



Digital public relations in the world of digital communications...

Trends and developments

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Abstract ;

In the face of rapid technological advancements and the transformations of the digital era, public relations has become fundamentally reliant on digital media and social media platforms. Digital public relations represents a modern concept for communication and constructing the perceptual image of institutions and companies in a technological and instantly communicative age. Social media and digital platforms serve as primary tools in digital public relations strategies, enabling companies to interact directly with their audience and convey messages efficiently and swiftly.

Digital communication has the potential to strengthen the relationship between the organization and its audience by providing opportunities for interaction and collecting feedback. In the pursuit of combating corruption and building a positive reputation, digital public relations plays a vital role. Companies can utilize social media to promote transparency, clarify decisions, and explain activities effectively. Digital communication also allows the audience to access information more quickly and easily, enhancing their understanding of the organization's operations and strategic objectives. Furthermore, digital data enables organizations to have a better understanding of their audience's needs and to tailor their strategies based on precise analytics. These data-driven insights empower organizations to engage more deeply with their audience and deliver content that meets their expectations.

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1. Introduction

The era of information has ushered in a new environment for organizational work within the entire structure. If we examine the elements of information technology that characterize this era, including computer hardware, software technology, and communication technology, we find that they operate based on a set of major transformations. These transformations aim towards being smaller, faster, cheaper, and easier to use. There is a shift from personal computers to networked systems and from analog to digital communication, thanks to significant technological advancements in media.

With the modern technological evolution being a hallmark of the current era, organizations of various types and fields have witnessed numerous developments. It has become imperative for them to rely on tools and means that ensure their continuity. In the dynamic landscape of communication processes, organizations need to understand and respond to the growing and evolving needs and desires of users. The Algerian institution, like many others with a service-oriented nature, has placed particular emphasis on addressing these changes in our era. Consequently, organizations find themselves compelled to adopt communication and engagement methods directly or indirectly to meet public expectations.

As organizations grow in size and expand significantly, and concepts intertwine, there arises a necessity to establish Public Relations (PR) departments. Public Relations plays a crucial role in facilitating communication between society and companies. Recognizing its importance, organizations allocate both financial and human resources to PR. Public relations within an organization constitute a fundamental pillar, significantly contributing to the management and improvement of the organization's mental image. In modern organizations, born out of the communication and technological revolution, Public Relations has become increasingly effective and influential.

In our current era, marked by remarkable technological advancements, the existence and establishment of Public Relations departments within organizations are imperative. These departments aim to facilitate communication between the organization and its audience. Public Relations has evolved into a primary activity practiced by organizations, emphasizing its importance since its inception. Given that Public Relations primarily focuses on studying relationships within and outside organizations, it becomes crucial for PR to include the study of groups, organizations, and communities. This is based on the latest findings in humanities and communication sciences. Moreover, the importance of its role within the framework of social responsibility, achieving the primary goal of gaining the trust and support of the public, spreading awareness, influencing public opinion, and building a favorable image for the organization cannot be overstated.

In conclusion, digital public relations have become significantly important across all levels. Specialized scientific institutions have emerged, and teaching digital public relations has become a necessity in many disciplines, especially to prepare graduates for the job market and equip them with the skills necessary for success and advancement.

1. The emergence and development of Public Relations :

Although modern public relations was born at the beginning of the twentieth century, there are those who believe that public relations as an activity based on communication to convince certain ideas or explain their behavior and actions in a certain way have existed even in human societies since ancient times, and developed with the development of those societies, and the historical development of public relations can be divided into two:

A..Ancient public relations: it extends from the existence of primitive societies until the nineteenth century, (Sulayman & others, 2008, p. 13) where, according to a number of researchers, the first origins of public relations date back to the communication processes and attempts of grooming and influence carried out by man since time immemorial in his society or in the group to which he belongs, and therefore public relations existed with the presence of the public and where leaders dominated in primitive societies in multiple ways, such as using threats, force or persuasion . (Al-Jawhar, 2001, p. 12)

With the development of Man, human civilizations that had a relationship with the masses, such as the Assyrians and Babylonians, used inscriptions and statues to inform their children about the information they wanted to inform them about, the Greeks and Romans paid attention to public opinion and used rhetoric and argument as a means of persuasion and grooming, while the Arabs played a major role in conveying the point of view of the tribe to other tribes and their poets speak on behalf of them, speak about their virtues and praise their genealogies and works, and thus reflect the point of view of their tribe in front of other tribes.

