Digital Awareness Among Students and Faculty Members at University of Hafr Al Batin: A Study of the Current Reality and Future Strategy

By

Ali Mustapha Ben Ahmed *

***Department of Science and Technology, University College at Al- Khafji , University of Hafr Al Batin, Saudi Arabia**

Jihen Mustapha Borni**

****Department of Science and Technology, University College at Al- Khafji , University of Hafr Al Batin, Saudi Arabia**

Susan Ismael Samein ***

***** Department of Science and Technology, University Colleges at Nairiyah, University of Hafr Al Batin, Saudi Arabia**

Abstract: This study aims to examine the level of digital awareness among students and faculty members at University of Hafr Al Batin by analyzing the current situation and identifying the challenges and opportunities available to enhance this awareness. The researchers follow a scientific methodology, including data collection through surveys and field interviews, as well as reviewing relevant literature.

The study covers multiple aspects, including the extent of digital technology usage in the educational process, the obstacles faced by students and faculty in adopting digital tools, and assessing the university's readiness to support digital transformation. Additionally, the study highlights the importance of digital awareness in improving the quality of higher education and enhancing the skills of students and academics in the rapidly changing digital environment.

The descriptive approach based on content analysis was employed in this study. For this purpose, the researchers designed an electronic questionnaire, which was completed by 100 faculty members and 80 students from University of Hafr Al Batin for the academic year 2023/2024. Participants were randomly selected from the university's colleges in the Al-Khafji, Al-Qarya Al-Ulya, Al-Nairyah, and Hafr Al-Batin regions. The study results revealed that University of Hafr Al Batin, represented by the Deanship of E-Learning and Digital Transformation, stands out in its efforts to raise the level of digital awareness among students and faculty members.

The researchers also aimed to formulate recommendations that would contribute to enhancing digital awareness among the university community. Among the key recommendations is the proposal of a future strategy to develop digital awareness at the university through training programs, providing technological resources, and fostering a culture of digital transformation in the educational process. This strategy will help bridge the digital divide and create a more advanced and innovative educational environment.

Keywords: Digital Awareness, Digital Transformation, Higher Education, University of Hafr Al Batin, Faculty Members, University Students, Educational Technology.

I. Introduction

In recent decades, the world has witnessed a large-scale digital transformation that has greatly affected various sectors, and higher education has been one of the areas most affected by this transformation. Digital transformation has become an ongoing process aimed at integrating modern technology into educational and administrative systems, which contributes to raising the efficiency of academic institutions and improving the quality of their outputs. Within the framework of the Kingdom of Saudi Arabia's Vision 2030, digital transformation has emerged as one of the main pillars for achieving sustainable development, as the Kingdom seeks to enhance the use of technology in education as part of its national strategy **(Abdul Razzaq, Majida Mustafa Abdullah (2023)).**

In this context, University of Hafr Al Batin, like other leading educational institutions in the Kingdom, is working to keep pace with this digital transformation by adopting advanced e-learning systems and developing its infrastructure to support distance education. However, the success of these initiatives depends primarily on the extent of digital awareness among faculty members and students, as this awareness constitutes a pivotal element in achieving maximum benefit from digital technologies and ensuring the effective use of modern tools in the university education environment.**(Al-Zahrani, Muhammad bin Abdullah. (2018)).**

Interest in the concept of digital awareness dates back to the late 1990s with the beginning of the spread of the concept of digital transformation **(Tapscott, D. (1996))**, and this concept has evolved to include today a wide range of skills, such as the ability to use digital technologies efficiently, and awareness of the risks associated with them, including cybersecurity and digital privacy protection. Recent studies **(Jones, C., & Shao, B. (2011))** indicate that one of the biggest challenges facing the higher education sector is the lack of digital training for faculty members, which leads to a gap between the available technical capabilities and the level of their actual use in teaching and learning. **(Al-Harbi, Abdullah bin Muhammad. (2020**)).

Based on this issue, this research comes to shed light on the importance of digital awareness among the members of the University of Hafr Al-Batin, from faculty members and students, with the aim of evaluating the current reality, and anticipating future strategies to enhance this awareness, in a way that ensures the achievement of the desired digital transformation and the achievement of the university's academic and institutional goals.

1. ***Study Problem***:

The problem of this study is to understand the level of digital awareness among students and faculty members at the University of Hafr Al Batin, and the extent to which this awareness affects the use of technology in the educational process, in addition to evaluating the challenges facing university members in adopting digital tools. Hence, the study problem is defined in the following main question: What is the level of digital awareness among students and faculty members at the University of Hafr Al Batin, and what are the possible future strategies to enhance it? The central problem includes questions, the most prominent of which are the following:

♣ To what extent do students and faculty members use digital technologies in the educational process at the University of Hafr Al Batin?

♣ What are the factors that hinder students and faculty members from adopting and using digital tools in education?

