



Interactivity, a challenge for public health organizations in Algeria.

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Abstract:

Interactivity has become a daily practice and a research object with the multimedia technological development. It is one of the main characteristics of an alternative communication based on the user's exchanges, feedbacks, and participation. For this, the requirement of its facilitation and its profitability requires the implementation of features and actions through applications ensuring interactivity on digital platforms. This article aims to measure the applications of interactivity available on two electronic sites of two public health organizations in Algeria on which we applied the scale of interactivity proposed by Heeter. The results obtained reveal the degree of interactivity achieved through the sites of the organizations under study.

Keywords: Public communication; website, Interactivity; public health organization; E-health in Algeria.

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1. INTRODUCTION

All societies in the world have experienced profound changes in various aspects of daily life, thanks to the appropriation of information and communication technologies (ICTs) and the reconfiguration of the relationship between the man and the machine. Indeed, with the development of the interactive and collaborative web, the organizations - from all sectors - do not cease to adapt to it, to conceive and specially to benefit from the advantages offered by these tools. This adoption process and this adaptation, both practical and pragmatic, aims to ensure an efficient functioning of the organization and to install a sufficient communication with its different audiences, both internal and external, which are becoming more and more active, in permanent search of information, especially when it comes to health. This is the reason why health institutions are in the obligation to review the communication system, as mentioned by Claudia Felten Ambrosini, in her research on "Public hospital communication in the digital era" with the integration of digital in the health field becomes a necessity and an obligation for public institutions. (Ambrosini, 2019, p269)

In this context, many publics, private and associative organizations are now creating their own websites, with the aim of benefiting from the related advantages in terms of user/organization site interaction, which are measured in terms of quantity and quality of dialogue with the interface and access to the information.

With the arrival of the collaborative web, the methods of disseminating, consulting, and using the organization's information have evolved to provide new connected and interactive information systems that allow more exchange and sharing. Through these forms of interactivity, and without forgetting the communicational objectives of visibility and marketing, the organization aims above all to inform about its activities and its offers to meet the informational expectations of the users: the availability of the information, its accessibility, its comprehension, and its usefulness.

The use of innovative forms of digital communication in the public service confirms the willingness of managers to improve their communication approach based on transparency by putting the organization's governance online and pragmatism as a mode of operation and collaboration with partners. The public sector is criticized for the quality of its services and treatments and its culture of considering the user as a subject and not as a customer to be satisfied. Therefore, the creation of websites for these public institutions is already a change in management tradition and especially in the mentality of public agents. Reducing bureaucratic barriers and information retention, allows not only direct contact between the organizations' and the institution but also an access to informational content displayed or provided on demand. This form of communication also contributes to enhance the image of the organization in question and to modify its posture towards users.

Algeria is not on the side-lines of these developments and is also experiencing an evolution in the integration of ICTs in different sectors of activity, including health. In this sense on health information, Aissa Merah, and Dalila Ahmedi, Information and



Communication Sciences researchers, at the University of Bejaïa indicates in his study called *Medical communication and social marketing of public health in Algeria: The case of non-communicable diseases*, that "it is necessary to establish a thorough diagnosis of the situation of communication by extending the expertise to all communication actions by insisting on the impact of the supports on the current behaviours of the users which becomes a necessity. (MERAH & Ahmedi, 2018, p56). That's the reason why health institutions in Algeria have recourse to digital technology, through the creation of their own websites to allow users to consult the various services offered and, consequently, to establish a direct and permanent contact with them.

Given the character of these websites resulting from the specific mission attributed to health institutions, we will try, through this study, to measure the degree of interactivity provided by the websites of the two University Hospital Centres (UHC) of Bejaia and Tlemcen. To do this, the question of this study is articulated as follows:

To what extent are the principles of interactivity respected on the platforms of public health organizations in Algeria?