As for Europe in the old days, there was no existence of public relations, and after the discovery of the new continent America, the importance of caring for the person who is the real maker of money, the producer and consumer, and therefore the emergence of public relations activity, appeared.

B. Modern Public Relations:

Modern public relations is an activity and a field defined in the early twentieth century, evolving in our present time. It can be said that modern public relations originated in the United States. (Sulayman & others, 2008, p. 33) This does not mean it appeared overnight, as it was the result of activities that preceded it, laying the groundwork for it, such as corporate agencies and communication activities.

The most significant source that contributed to the birth of modern public relations is institutions. The end of the 19th century witnessed a rapid and significant development in industry, trade, and mass production. This period saw the concentration of capital, monopolies, and the exploitation of individuals, consumers, and workers. Employers adopted a secretive policy, withholding information from the public. This era was named the era of awareness among the masses, and these conditions inevitably led to dissatisfaction and protests, followed by reforms.

The importance of dealing with the public became evident, and Edward Bernays, although he did not use the term "public relations" until 1919, played a crucial role in shaping its principles and foundations. He advised businesses to disclose everything related to their activities to the public, except for production process secrets. Bernays greatly contributed to establishing the principles of public relations, emphasizing its dual role: studying public opinion, shaping the institution's policy, and accurately and honestly informing the public about its activities and decisions.

The humane treatment of workers and employees, as well as care for the institution's public, including consumers and distributors, were highlighted. The impact of World War II significantly influenced the development of public relations. Many commercial countries allocated substantial budgets and recruited excellent talents for public relations purposes. This led to the consolidation of its methods and solidified its position as a science and a continuous activity for institutions. (Sulayman & others, 2008, pp. 37,38)

The use of modern media, including satellites, television, radio, and newspapers, provided public relations with a broad opportunity to reach institutional audiences in a short period. This made public relations a powerful influencer on public opinion, necessitating the establishment of

regulations and laws to govern its activities. In light of this, public relations should adhere to principles, foundations, and objectives, some of which can be outlined as follows:

2. Public Relations: Principles - Objectives - Functions:

1. Principles and Foundations of Public Relations:

Public relations is built on a set of principles, including:

1. **Continuous Administrative Function:** Public relations is a continuous, planned administrative function that involves management processes such as planning, scientific research, organization, coordination, and evaluation, similar to other organizational functions.
2. **Dynamic Interaction:** It involves two mutually influential parties simultaneously. It is dynamic, characterized by effectiveness, reciprocity, mutual understanding, direct positive response from both parties, and a continuous exchange.
3. **Wide Applicability:** Public relations are not limited to specific institutions but encompass all types, whether governmental, private, commercial, industrial, or social.
4. **Ethical Element:** The ethical aspect is crucial, including the general philosophy of the institution, its sense of social responsibility, commitment to truthfulness in information dissemination, and the cultivation of trust and mutual respect between the institution and its audience. (Alyan & al-tarbasi, 2005, pp. 232,233)
5. **Knowledge of Theoretical and Scientific Methods:** Public relations practitioners must understand theoretical and scientific methods to shape and change attitudes, requiring an understanding of human behavior.
6. **Top Management Responsibility:** Public relations should be the responsibility of top management, with its programs aligned with the institution's policies.
7. **Connection to Public Opinion:** Public relations is primarily connected to public opinion, and its activity is contingent on the presence of an audience; without an audience, there is no public relations activity.

Additional Principles According to Mohamed Mounir Hijab:

- Building trust among the public.
- Disseminating awareness among the public.
- Contributing to the welfare of society by the institution.
- Adhering to a policy of not hiding the facts.
- Following a scientific approach.
- Initiating public relations from within the institution. (belkhiri, 2017)
- Collaborating with other institutions.
- Following a democratic approach in public relations.

Other Considerations by Public Relations Practitioners: (belkhiri, 2017, p. 178)

- Emphasizing honesty and integrity in explaining everything coming from the institution, aiming to gain the trust and support of the public.