♣ What are the challenges facing the University of Hafr Al Batin in supporting digital transformation among members of its academic community?

♣ What are the preparations of the University of Hafr Al Batin in terms of infrastructure and technical support to enhance digital transformation?

♣ What is the importance of digital awareness in improving the quality of higher education at the University of Hafr Al Batin?

♣ How can a strategy be formulated to develop digital awareness at the university, which contributes to bridging the digital gap and enhancing the educational environment?

What role can training programs and technical resources play in raising the level of digital awareness among students and faculty members?

By answering these questions, the study seeks to analyze the current reality of digital awareness and identify the best future strategies to enhance it at the University of Hafr Al-Batin.

2. ***Importance of the study***:

The importance of this study is due to several reasons, most notably:

♣ Enhancing digital awareness in higher education: This study is important because it contributes to understanding the reality of digital awareness among students and faculty members, which is essential to improving the quality of education and enhancing individuals' skills in using modern technology in the educational process **(Alamri, M (201)).**

♣ Supporting digital transformation at the university: The research helps determine the readiness of the University of Hafr Al-Batin to support digital transformation, by studying the availability of the infrastructure and technical resources necessary to achieve this transformation.

♣ Keeping pace with technological developments: In light of the acceleration of technological progress and the change in teaching methods, there is a need to study the level of digital awareness to ensure that all academic staff members are aware of modern digital tools that contribute to the development of the educational process **(Johansson, S. & Nordström, L. (2020)).**

♣ Identifying obstacles and opportunities: This study provides an opportunity to understand the challenges facing students and faculty members in using digital technology, which helps in proposing effective solutions to enhance the level of digital awareness and overcome obstacles **(Al-Qarni, Dhafer bin Ahmed Musleh. (2019))** .

♣ Supporting strategic decision-making: The study contributes to providing strategic recommendations for the University of Hafr Al-Batin to raise the level of digital awareness among members of its academic community, which helps in developing future strategies that keep pace with the requirements of the digital age.

♣ Keeping pace with global requirements for digital education: This study reflects the importance of providing students and academics with the digital skills needed to deal with global challenges in the fields of education and work, which enhances the university's competitiveness in the field of digital education **(Burnett, C. & Merchant, G. (2022)).**

Through these reasons, it can be said that the study contributes significantly to developing digital awareness at the University of Hafr Al-Batin and enhancing digital transformation efforts in education.

3. ***Study Objectives***:

This study aims to achieve a set of main objectives that seek to understand the reality of digital awareness among students and faculty members at the University of Hafr Al Batin and provide future strategies to enhance it. The most prominent objectives of the study are:

♣ Determining the level of digital awareness: The study aims to determine the level of digital awareness among students and faculty members at the University of Hafr Al Batin, and the extent to which they benefit from digital technologies in the educational process.

♣ Analyzing the use of digital technologies in education: The study seeks to analyze the extent of the use of digital tools and modern technologies in the educational process, whether by students or faculty members.

♣ Exploring challenges and obstacles: The study aims to identify the obstacles and challenges facing students and faculty members in adopting digital tools and using them effectively in education.

♣ Evaluating the university's readiness for digital transformation: The study seeks to evaluate the extent of the University of Hafr Al Batin's readiness in terms of infrastructure and technical support to deal with digital transformation in education.

♣ Highlighting the importance of digital awareness: The study aims to clarify the importance of digital awareness in enhancing the quality of higher education and improving the skills of students and academics in interacting with modern technology.

♣ Proposing a strategy to develop digital awareness: The study seeks to provide a future strategy aimed at developing digital awareness within the University of Hafr Al Batin, by providing training programs, providing technical resources, and promoting a culture of digital transformation.

♣ Providing practical recommendations: The study aims to develop a set of recommendations that can contribute to raising the level of digital awareness among students and faculty members, and thus improving the educational environment at the university. By achieving these goals, the study hopes to provide practical solutions that contribute to enhancing digital awareness and creating a more interactive and innovative educational environment at the University of Hafr Al Batin.

4. ***Study Limits***.:

♣ Objective Limits: The study focuses on studying digital awareness among students and faculty members at the University of Hafr Al Batin, and includes analysis and use of digital technologies in the educational process, in addition to the challenges and obstacles facing individuals in adopting digital tools.

♣ Spatial Limits: This study is limited in its spatial scope to the University of Hafr Al Batin and all its branches in Khafji, Al-Qarya Al-Ulya, and Al-Ta'iriyah.

♣ Human Limits: Faculty members and students of the University of Hafr Al Batin.

♣ Temporal limits: The study was conducted during the second semester of 2023-2024.

♣ Tool limit: The study relies on questionnaires and field interviews as the main tools for collecting data, which limits the research to participants who responded to these tools from faculty members and students. **(Muhammad Al-Hadi (1995)).**

♣ Theoretical limit: The study focuses on the concepts of digital awareness and digital transformation in university education, in addition to the digital tools used in the educational process, which limits the coverage of other aspects related to technology in different contexts. Through these limits, the study is limited to examining digital awareness in the context of Hafar Al-Batin University, focusing on the reality of using digital technologies and the challenges facing members of the academic community at this university.