The purpose of this study is to value the role of ICTs, especially the Internet and the communicative characteristics that they offer, as well as its different functions such as interactivity. The latter can facilitate and change the way of relations between the public and organizations, especially when it comes to a public health institution, since the use of websites for the purpose of conducting public communication with citizens demonstrates the degree of technological development of societies in general and organizations more specifically.

2. Research methodology

For this research, the mixed method aims to combine quantitative and qualitative analysis, with the objective of measuring interactivity through the number of applications offered on the site, and to focus also on the quality of exchanges of the health establishments in Algeria with the users of their websites and the quality of the communication of these establishments with their public. To better frame our analysis, we built an analysis grid based on the interactivity scale proposed by Heeter (2000), by focusing on the following dimensions: the complexity of the optional choices (table n°1), the effort that the medium requires from the user (table n°2), the adaptive response of the user (table n°3), the possibility of enriching the information (table n°4), the facilitation of interpersonal communication (table n°5) and the control of the use (table n°6).

According to the objectives of the research, the most appropriate investigation tool is content analysis, which is a method that allows the codification of various categories of elements of the analysed document. The choice of this tool is also explained by its capacity to bring out the different characteristics of the categorized information to better understand the phenomenon and to attribute a precise meaning to it.



This study, in a first level of analysis, uses quantitative analysis, which aims to capture the content through techniques of decomposition, coding, counting and enumeration. It also relies on qualitative analysis to capture the underlying meaning of the content.

To answer the research questions, we have developed an appropriate analysis guide to collect the data sought. It contains the categories of analysis that are related to interactivity, applying the interactivity scale proposed by Heeter.

This study used the home page of the websites as a research unit, to take into consideration all their contents, especially those related to our research: elements, services, and interactive applications available on the page, and these are the categories of interactivity submitted to measurement and analysis.

After our consultation of the list of health establishments published in the guide of health in Algeria Official site of www.dzsante.com, we proceeded to the observation (for three weeks.) of the various websites of the hospital establishments. On the criteria of the permanent updating of the information on these sites, the richness of the published contents and the diversity of the headings with integration of application allowing the exchange and facilitating the communication between these establishments and the public. We opted for a typical sample composed of two establishments that meet to the said criteria, namely the University Hospital of Tlemcen www.chu-tlemcen.dz, and that of Bejaia: www.chubejaia.dz.

3. Presentation of the two websites

3.1 UHC of Bejaia website's homepage

On the homepage, the logo UHC of Bejaia is highlighted, in the upper left, accompanied by the name of the institution to facilitate its identification: "University Hospital Centre of Bejaia".

In the website architecture, we find on the right side in front of the logo icons that represent the applications facilitating communication with the institution, such as messaging, e-mail, as well as social media (YouTube, Twitter, and Facebook). The website of this institution contains the following sections:

- "News": here are published news releases and appeals for the benefit of the different audiences of the institution;
- About UHC: this section presents the history, the composition and the management team;
- Health care services: presents the different services available at UHC and their locations, the consultation tables and offers the possibility to book an appointment online;
- Media area: this section is reserved for press reviews and videos about the UHC;
- The site also contains the following sections: job offers, markets and suppliers, as well as the contact section, under which are displayed the phone numbers, addresses



and emails of the different components and services of the UHC, as well as the phone numbers of the other health structures of Bejaïa.

3.2 UHC of Tlemcen website's homepage

On the homepage, the logo of the establishment appears on the top left with the following spaces: space patient visitor in which the conditions and the schedules of the visits are published facilitating to the users to identify and find them easily. Health professionals' area, which presents the status of doctors and paramedical staff. In the space for students and trainees, a list of the different associations that offer help to patients is published to allow the users to know them, as well as the list of the unions that are active in the health sector in Algeria. In the last spaces called establishment, other sections are also proposed for: internal regulations, congress and demonstration, legislation and press, and media.