- Avoiding a defensive position regarding covering up flaws and complicating issues, as this obscures the truth and hinders clarity.
- Dynamic, lively, and interactive engagement with the public.
- Expanding public relations activities to operate in all fields.
- Assisting the public in shouldering social responsibility while operating based on sound planning.
- Public relations is built on a clear philosophy of respecting public opinions and recognizing their importance.
- Following scientific research methods based on logic and objective analysis to solve any problem and arrive at informed decisions.

3. The Essence of Public Relations Objectives:

Most organizations engage in public relations activities, whether they have a dedicated PR department or not, (AbdelHamid & Rachwan, 2003, pp. 141,144) and whether they have formulated PR programs or not. Public relations is not limited to a single type of activity; rather, it encompasses various public and private activities in all fields, including agriculture, commerce, and industry. It involves work relationships, improving conditions, and enhancing productivity for employees.

Public relations works to achieve several objectives, which can be summarized as follows:

1. Public awareness of national goals and educating the public about public policies and their role in implementing them. Organizations aim to raise awareness of their goals, working methods, activities, and plans among the public. Coordination between individual efforts is facilitated when each person in the group knows the desired goals. Goals serve as a measure for evaluation and control as they specify required actions. Examples include: (Mahmoud, 2012, p. 110).
- a. The organization being a leader in a specific industry in excellent markets.
- b. Ensuring continuous and increasing consumer satisfaction in current and new markets.
- c. Generating appropriate profits.
- d. Achieving a good reputation for the organization and reinforcing its mental image.
2. Establishing positive relationships and increasing opportunities for mutual understanding, harmony, and alignment between the organization and the public, whether internal, such as employees, or external, such as the receiving public.
3. Public relations aims to undertake various activities performed by other departments and assist them.
4. Aiming to enhance productivity by providing material and moral support and increasing benefits for the owners of the institution, its employees, consumers of its products, and the communities in which it operates.
5. Building friendly relationships with stakeholders who are primarily interested in securing their investments, understanding the latest developments in production, expansion projects, and new markets.
6. Meeting the desires, observations, and proposals of distributors. (Mahmoud, 2012, p. 112)
7. Aiming to develop a sense of social and national responsibility among citizens.

8. Establishing links between the concerned institution and external entities by informing it about surrounding social or political variables. Informing it about public opinion trends, especially the relevant public opinion about the institution's activities. (Assaf & Saleh, 2004, pp. 31,33).
9. Studying and understanding the demands, goals, interests, and desires of individuals and groups within the concerned institution and linking them to the institution's general goals in a way that fosters trust between them and those working in it.
10. Connecting external parties with the institution or organization by organizing advertising campaigns, awareness programs, and promoting information and data in a conscious and planned manner about the institution and its goals.

4. The Importance of Digital Communication in an Organization:

The concept of digital communication represents one of the most prominent and essential foundations for delving into the essence of the subject. By this, we mean keeping up with the coordinates and data of the era, including the various means, devices, innovations, and the application of modern uses, benefiting from them in various aspects of human life. This encompasses its impact on information and media communication across different mediums and devices.

5. Definition of Digital Communication:

The definition of digital communication primarily revolves around the use of digital systems and their innovations as the primary and essential means of communication between parties. This concept aligns closely with computer-mediated communication, computer-assisted communication, or computer-based communication, emphasizing the role of computers in the communication process. (Abdel-Hamid, 2004, p. 103).

At the same time, communication in this context falls within the broader framework of the communication concept, including its elements, forms, and models. Ultimately, it involves human communication or interaction between individuals to achieve specific goals. It shares all the characteristics of human communication and is carried out through various sub-processes influenced by social, psychological, and linguistic factors addressed by psychologists, sociologists, and linguists who have presented numerous models explaining human communication, its processes, and relationships.

On the other hand, the use of the medium cannot be measured; therefore, we decide that it approaches engaging with the audience, relying on mechanical and electronic means in the production and dissemination of media messages. Digital systems enable not only mass communication but also personal and collective communication, even if not face-to-face. This capability is not provided by traditional means of audience communication unless using immediate personal communication methods such as telephones, telegrams, and later digital networks.

Thus, the definition of digital communication can be as follows: "The social process in which remote communication occurs between parties exchanging roles in broadcasting diverse communication messages and receiving them through digital systems and their means to achieve specific objectives. (Abdel-Hamid, 2004, p. 104)

It also refers to the transition from an analog information handling approach to a digital one, where information (text, image, or sound) is converted into coded electrical waves, facilitating their transmission, storage, processing, and compression. The term 'digital' indicates two states: on/off, expressed as a sequence of on/off signals. All letters, symbols, numbers, images, drawings, and sounds take the form of 'zero' and 'one'.