5. ***Study Terms***:

♣ Digital Awareness: The digital awareness is the ability of individuals to understand and use digital technology effectively in their daily lives, whether at work, learning, or communicating. This concept includes familiarity with the basics of using digital devices, such as computers and smartphones, and dealing with various applications, including social media and productivity tools.

Digital awareness also includes understanding privacy and cybersecurity issues, in addition to the ability to manage digital data and information responsibly. In education, digital awareness is an essential part of 21st century skills, as it helps teachers adapt teaching methods to meet the needs of students in the digital age. **(Selwyn, N. (2019))** and **(Abdel Tawab, Ziad (2021)).**

♣ Digital Transformation: The Digital transformation refers to the process of integrating digital technology into all aspects of institutional work, leading to improved operations and efficiency. In the field of education, digital transformation means using digital tools to develop curricula, enhance e-learning, and improve the student experience through technology such as artificial intelligence and virtual reality.

Digital transformation is not just about adopting technology, it is a cultural change that requires institutions to develop the skills of individuals and improve the technical infrastructure. For example, during the COVID-19 pandemic, the need for distance learning prompted many universities to accelerate their digital transformation processes, which proved to be important in enhancing the continuity of the educational process. **(Johansson, S. & Nordström, L. (2020)).**

♣ Digital Infrastructure: The Digital infrastructure refers to all the technical resources that enable institutions to adopt and operate digital solutions efficiently. These resources include networks, computers, storage systems, servers, and software that support digital education.

A strong digital infrastructure is the cornerstone of any successful digital transformation process, providing the foundation for the operation of e-learning systems, academic databases, and interactive platforms. In educational institutions, digital infrastructure contributes to improving the experience of students and teachers alike, helping to achieve educational goals more effectively and sustainably **(Pangrazio, L. & Sefton-Green, J. (2021)).**

♣ Technical Challenges are the obstacles that individuals and organizations face when using technology. These challenges include technical issues such as poor internet connectivity, inadequate infrastructure, and inefficiency in using digital tools. In addition, many teachers and students struggle to adapt to rapid changes in technology, leading to gaps in digital literacy. Cybersecurity and privacy issues are also an ongoing challenge, especially with the increasing reliance on online platforms. Overcoming these challenges requires investments in training, infrastructure, and enhancing digital awareness. **(Selwyn, N. (2019)).**

♣ Digital Divide: The digital divide is the differences between individuals or communities in access to and use of technology. This gap arises as a result of disparities in economic capabilities, education levels, or technical infrastructure. In education, the digital divide leads to challenges such as poor access to online educational resources or lack of technical skills needed to benefit from technology. Reducing the digital divide requires policies that aim to provide affordable internet, train individuals in digital skills, and improve infrastructure in less fortunate areas. **(Abdul Tawab, Ziad (2021)).**

♣ Digital Resources: The Digital resources include all educational materials available online, such as e-books, educational videos, research articles, and databases. These resources provide great flexibility for students and teachers to

access knowledge anytime and anywhere. Digital resources contribute to reducing the costs associated with traditional educational materials, and enhance the learning experience by integrating multimedia such as illustrations and interactive simulations. They also allow learners to interact with the content in a more dynamic way, which contributes to improving learning outcomes. **(Miloud, Murad (2023)).**

6. ***Previous studies:***

Recent years have witnessed an increasing interest in the topic of digital awareness in educational institutions, due to the rapid digital transformation that the world is witnessing, especially in the field of higher education **(Miloud, Murad (2023)).**

Many studies have addressed this concept from multiple angles, such as digital citizenship, digital information awareness, and the development of digital skills among students and faculty members. However, most of these studies focused on one aspect without providing a comprehensive vision that includes both students and faculty members, which is what this research seeks to achieve by studying the current reality of digital awareness at University of Hafr Al Batin, and proposing a future strategy to enhance it.

Among the studies that addressed this topic is the study "Awareness of Digital Citizenship among Saudi University Students" conducted by researcher Abdullah bin Muhammad Al-Harbi **(Al-Harbi, Abdullah bin Muhammad. (2020)).**

This study aimed to reveal the impact of some factors on the awareness of digital citizenship among Saudi university students, in light of the Kingdom's Vision 2030.

The results showed a statistically significant positive relationship between students' awareness of digital citizenship, attitudes towards using the Internet, and self-efficacy in using it. In another study entitled "The Role of Saudi Universities in Promoting Digital Citizenship Values", presented by researcher Dhafer bin Ahmed Musleh Al-Qarni **(Al-Qarni, Dhafer bin Ahmed Musleh (2019)),** what was published on the official websites of Saudi universities was analyzed with the aim of identifying the degree of their contribution to promoting the values and principles of digital citizenship among their students. The results showed a difference in the extent of universities' interest in promoting these values, indicating the need to develop more effective strategies in this area.