Sub-headings are also presented in the menu on the left, constituting shortcuts to useful information content for users, with the following sub-headings:

- Institution: information about the institution, such as the presentation of the organization, its organizational chart, its activities, its background, etc;
- Services: presents all the medical services and laboratories of the institution;
- In the news section, we find press releases, condolences, and information notes for the person;
- The section of useful links, which presents the ministry's contact information as well as the health department;
- In "contact us" are presented the telephone numbers, the address, and the email of the direction of the health.

The functionalities facilitating contact are offered in both case study sites, but more advanced options are proposed by the UHC of Bejaïa, such as the contact of the different services, the messaging, and the link to the digital social networks, allowing more exchanges with the users. The particularity of the Tlemcen UHC is the proposal of content in two languages (Arabic and French), unlike the Bejaïa UHC which proposes content in French only.

4. Elements of theory

Dealing with the subject of interactivity on healthcare facilities' websites requires us to go back to the definition of several concepts to better frame our study and achieve a theoretically thorough analysis of the data collected in the field.

4.1 Public communication

This communication was first defined in relation to its object of application: public domain and the public space. It then underwent a great evolution since the assumption of the missions of public service and general utility. Its field of application has been extended to



institutions, companies, movements, and groups that intervene in the public space (Benlatreche, 2014, p8). It is from this moment that we started to speak about public communication, its scope, and its objectives.

There are many definitions of public communication, which reveals the importance that researchers attach to it. Martial Pasquier defines it as "the set of activities of public institutions and organizations aiming at transmitting and exchanging information with the main purpose of presenting and explaining decisions and public actions, promoting their legitimacy, defending recognized values and helping to maintain social links" (Pasquier, 2011, p43). For Pierre Zémor, the public communication is "the formal communication which tends to the exchange and the sharing of information of public utility, as well as to the maintenance of the social link, and whose responsibility falls to public institutions. Its aims are consequently the same as those of public organizations, namely: to inform (to make known, to give an account, and to make known), to listen (the expectations, the interrogations and the public debate), to contribute to ensure the social relations (feeling of collective belonging, consideration of the citizen as well as actor), and to support the changes in behaviour as well as social organizations « it focuses on public organizations. (Bessière, 2009, p18)

4.2. The public health organization

In a state governed by the rule of law and citizenship, public life is structured around institutions and organizations that all work to satisfy the needs and interests of both the state itself and the citizens. Indeed, by public organization, we mean any structure "instituted by a law (institution) or whose action is strictly governed by a legal framework. Its purpose is to satisfy the needs of citizens, and this, on the economic, social and security levels. In this context, Martial Pasquier in his book "public communication" has focused on four main criteria to characterize the public organization, including: status, objectives, tasks, and environment (Pasquier, 2011, p45).

- **The status of public organizations:** the public nature of an organization results from the fact that its conduct is the result of a political will accompanied by control or a high level of supervision by specific bodies (parliament, ministries, etc.). However, managerial freedom within these organizations remains very limited because of the primacy of rules and procedures over managerial choices.

- **The objectives of public organizations:** while private companies can prioritize their objectives according to profit, public organizations are often called upon to achieve complex and sometimes contradictory objectives, such as providing quality services, offering identical services throughout the country and close to the beneficiaries, etc.

- **The tasks of public organizations:** these must have a legal basis to allow public organizations to act legally. Moreover, it is to be specified that contrary to private organizations whose task is limited to the production of services and their provision, public organizations must elaborate public policies to satisfy collective needs.



- **The environment of public organizations:** public organizations are not subject to a competitive situation, as is the case for private organizations. Indeed, given its status, it is called to account to the political authority, to all its partners, to the media and finally to the population in general.