The 'one' corresponds to 'on', and 'zero' corresponds to 'off'. Each pair of these numbers is called a 'bit,' meaning a letter. A group of symbols is called 'bits,' and each bit usually contains eight symbols. (Mekkawi, 2005, p. 246)

When the transmitted material is converted into a separate stream of analogous electrical pulses, the device does not send it directly; instead, it divides it into very small pieces and assigns a specific number to each sample. This process is called digitization.

At the beginning of the transmission line, there is a device called an "Analog-to-Digital Converter (A/D Converter)," whose task is to convert data from its analog form to its digital form. This device broadcasts a continuous code of data, and it transforms it into digital signals. On the receiving end, whatever machine is intended to receive it converts these digital signals back into analog signals that mimic the reality of the sent data. This device is called a "Digital-to-Analog Converter (D/A Converter)." (Abdelwahab, 2005, p. 217)

6. Through these definitions, digital communication is based on a set of determinants:

1. If human communication in its traditional forms is described as a process that connects its elements in a relationship with each other, digital communication goes beyond that, as relationships exist not only among the elements of the process but also among the elements of digital systems that sustain and evolve communication continually.
2. Network communication performs social functions and roles that support the social dimension and requirements of digital communication.
3. Communication between individuals is distance communication, regardless of the level of communication, whether it is bilateral or collective, and regardless of the accompanying technologies used to bring parties closer through writing, voice, or images.

4. Despite being remote, digital communication innovations have provided interactive communication components such as communication loops, exchange of communication roles, and the reinforcement of their functions.
5. Digital systems and their innovations are essential for achieving communication and its functions, and wired and wireless communication is not effective as long as it does not rely on digital systems.
6. The elements of communication in this concept do not differ from the known elements of communication in its traditional forms, but they surpass them in the necessity of having digital encoding devices in transmission and reception.
7. Reading, writing, and computer literacy are essential skills for the parties involved in digital communication, given the requirements of dealing with computer units and the nature of digital messages that need written processes and treatments for editing, sending, and receiving. (Abdel-Hamid, 2004, pp. 104,106).

7. The emergence of digital communications within the organization:

In the Eighties of the previous century, scientists came up with the possibility of providing analog signals in the form of digital signals, and since then, this digital technology has gradually begun to replace the old traditional analog equipment, and we also see how easy and convenient communications have become in the era of electronic communication and satellite television, and scientific developments and achievements have opened the way to:

1. **First Leap:** This leap is represented by the invention of the transistor in 1948 by American scientists, "Bardeen, Brattain, and Shockley." They were awarded the Nobel Prize in 1956 for their significant achievement and its impact on reducing the size of transmission and reception devices in communication systems.
2. **Second Leap:** It is associated with the development of small-sized, high-density integrated circuits. This leap allowed the reduction in the size of computers, making them compact personal computers that can be easily carried.
3. **Third Leap:** Achieved when the American scientist "Shannon" published his research, laying the foundation for digital communications known for their high efficiency. (Hafedh, 2005, p. 18)

The evolution of this progress rapidly moved towards the era of electronic communication, witnessing immense advancements and significant diversification in the field of communications. Keeping up with its development became challenging. Among the notable areas impacted were:

- Computer-to-Computer Communications Networks:
- Communications via Satellites and Open Skies:
- Communication via Optical Fibers, Laser Discovery, and the Major Revolution in Personal Mobile Communications. (Hafedh, 2005, p. 19).