As for faculty members, a study entitled "The Extent of Awareness of Digital and Smart Educational Technologies among Faculty Members at Saudi Universities and Their Attitudes Towards Them", conducted by researcher Muhammad bin Abdullah Al-Zahrani **(Al-Zahrani, Muhammad bin Abdullah. (2018)),** addressed this aspect.

The study focused on measuring and determining the level of awareness of digital and smart educational technologies among faculty members at Saudi universities and their attitudes towards them.

The results showed the need to develop cognitive awareness among faculty members of digital and smart educational technologies that can be used in education at its various stages. Despite the importance of these studies, there is a clear gap in the lack of research that combines the assessment of the level of digital awareness among students and faculty members at a specific university, in addition to providing a clear future strategy to develop this awareness.

Hence, the importance of this research emerges, as it is characterized by its comprehensiveness of two basic categories in the educational process, which allows for a deeper understanding of the level of interaction with digital tools within the university.

The research is not limited to evaluation only, but seeks to propose practical, applicable solutions to enhance digital awareness, making it a qualitative addition to previous studies. In addition, the research's focus on University of Hafr Al Batin gives it another advantage, as it will be able to provide recommendations based on specific local data that suit the needs of this educational institution. By analyzing the digital challenges faced by students and faculty members, customized solutions will be proposed that the university can adopt to develop its digital strategy.

Therefore, this research does not only aim to monitor reality, but also seeks to contribute effectively to supporting digital transformation within the University of Hafr Al-Batin in accordance with the best global practices in this field. Through this scientific contribution, the research fills an important knowledge gap and adds new scientific value to the academic field by providing a comprehensive vision of digital awareness that combines reality and future strategy, making it a model that can be used in other academic institutions seeking to develop the level of digital awareness among their members.

II. *Method and Procedures:*

1. Study Methodology:

The researchers used the descriptive analytical survey research method in this study to suit this type of studies, which enables describing the various aspects of the study problem, as a validated questionnaire was used in order to reach results that represent the real reality **(Muhammad Al-Hadi (1995)).**

2. Study Tools:

A questionnaire was developed to determine the level of digital awareness among faculty members and students at Hafar Al-Batin University. The researchers gave each degree a weight according to the five-point Likert scale (strongly agree, agree, neutral, disagree, strongly disagree), and the weights of these degrees were distributed as follows (5, 4, 3, 2, 1) respectively **(Muhammad Al-Hadi (1995)).**

Percentages were used in statistics and data processing using the SPSS statistical package processing program **(Gunarto, Hary (2019)).**

3. Validity and reliability of the study tool:

The validity and reliability of the study tools are among the most important topics of interest to researchers because of their direct impact on the value of the research results, especially its ability to generalize the results. The study is considered valid if the questionnaire questions measure what they were actually designed to measure through their content and clarity of their paragraphs and are understandable and unambiguous - for those who will be included in the questionnaire - and must also be suitable for statistical analysis, as not every questionnaire can be analyzed. To ensure the validity of the questionnaire, the researchers used two methods:

A- Apparent administrative validity: The researchers presented the questionnaire to a number of specialists to verify the extent to which the questionnaire is appropriate and achieves the goal of the study and the accuracy of its measurement of what it was designed for. B- Stability of study tools: This means internal consistency so that the questionnaire paragraphs are consistent with the field to which the paragraph belongs **(Cho, E. and Chun, S. (2021)).** The researchers used the correlation coefficients between each paragraph in the questionnaire by using Cronbach's alpha **(Gunarto, Hary (2019)).**

4. Study application procedures:

After verifying the validity and stability of the study tool, and obtaining approvals to apply it, the researchers themselves clarified the answers of the study sample members on the questionnaire on paper. The researchers assured the respondents that their answers would be treated with complete confidentiality out of respect for professional secrecy and that their use would be only for scientific purposes **(Gunarto, Hary (2019))**.

The data collection period extended to approximately three months, after which the results and variables were filled in the (SPSS) program in preparation for their analysis. **(Cho, E. and Chun, S. (2018))**

5. Study community:

The study community included faculty members and students of Hafar Al-Batin University who rely on the university's digital systems in the educational and administrative process.

6. Study sample:

The questionnaire responses were collected on a random sample representing all faculty members and students of Hafar Al-Batin University, where 100 faculty members and 80 male and female students were randomly selected from all specializations to try to represent the study community as much as possible.

7. Statistical methods used:

The researchers in this study applied the Cronbach's alpha test using SPSS software specialized in analysis and statistics, whose value ranged for the paragraphs of each of the three axes between 0.71 and 0.76. It is evidence of the validity and reliability of the tool used to measure the research objectives **(Gunarto, Hary (2019)).**

8. Statistical treatments:

In this study, the following statistical treatments were used to answer the three study axes:

- Arithmetic averages.
- Standard deviations.
- Chi-square test.