4.3 Interactivity:

The term interaction suggests, in its very meaning, the idea of a mutual action, in reciprocity. Applied to human relations, this notion forces us to consider communication as a circular process where each message and each behaviour of a protagonist acts as a stimulus on its recipient and calls for a reaction which, in turn, becomes a stimulus for the first. This is expressed in the notion of feedback, which focuses on bidirectionality, sharing and adaptation. It also implies co-presence and therefore refers to face-to-face situations. Interaction is not limited to verbal communication: any behaviour (attitudes, gestures, mimics, etc.), taking place in the presence of another person, induces in this other person a behaviour that will in turn influence that of the sender. (Baylon & Mignot, 2006, p193)

The *Grand dictionnaire de l'Office québécois de la langue française* defines interactivity as "the property of a computer program that allows the user to interact with the system by modifying the course of the program's content", so this "interactivity is materialized on the screen by menus and buttons that control the course according to the user's will. (Baylon & Mignot, 2006, p193).

Web interactivity allows today to access information through the non-linear paths of hypertextuality and hypermedia environments, to send messages available without hierarchical value and to perform collaborative actions on the web. Moreover, thanks to interactivity on the web, organizations can experiment telepresence, visualize distant places, act, and coexist in virtual and real spaces, circulate in intelligent environments thanks to a system of agents and finally interact with virtual communities in environments of self-organizing systems simulating life (Proulx, Seneca, & Poussant, 2006, p193).

With the first generations of Internet sites, those of the "web 1.0" (static) which only offered reduced possibilities of interactivity which were limited to the display and the hypertextuality which allowed the user to navigate from one link to another. Moreover, the distinction between producers and consumers is quite clear. Internet users expect to find on sites content that is adapted to their needs, understandable and useful, as well as effective and entertaining interaction. They can easily leave a site if they are not satisfied. Content producers, on the other hand, are concerned with reaching the largest possible audience. If content management systems have brought a notion of decentralization of the publication, they have not significantly modified the principle of interaction.

Web 2.0 or "social web" is marked by the arrival of social media, which profoundly modify the relationships between users, channels, and content. If users can simply read content produced by "institutional" issuers, they can also participate, like, comment, vote, transfer, and even publish their own content. Moreover, beyond the interactivity with the



content, the user can interact formally with other Internet users. (Charest, Alain, & Mimouni, 2015, p45).

To conceptualize interactivity, Heeter suggests six criteria containing proportions that define a degree of interactivity. (Heeter, 2000)

1. The complexity of optional choices that a digital technology contains;
2. The effort that the media requires of the user;
3. The adaptive response of the user;
4. The possibility of enriching the information;
5. The facilitation of interpersonal communication;
6. Control of use.

4.4 Healthcare organizations and interactivity

The development of digital technology (internet, media, and social networks, etc.) has just transformed the relationships between health professionals, managers, health structures and users of the sector. As it has been proven by several CIS research that have redefined the organization as a place open to stakeholder participation. Healthcare organizations and more generally the healthcare world is subject to constraints by the nature of their work, such as medical secrecy and health confidentiality. The integration of ICTs in the health field has allowed institutions to put information about their services online and to carry out awareness campaigns about different diseases through these digital tools. (Alemanno & Durampart, 2015, p36):

According to Ilaria Montagni, Will Stahl-Timmins, Lise Monneraud, Tobias Kurth, in their study entitled: "Digital Strategies for Disseminating Public Health Researchers" Findings to Decision Makers," examples of digital health communication range from shared medical records to tele-health applications to health websites and mobile applications and all other related ICTs. They define this digital health communication as, "the creation and use of digital techniques to exchange health messages and data among individuals, organizations, and communities to increase awareness, inform decisions, influence behaviours, and improve health outcomes. (Montagni, Stahl-Timmins, Mauneraud, & Kurth, 2019, p39).