8. Characteristics and Advantages of Digital Communication:

Given the advancements and capabilities of modern technologies, the digital communication system has surpassed many differences and established a set of unified characteristics that distinguish all forms of digital communication. These characteristics not only differentiate digital communication but have also influenced the construction of its concepts and elements. Among these features, we find the following:

1. **Interactivity:** The communicators and receivers exchange roles, referred to as participants rather than sources. Communication becomes interactive and bidirectional, with the audience actively influencing the communication process and its elements.
2. **Diversity:** Refers to the multitude of messages that individuals or small groups can choose from, rather than unifying messages.
3. **Asynchrony:** Implies the ability to send and receive messages at a time convenient for the user, regardless of the recipient's presence at a specific time. (djeffal & belkhihi, 2023)
4. **Mobility and Flexibility:** New tools can be moved anywhere, such as personal computers, mobile phones, and portable video cameras.
5. **Convertibility:** Digital communication allows the conversion of audible signals into printed or visual messages and vice versa.
6. **Universality:** The communication environment has become global, surpassing barriers of time, place, and control. (Makkawi & Leila Houcine El-Sayed, 2006, pp. 106,107)
7. **Pervasiveness:** New tools have transitioned from being mere luxuries to becoming essential and functional, notably observed in the widespread use of mobile phones. (Makkawi & Leila Houcine El-Sayed, 2006, p. 108)
8. **Diversity:** With the evolution of digital innovations in communication and their multiplicity, coupled with increased production and storage capacity, there is diversity in content and communication forms, providing recipients with greater choices to tailor communication to their needs and motivations.

9. **Integration:** The Internet serves as a communicative umbrella that brings together various communication systems, digital tools, content in different forms, and functions into one integrated system, offering recipients multiple options within a cohesive framework.

10. **Individuality and Fragmentation:** Digital communication elevates the value and uniqueness of individuals, giving parties involved in communication a broader freedom of choice. It enhances individuality, preserves the confidentiality of communication and its privacy, and allows communicators to control the processing, presentation, and utilization of data and information in line with legal rights for intellectual property and data usage. (Hafedh, 2005, pp. 110,111).

Digital communications offer several advantages to users, positioning themselves competently against analog signals. Some of the key advantages include:

1. **Flexibility and Inclusiveness of Digital Networks:** Allowing the transfer of data in the form of text, audio, and images with high precision.
2. **Simultaneous Transfer of Complex Conversations or Sounds:** Facilitated through the digital network.
3. **Active and Powerful Communication System:** Making communication robust and establishing it as a high-quality integrated unit.
4. **Superiority in Long-Distance Information Transmission:** Achieved through the use of Optical Fiber links, preserving communication strength from start to finish. (Mekkawi, 2005, pp. 101,103).
5. **Storage and Retrieval of Countless Video Information:** The digital signal's ability to store and retrieve vast amounts of video information in relatively small spaces, with increased memory capacity enabling various manipulations of the digital signal.
6. **Facilitation of Editing Operations for Presented Materials:** Resulting in significant breakthroughs in graphics and special effects, in addition to resistance to noise and interference in sound, electronic error correction, and maintaining signal strength along the communication line. (Al-Qalini & al-Samri, 1998, pp. 180,182).

9. Functions and Objectives of Digital Communication:

With the development of studies related to digital communication in general and internet communication in particular, research has specifically focused on studying the functions and

objectives of digital communication. Given its prominent role and importance in society, what are these functions and objectives?

9.1.Functions of Digital Communication:

1. Overcoming the isolation imposed by various forms of communication and expanding individuals' relationships over long distances through internet communication.
2. Creating virtual communities where individuals gather around shared goals that might be absent in their real-life communities, such as anti-racism or advocating for democracy. (douib & belkhir, 2023)
3. Providing extensive information and media services by writing news reports about various events worldwide, challenging the monopoly of facts by authorities or local and global media.
4. Utilizing digital communication in education and disseminating strategies for utilizing computers and educational programs.
5. Offering significant opportunities for advertisers through marketing and advertising their products, making it easier for the receiving audience to make purchasing decisions.
6. Achieving the function of entertainment, attracting various age groups with the spread of online games and competitions. (Abdel-Hamid, 2004, pp. 130,133).

9.2.Objectives of Digital Communication:

1. Technological Objective: Preserving documents and information, protecting them from damage by archiving them for the benefit of the receiving audience.
2. Preserving written heritage and economizing the use of that heritage by digitizing it.
3. Transforming information from written form into digital records, changing its system to numerical digital formats understood by computers, and facilitating retrieval.
4. Achieving decentralization of information, where it is stored in one area but can be utilized in other regions, reducing the burden of travel and costs for individuals. (djeffal & belkhir, 2023)
5. Achieving a high level of automatic accuracy by designing digital systems to continuously monitor channel conditions and correct their path.
6. Controlling the echo problem and achieving sound harmony, eliminating interference issues in the future.