III. *Study results and discussion:*

The study tool consists of three main axes, which we will try to analyze and then extract some results and recommendations for each of them separately.

It should be noted that the study axes reflect the objectives of the research we are dealing with.

A- The first axis: Measuring the level of digital awareness among students and faculty members at the University of Hafr Al Batin.:Through this axis, researchers seek to identify the level of digital awareness among the University of Hafr Al Batin affiliates of faculty members and students, which made us put forward the following null hypothesis:

Null hypothesis:

There are no statistically significant differences attributable to the gender variable (student/faculty member) in the level of digital awareness among faculty members and students at the University of Hafr Al Batin.

Alternative hypothesis:

There are statistically significant differences in the level of digital awareness among faculty members and students at the University of Hafr Al Batin (student/faculty member). In this context, the data of the first axis were analyzed based on the analysis of the five-point Likert scale, the results of which were as follows:

Table 1: Arithmetic means, standard deviation, and the result according to the Likert scale for the answers of the study sample members to the paragraphs related to the first axis.

Table (1) shows that the study sample estimates of the level of digital awareness among students and faculty members at Hafar Al-Batin University are of high importance, with a total arithmetic mean of (4.15) and a total standard deviation of (0.52). Paragraph (10) came in first place, with an arithmetic mean of (4.56), while paragraph (2) came in last place, with an arithmetic mean of (3.52), and this may be attributed to the gender variable

Number Rank	Paragraph	Text Average	Arithmetic	Standard Deviation	Practice Level
1	4	I have the ability to work with digital data, such as creating spreadsheets and analyzing data.	4.07	0.61	High
2	5	I can use computers and smart devices efficiently for academic tasks.	3.61	0.64	Medium
3	8	I can search for information online using search engines effectively.	3.89	0.66	High
4	2	I have the ability to create digital educational content (such as presentations, educational videos, or interactive materials)	3.52	0.63	Medium
5	1	I can use email and electronic communication tools effectively in a work or learning environment.	4.49	0.50	High
6	10	I have sufficient knowledge of the basic concepts of digital technology.	4.56	0.49	High
7	9	I regularly use e-learning platforms such as Blackboard or Microsoft Teams.	4.55	0.49	High
8	3	I can manage virtual classes efficiently and interact with students via digital platforms.	3.64	0.61	Medium
9	7	I use electronic tests and digital assessments in the educational process.	4.38	0.55	High
10	6	I find that technology helps me improve the quality of education and interaction with students.	4.51	0.50	High
Overall arithmetic mean of the instrument			4.15	0.52	High

(student/faculty member), which is confirmed by the Chi-square test, as shown in Table (2). Thus, it is clear that the members of Hafar Al-Batin University, including students and faculty members, enjoy a high level of digital awareness, and this is attributed to the great efforts made by the university to enhance their capabilities through continuous training and providing the appropriate environment to raise the level of digital awareness.

Table 2: Chi-square test result for each paragraph of the first axis (according to the gender variable)

Number	Rank	Paragraph Text	Mean Arithmetic	Standard Deviation	Practice Level
1	0.47	The university provides technical support channels available to assist faculty members and students with technical problems.	4.66	0.47	High
2	0.88	The university offers specialized courses in digital skills as part of the academic curricula.	3.21	0.88	Medium
3	0.63	The university provides faculty members with opportunities to develop their digital skills through internal and external workshops.	4.35	0.63	High
4	0.63	The university provides an integrated digital environment that helps enhance the use of technology in the educational process.	3.81	0.63	High
5	0.45	The university provides regular training programs to enhance digital awareness among faculty members and students.	4.70	0.45	High
6	0.83	The university relies on digital learning management systems such as Blackboard and Microsoft Teams to support the educational process.	2.90	0.83	Medium
7	0.69	The university provides digital educational resources such as e-books, educational videos, and academic databases.	2.80	0.69	Medium
8	0.75	The university encourages the use of digital tools in teaching and interacting with students via electronic platforms.	3.06	0.75	Medium
9	0.78	The university supports the development of digital educational content that helps improve the learning experience.	4.29	0.78	High
10	0.83	The university integrates electronic assessment methods such as electronic tests and digital projects to enhance students' skills.	4.01	0.83	High
Overall arithmetic mean of the instrument			3.81	0.67	High

B- The second axis: The role of Hafar Al-Batin University in raising the level of digital awareness among faculty members and students: This axis aims to know the efforts made and made by Hafar Al-Batin University to raise the level of digital awareness among its members, including students and faculty members, which requires us to put forward the following hypotheses:

Null hypothesis:

There are no statistically significant differences in the level of effort made by Hafar Al-Batin University to improve the level of digital awareness among faculty members and students attributed to the gender variable (students/faculty members).