This new communication approach facilitates access to practical information available at a distance for the public and patients. These platforms have also allowed patients to express their satisfaction or dissatisfaction with the quality of the care services offered. On this point, there is a break in the communicative continuity between patients and institutions, which do not offer the granularity, porosity, or info-communicative interface to consider the patient's need for exchange. Social media, in this case, open the functioning of organizations to modes of interaction that redefine the user as a contributor to the production of knowledge about the organization and its production (Alemanno & Durampart, 2015, p37). In this sense, health care institutions are using these social media to get closer to patients and allow them to access medical information that may be necessary and useful.

4.5 Interactivity to evaluate a website



During the first decade of the Web, several researchers have been interested in the problems related to the evaluation of Web sites. In their evaluation models, the authors have retained interactivity as one of the following four essential dimensions (Charest & Bedard, 2009, p114).

- **Content:** this concerns the elements of information (products or services) that must be shown on the screen. The question is to decide which information is the most appropriate. There are five types of information: facts, concepts, procedures, processes, and principles.

- **Structure:** Once the products or services have been defined and the relevant information has been gathered, the knowledge must be organized in such a way that customers can understand the information with a minimum of effort. Several structures are possible : hierarchical, networked or clustered.

- **Interactivity:** This element determines the navigational tools that allow customers to interact effectively with the system, including the various processes that facilitate information retrieval.

- **Presentation:** This element determines how information is presented on the screen (pixel size, background, logo, image, icons, colour, etc.)

4.6. Designing successful websites for organizations

Tim Berners-Lee defines the web as a global communication tool, free and accessible to all. It allows the public to confidently exchange information unfiltered by a moderator or an owner and to collaborate in solving common problems. This communication platform was created to promote dialogue between Internet users without intrusion, exclusion, or control by anyone on the new medium. In the early years of its existence, the web was used by business leaders as a powerful additional tool to market and sell their services to consumers. It is also considered as a distribution channel.

The first sites were designed according to a broadcasting logic (transmitter-receiver), and not a receiving logic (receiver-transmitter) or an appropriation logic in which the need for interactivity of the Internet users would have been considered. In the period from 1994 to 2000, researchers began to advise companies on how websites should be built to effectively reach consumers. With time and a better understanding of this new medium, its approach underwent a significant shift. It was found that the needs of Internet users had to be integrated into the systems by forcing consumers to adapt to these tools. The first step in the design of a site includes studies to analyse the needs of Internet users and the uses they make of the web. This needs analysis is very important to know the characteristics of the future users of a technological object and to widen the vision that we have of them. Among the characteristics of the Internet users that must be considered, there is the need for interactivity that Roger, as early as 1986 and then the proponents of appropriation, such as Kim and Lee, have dealt with extensively in their work. The latter consider interactive functionalities as one of the dimensions impossible to circumvent in any design of Web sites (Charest & Bedard, 2009, p137-138)



5. Presentation of the research data

Table 1. The multiplicity of optional choices

Categories		UHC Bejaia		UHC Tlemcen	
		Point	%	Point	%
The search engines	internal	1		-	
	external	-	50	-	0
Total		1		0	
Archives		1	100	1	100
Languages	Arabic	-		1	
	French	1		1	
	English	-	33,33	-	66,66
Total		1		2	
Multimedia	Images	1		1	
	Sounds	-		-	
	Videos	1	66,66	1	66,66
Total		2		2	
Hypertext links	Internal	1		1	
	External	-	50	-	50
Total		1		1	
Form control	Color	-		-	
	Character	-	0	-	0
Total		0		0	
The overall total of the dimensions		6	41,15	6	41,15

Source: the current study.



The table represents the different categories of the size of the choice that can be offered to the visitors of the sites:

- The search engines allow to list and access directly to the concerned parts via a keyword introduced by the user. This tool is available on the website of the University Hospital of Bejaia and allows users to search within the site that has obtained 1 point out of 2 for a percentage of 50%. This tool is not available on the UHC of Tlemcen.