10. The Shift Towards Digital Technology:

The evolutionary progression in communication technology illustrates the gradual developmental trajectory, starting from manual technology, advancing to mechanical technology, then electronic technology, and ultimately reaching digital technology.

The transition towards digital technology signifies a milestone in the progress of communication technology due to its superior capabilities in processing, storing, and flexibly handling informational data. This allows overcoming communication obstacles imposed by manual, mechanical, or electronic technologies. (Mahfoudh, 2005, p. 39)

11. Converting Analog to Digital Data:

Digital communication involves the conversion of analog signals (such as sound and images) into a digital format. This process includes transforming letters, numbers, and symbols into digital signals. For instance, telephone communications can be represented in digital code and transmitted over long distances. The only interference that might occur in digital communications is at the beginning of the transmission. The signal is converted from digital to analog at the receiving end.

At the transmission end, there is a tool called A.D Converter, responsible for converting data from its analog form to its digital form. Similarly, at the receiving end, there is a tool called D.A Converter, which converts digital signals back to analog signals that precisely mimic the original sound intensity. This process is often referred to as a Codec in telephone systems. (Mekkawi, 2005, p. 149).

12. Differences Between Analog and Digital Communication:

The distinction between analog and digital systems lies in the quality and format of the signal concerning its amplitude, value, and the time it occupies. Analog signals can take any value continuously over time, whereas digital signals only take recognized values in continuous or discrete time.

In analog communication, transmission operates independently of the reception system, resulting in a high level of noise interference. Analog signals are affected by the environment during transmission. In contrast, digital communication, utilizing a digital network from the start of transmission to reception, does not allow any noise or interference. Digital communication ensures a clear and reliable signal throughout the process. (Mekkawi, 2005, p. 151).

Digital communication excels in transmitting information over long distances through the use of optical fiber links, which maintain communication strength from start to finish. This is in contrast

to analog communication, which weakens as the distance it covers increases. (Al-Bakri, 2003, p. 72)

In the digital system, information is transmitted in the form of discrete numbers (0, 1). Upon reaching the receiver, it translates this information into sound. On the other hand, the standard analog system transmits information as a continuous wave sequence.

Digital systems have the advantage of compatibility and integration with other technologies, such as computers. This integration is challenging for standard analog systems. The importance lies in the fact that most media increasingly rely on computer-based technologies. (Al-Far, 2006, p. 64)

13. Levels of Digital Communication:

Digital technology has contributed to the development of various levels and forms of communication, introducing modern forms of interaction. These levels include:

1. Computer Communication and Software: In this case, the computer, along with its programs, becomes an active participant in the communication process. As long as these programs are interactive, they provide the recipient with desired information in real-time, allowing interaction based on the design of these programs. The goal of this design varies, including learning, entertainment, and research in databases.

2. Communication with Databases: Computers act as terminals for databases stored on a main server connected to a network within an organization. Each administrator or user can access and benefit from these databases through cable connections between computers and the main server. In this scenario, standard telephone lines are not used; instead, it relies on cables connecting computers within the network. This setup is applicable, for example, in accessing local libraries that place their materials and resources on the main computer for accessibility through terminal computers. (Abdel-Hamid, 2004, p. 116).

3. Direct Communication through Networks: This form of communication closely resembles face-to-face interaction, even if it occurs remotely. It relies on networks to connect with others, whether on a personal level or within small groups. Therefore, a digital encoding card (Modem) with telephone devices is essential for converting audio, visual, or written messages into digital codes during transmission (Modulation). Then, the digital re-encoding to written or spoken language or visual signals occurs (Demodulation). In this case, communication can take place through direct dialogue, which can be in the form of written messages exchanged on the screen. Alternatively, communication can be visual, such as in video conferences that transmit dialogue through both audio and visual signals over networks. (Abdel-Hamid, 2004, pp. 120,121).

4. Communication with Media Outlets: due to the huge increase in the number of users of the world wide Information Network Internet and the expected chances that its users will leave when exposed to the media and replace the internet with it, the media have sought to rent permanent sites for them on this network to attract more audience recipients to media materials. this was helped by the hypertext service launched by the web and thus allowed successive and linked roaming with texts related to each other, in addition to its advantages associated with digital communication technology, the most important of which is interactive. (Abdel-Hamid, 2004, p. 288).