Alternative hypothesis:

There are statistically significant differences in the level of effort made by Hafar Al-Batin University to improve the level of digital awareness among faculty members and students attributed to the gender variable (students/faculty members). The following shows (Table 3) the evaluation of the study sample members for the various paragraphs of the axis and the arithmetic means and standard deviations and the result of the axis as a whole based on the Likert classification and scale.

Table 3: Arithmetic means, standard deviation and the result according to the Likert scale for the answers of the study sample members to the paragraphs related to the second axis.

M	Paragraph	Value of Test Coupling Chi-Square	Degrees of Freedom df	Significance Level Asymp. Sig.	Accept or Reject Hypothesis Based on Test Result
1	I have sufficient awareness of the importance of protecting personal data on the Internet.	27.22	2	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members.
2	I can distinguish between trusted and untrusted sites when searching for information.	27.41	4	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members .
3	I use strong passwords and update them regularly to protect my digital accounts.	48.97	2	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
4	I know how to protect devices from viruses and malware.	0.27	2	.598	Accept the null hypothesis that there are no statistically significant differences between the answers of the sample members
5	I follow the university's policies related to digital security and data protection when using electronic systems..	28.35	1	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
6	I face difficulties in using some advanced digital tools in education or scientific research.	196.18	1	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
7	I believe that the university provides me with the necessary training and support to develop my digital skills.	.23	1	.629	Accept the null hypothesis that there are no statistically significant differences between the answers of the sample members
8	I would like to attend workshops and training courses to enhance my digital skills.	21.65	4	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
9	I see that the use of digital technology in education needs continuous development to keep pace with modern changes.	10.38	2	.006	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members.
10	I believe that the digital transformation at the university enhances the quality of the educational process and contributes to achieving academic goals	.03	1	.861	Accept the null hypothesis that there are no statistically significant differences between the answers of the sample members.

Table (3) shows the pivotal role played by University of Hafr Al Batin in raising the level of digital awareness among its faculty members and students, with a total arithmetic mean of (3.81) and a total standard deviation rate of (0.67). Paragraph (12) and its text "The university provides regular training programs to enhance digital awareness among faculty members and students" came in first place with an arithmetic mean of (4.70), while paragraph No. (7) and its text "The university provides digital educational resources such as e-books, educational videos, and academic databases" came in last place with an arithmetic mean of (2.80). This may be attributed to the gender variable (student/faculty member), which is confirmed by the Chi-square test as shown in Table (4).

The results obtained in this axis show that the university played a fundamental and pivotal role in enhancing the digital level of its members, whether faculty members or students, by providing all the necessary components for the success of the educational process, including the latest advanced digital means.

Table 4: Chi-square test result for each paragraph of the second axis (according to the gender variable).

M	Paragraph	Value of Test Coupling Chi-Square	Degrees of Freedom df	Significance Level Asymp. Sig.	Accept or Reject Hypothesis Based on Test Result
1	The university provides access to advanced digital databases to support scientific research.	.002	1	.96	Accept the null hypothesis that there are statistically significant differences between the answers of the sample members
2	The university encourages faculty members to publish research in the fields of digital transformation and digital awareness.	170.4	3	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
3	The university provides funding programs to support research projects related to digital transformation.	13.92	2	.001	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
4	The university provides workshops and conferences related to digital transformation and educational innovation.	27.7	2	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
5	The university is keen to provide researchers with the latest digital tools that help them analyze data and conduct research.	.000	1	1.000	Accept the null hypothesis that there are statistically significant differences between the answers of the sample members
6	The university encourages students and faculty members to apply digital security and privacy standards	.000	1	1.000	Accept the null hypothesis that there are statistically significant differences between the answers of the sample members
7	The university supports student initiatives that enhance the use of digital technology in learning.	.000	2	1.000	Accept the null hypothesis that there are statistically significant differences between the answers of the sample members
8	The university contributes to spreading the culture of digital transformation through awareness campaigns and specialized seminars	32.59	2	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
9	The university provides educational content on the ethics of dealing with digital information.	11.08	3	.011	Reject the null hypothesis that there are statistically significant differences between Sample answers
10	The university is keen to reduce the digital gap by providing the necessary technical resources and support to students and faculty members.	43.86	3	.000	Reject the null hypothesis that there are statistically significant differences between Sample answers.

C- The third axis: The most important recommendations to further raise the level of digital awareness among university members: This axis aims to know the most important recommendations to improve the distance learning process by avoiding the obstacles that existed during the pandemic, from the point of view of faculty members and students of Hafar Al-Batin University, which requires us to put forward the following hypotheses:

Null hypothesis: There are no statistically significant differences in Hafar Al-Batin University's endeavor to address the shortcomings that existed during the pandemic and benefit from the previous experience.

