping this impact, while the academic rank of faculty members appears to have less bearing on their responses. These findings provide valuable insights into the role of electronic media in academia and its relationship with research quality, offering a basis for further exploration and discussion in the field of scientific research and education.

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