14. Obstacles to digital communication:

In this section, author Abdulbasit Mohammed Abdulwahab, in his book "Utilizing Communication Technology in Radio and Television Production," discusses the significant obstacles and issues faced by communicators, persisting during the use of communication technology. These challenges have also been encountered by relevant authorities attempting to localize communication technology in media. Some of these obstacles include: (douib & belkhiri, 2023)

A. Financial Obstacles:

- Insufficient financial resources to fund projects aimed at improving production, such as providing digital devices for audio or visual stations, to keep up with global technological advancements for enhanced production speed, precision, and clarity.
- Lack of adequate computers for audio and visual stations, considering the substantial budget required.
- Unavailability of necessary raw materials for media development or the economic resources needed to obtain these materials, including digital disks, magnetic digital tapes, various tapes, printers, inks, paper, production equipment, video editing devices, and portable cameras. (Abdelwahab, 2005, pp. 497,499)

B. Technical Obstacles:

- Spectrum crowding and interference with state-designated broadcasting waves by neighboring countries during political conflicts or peacetime.
- Lack of attention to equipment maintenance, including protection from dust and humidity, and the provision of air conditioning for temperature control.

- Random planning and execution, such as the arbitrary replacement of outdated equipment with new ones without considering the significant financial investment made by the state. (Eljayeche, 2000, p. 32)

C. Administrative Obstacles:

- Delay in disbursing dues and incentives, leading to a lack of motivation for excellence and production, fostering favoritism and alignment, causing jealousy, frustration, and resentment among employees.
- Lack of appreciation from managers towards their employees, failure to implement the reward and punishment principle.
- Inequality in assigning certain tasks with either material or moral returns, resulting in the delegation of these tasks to those closer to decision-makers.
- Failure to provide editors and directors with free computers to enable them to subscribe to other radio and television stations in order to follow the latest news and record what they need for their programs. (Abdelwahab, 2005, pp. 505,507)

D. Human Obstacles:

- Shortage or absence of essential human elements for program production, such as actors, technical directors, editors, photographers, and presenters.
- Lack of synchronized and continuous training for personnel on new equipment and modern technologies.
- Shortage of specialized training courses for workers in their field of specialization, with some occupying positions outside their expertise.
- Absence of training and rehabilitation centers for personnel due to the high cost of establishing and equipping them with necessary equipment. (Abdelwahab, 2005, p. 497)

Khaled Lamine Boufedji summarized the obstacles to digital communication in several points:

- The cost of equipment (machinery, scanners, advanced software, microcomputers, etc.).
- Lack of expertise among technicians in using modern equipment, emphasizing the need for qualified workers through advanced technical training.
- Information loss due to a lack of experience in archiving.

- Absence of references containing concepts and terms specific to this field, which should be taught in universities and institutes to ensure understanding among future students.
- Absence of training centers.

Digital communication plays an extremely crucial role in swiftly conveying information to groups and individuals, contrasting with analog communication, which is characterized by its weakness and numerous problems. Despite the significance of this technology in our modern lives, it faces many obstacles and difficulties that hinder the effective communication role it is supposed to play. Digital communication is considered essential for information systems to sustain their cycles and flows. The technology of digital systems has succeeded in transforming all symbols used in various communication fields into formats representing each symbol with a binary code (0,1). This transformation has facilitated the construction and delivery of the communicative message within a unified framework of digital symbols, eliminating the need for multiple tools or devices with varying specifications or features.

Conclusion:

With the increasing technology and the evolution of communication channels, companies and organizations must stay constantly informed about challenges and changes. Through innovation and integration with new technologies, digital public relations can contribute to building a strong and positive image for the institution in the minds of the public. Success in the field of digital public relations embodies achieving effective and sustainable communication, based on values of transparency and positive interaction. As technological advancements continue, we look forward to a future characterized by intelligent and effective communication, where digital public relations remains a strategic partner for institutions in building an advanced digital society.

In conclusion, it can be said that digital public relations enhances effective communication and contributes to building a positive image for institutions. By mastering digital media, companies can have a positive impact on society and enhance their position in the market. Amid the transformations of our digital age, digital public relations emerges as a fundamental pillar in building bridges of communication between institutions and their audiences. These relationships support marketing activities and reputation management, contributing effectively to achieving the goals of the institution in an ever-changing world.

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