Alternative hypothesis: There are statistically significant differences in Hafar Al-Batin University's endeavor to address the shortcomings that existed during the pandemic and benefit from the previous experience. The following shows (Table 5) the evaluation of the study sample members for the various paragraphs of the axis and the arithmetic means and standard deviations and the result of the axis as a whole based on the Likert classification and scale.

Table (5) shows that the study sample estimates of the University of Hafr Al Batin sought to address the shortcomings found during the pandemic and benefit from the previous experience. Relatively high with a total arithmetic mean of (3.67) and a total standard deviation rate of (0.82). Paragraph (1) and its text "The university provided an integrated digital educational environment that facilitates access to digital tools and platforms" came in first place with an arithmetic mean of (4.50), while paragraph No. (6) and its text "Mandatory courses on cybersecurity and ethics of dealing with digital data must be provided." came in last place with an arithmetic mean of (3.15). This may be attributed to the gender variable (student/faculty member), which is confirmed by the Chi-Square test as shown in Table (6).

Table 5: Arithmetic means, standard deviation, and Likert scale score for the study sample members' answers to the paragraphs related to the third axis (the most important recommendations for further raising the level of digital awareness among university members).

Number	Rank	Paragraph Text	Mean Arithmetic	Standard Deviation	Practice Level
1	28	The university provided an integrated digital learning environment that facilitates access to digital tools and platforms. 4.5 0.50	4.5	0.50	High
2	25	The university provided training courses and workshops to enhance the digital skills of its members. 3.77 0.75	3.77	0.75	High
3	29	The university supported the effective use of learning management systems such as Blackboard and Microsoft Teams. 3.89 0.81	3.89	0.81	High
4	26	The university facilitated access to digital resources such as e-books and scientific references. 3.49 1.05	3.49	1.05	Medium
5	23	The university helped provide a strong digital infrastructure that supports digital transformation in education and research. 3.73 0.82	3.73	0.82	High
6	27	Mandatory courses on cybersecurity and the ethics of dealing with digital data should be provided. 3.15 1.08	3.15	1.08	Medium
7	30	It is recommended to provide more specialized training programs in modern digital tools. 3.49 0.86	3.49	0.86	Medium
8	21	It is recommended to increase interactive workshops that allow faculty members and students to acquire practical skills in technology. 3.25 0.77	3.25	0.77	Medium
9	22	Periodic training should be provided to keep pace with rapid developments in educational technology. 4.08 0.68	4.08	0.68	High
10	24	Training in the use of AI tools in research and teaching should be strengthened. 3.37 0.93	3.37	0.93	Medium
Overall arithmetic mean of the instrument			3.67	0.82	High

It is clear from the results obtained in this axis that the University of Hafr Al Batin is striving to keep pace with digital transformations in the educational process globally, by implementing many development initiatives, some of which have been completed and others are still under implementation.

However, there is still room for further improvement and development, with the aim of achieving the prestigious position that its members aspire to.

Table 6: Chi-square test result for each paragraph of the third axis (according to the gender variable).

M	Paragraph	Value of Test Coupling Chi-Square	Degrees of Freedom df	Significance Level Asymp. Sig.	Accept or Reject Hypothesis Based on Test Result
1	Internet speed should be improved and coverage should be expanded within the campus to support digital education.	.000	1	1.000	Accept the null hypothesis that there are no statistically significant differences between the answers of the sample members
2	It is recommended to update learning management systems and develop user-friendly applications for university members.	61.18	2	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
3	It is recommended to provide modern digital laboratories that enable students to have practical training on digital technologies.	45.58	3	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
4	Digital security and protection systems should be enhanced to ensure the safety of academic data and information.	76.52	4	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
5	Awareness campaigns should be launched to promote digital culture among faculty members and students.	46.32	4	.000	Reject the null hypothesis that there are statistically significant differences between the answers of the sample members
6	It is recommended to encourage digital innovation by supporting digital research projects.	7.04	3	.07	Accept the null hypothesis that there are no statistically significant differences between the sample members' answers
7	Students and faculty members should be encouraged to participate in conferences and seminars related to digital transformation.	54.91	3	.000	Accept the null hypothesis that there are no statistically significant differences between the sample members' answers
8	Smart devices and advanced software that support interactive education should be provided.	13.15	3	.004	Reject the null hypothesis that there are statistically significant differences between the sample members' answers.
9	It is recommended to provide incentives to university members who achieve achievements in using digital tools effectively.	21.64	2	.000	Reject the null hypothesis that there are statistically significant differences between the sample members' answers
10	An electronic platform should be created that collects best practices and successful experiences in digital transformation	146.48	4	.000	Reject the null hypothesis that there are statistically significant differences between the sample members' answers

I. Study Recommendations:

Through the results shown by this study, some recommendations can be pointed out that enhance and appreciate the positive role played by University of Hafr Al Batin in developing the level of digital awareness among its students and faculty members.

The most prominent of these recommendations are:

♣ In appreciation of the university's efforts in developing digital awareness, it is recommended to continue implementing digital initiatives aimed at improving the use of technology in the educational process, such as enhancing e-learning environments and developing distance learning systems.

♣ It is recommended to continue providing training programs and expanding the scope of training courses and specialized workshops in digital awareness, with a focus on modern digital skills such as cybersecurity, data analysis, and artificial intelligence technologies, to ensure that faculty members and students keep pace with the latest digital developments.

♣ The university can enhance its cooperation with leading global technology companies and institutions to provide training opportunities and professional certificates for students and faculty members, which enhances their digital competence and provides them with broader opportunities in the labor market.

♣ In continuation of the university's efforts in digital transformation, it is recommended to continue updating the digital infrastructure, by improving internet speed, providing modern devices, and developing e-learning management systems to facilitate access to digital educational content.

♣ It is recommended to launch initiatives to encourage digital creativity, such as competitions and research projects that motivate students and faculty members to develop innovative solutions in the fields of digital transformation and e-learning, which enhances the environment of creativity and development within the university.

♣ It is recommended to honor students and faculty members who contribute to the development of digital educational content or the application of modern technologies in education, through annual awards or incentives that enhance the spirit of innovation in the digital field.

♣ In appreciation of the university's efforts in promoting digital awareness, it is recommended to launch awareness campaigns on the importance of cybersecurity, personal data protection, and the ethical use of technology, to ensure that the academic community benefits from digital tools in a safe and effective manner.

♣ It is recommended that the university continue to evaluate the level of digital awareness among its members through periodic studies and surveys, which helps in developing future plans based on the actual needs of students and faculty members. Through these recommendations, the University of Hafr Al Batin can continue its leadership in the field of digital transformation and enhance an advanced educational environment that keeps pace with the latest digital innovations.

Acknowledgments: At the conclusion of this research, we would like to express our sincere gratitude and appreciation to the University of Hafr Al-Batin, represented by the Deanship of Scientific Research, as well as to the Dean of Khafji University College and the Head of the Department of Science and Technology for their continuous support throughout all stages of this study.

REFERENCES:

Abdel Tawab, Ziad (2021). Zero One: An Introduction to Digital Awareness. Egyptian Lebanese Publishing House.

Abdel Tawab, Ziad (2022). Artificial Intelligence and Data Analysis - Digital Awareness Series. Egyptian Lebanese Publishing House.

Abdul Razzaq, Magda Mustafa Abdullah (2023) The role of scientific research in achieving sustainable development in light of the vision of the Kingdom of Saudi Arabia 2030, Fifth Edition - Issue Fifty-One, Arab Journal of Scientific Publishing .

Alamri, M (2011) Higher education in Saudi Arabia. Journal of Higher Education Theory and Practice 11(4): 88–91.

Al-Harbi, Abdullah bin Muhammad. (2020). Awareness of digital citizenship among Saudi university students. Arab Journal of Humanities and Social Sciences.

Al-Mutairi, Musaed Ali (2021). Digital Transformation Strategy. Dar Doc Sweet Publishing.

Al-Qarni, Dhafer bin Ahmed Musleh. (2019). The role of Saudi universities in promoting the values of digital citizenship. Journal of King Abdulaziz University: Arts and Humanities.

Al-Zahrani, Muhammad bin Abdullah. (2018). The extent of awareness of digital and smart educational technologies among faculty members at Saudi universities and their attitudes towards them. Journal of the Faculty of Education, Al-Azhar University.

Burnett, C. & Merchant, G. (2022). Digital Literacy in Higher Education: Practices and Challenges. Routledge.

Cho, E. and Chun, S. (2018), Fixing a broken clock: A historical review of the originators of reliability coefficients including Cronbach's alpha. Survey Research, 19(2), 23–54.

Gunarto, Hary (2019). Parametric & Nonparametric Data Analysis for Social Research: IBM SPSS. LAP Academic Publishing.

Harris, Anaka (2019). Awareness: A Brief Guide to the Essential Mystery of the Mind. Hindawi Publishing House

Johansson, S. & Nordström, L. (2020). Faculty Digital Literacy and Higher Education Transformation. Springer.

Jones, C., & Shao, B. (2011). The net generation and digital natives: Implications for higher education. Higher Education Academy.

Miloud, Murad (2023). Awareness in the Digital Age: A Philosophical Analysis of Cause and Effect in Technological Transformations. Dar Al Nahda Al Arabiya.

Muhammad Muhammad Al-Hadi (1995) Methods of preparing and documenting scientific research, Cairo Academic Library, 1st edition.

Pangrazio, L. & Sefton-Green, J. (2021). Digital Literacies: Research and Practice. Bloomsbury Publishing.

Selwyn, N. (2019). Digital Education: A Critical Introduction. Polity Press.

Tapscott, D. (1996). The Digital Economy: Promise and Peril in the Age of Networked Intelligence. McGraw-Hill.