- The languages used by the sites: it is an essential element for an electronic site which must be opened on the universal community with its initiated and broad public and resulting from different levels of instruction. For this, it must address to its audiences using several languages. For the site of UHC of Bejaia which obtained 1 point on 3 marks allotted to this sub-category, because the site addresses its public only in French. On the other hand, the site of UHC of Tlemcen puts at the disposal of the Net surfers a bilingual content French and Arabic, at the level of the heading "news". For that, it obtained a note of 2 on 3 with a percentage of 66,66 %.

- Multimedia: is a characteristic of the new communication via Internet. It allows organizations to take advantage of features and disseminate content in several forms (text, sound, video, images, etc.). At this level, the sites of both institutions have obtained 2 out of 3 points that have been attributed to this criterion, with a percentage of 66.66% for each.

- Hypertext links: there are two types, the first is composed of internal links that present an easy gateway to the internal pages of the site, or to other sites that are part of the establishment concerned to enrich the general content of the site. The second type is composed of external links that lead to external sites and that were not used by the sites of the two establishments in our study that obtained 1 point out of 2 for each.

- For the control of the form by the user, we find that this option is absent on the two analysed sites. The latter do not allow the user to change or adapt the colour and even the size of the characters.

- For this dimension of choice, the two websites scored 6 points out of 13, with a percentage of 41.15%, which reflects that the choice is not really offered to the users to master or select the options and the content according to their needs and intellectual abilities.

Table 2. The effort that the media requires from the user:

Categories	UHC of Bejaia		UHC of Tlemcen	
	Point	%	Point	%
Update	1		1	
Speed	1	100	1	80
Use of social networks	1		-	
Site components	1		1	



Description of the establishment	1	1
Total	5	4

Source: the current study.

The updating made possible by the Internet is both a great communication opportunity and a heavy organizational requirement in complex structures such as health care institutions. The "news" section is specific and must be updated according to the events that concern each institution. The two establishments provide this section and therefore obtained 1 point for this category.

According to the table, we can see that the reception of information is ensured to 100% by the site of UHC of Bejaia and to 80% from that of Tlemcen which does not use social networks to disseminate information.

These data show us the importance given by the two establishments to the updating of information to allow users (patients and public) to remain informed of any news in the health field. In the case of the UHC of Bejaia, the use of the RSN shows the communicational approach of this establishment which seeks to be in the various digital spaces and to touch the users of these spaces.

Table 3. The adaptive response of the user

Categories	UHC of Bejaia		UHC of Tlemcen	
	Point	%	Point	%
Human response	1		1	
Robotic response	1		1	
On-site help services	1	66 ,66	1	66,66
Error notification	-		-	
Total	3		3	

Source: the current study.

Interaction requires the exchange and handling of the concerns of the patients using the websites in an instantaneous way as the Internet allows. In fact, as the table shows, the two UHC websites obtained 3 out of 4 points for this dimension, as they provide users with applications that allow communication and respond to their concerns in an automatic or personal way; we can see in this stage that the communication between the organizations and their audiences is bidirectional based on exchange and sharing.

Table 4. The possibility of enriching the information

Categories	UHC of Bejaia		UHC of Tlemcen	
	Point	%	Point	%



Polls	-	-
Comments	-	-
Blogs	-	-
Announcements	-	-
Visitor logs	28,57	0
Information sharing	1	-
Likes	1	-
Global total	2	-

Source: the current study

The interactivity, as already mentioned, is the participation of users through several tools and applications. For this dimension, the website of the CHU Bejaïa has achieved 2 out of 7 points, given the possibility of sharing information and that of the "likes" it offers. It should be noted that these features are available through social networks. The website of the University Hospital of Tlemcen does not offer any social network encouraging the patient to participate or to give his opinion.

Table 5. Facilitation of interpersonnel communication

catégories	UHC of Bejaia		UHC of Tlemcen	
	point	%	point	%
Of the institution	1		1	
E-mail Of Doctors or services	1	66,66	1	66,66
Other useful emails	-		-	
Total	2		2	
Discussion forums	-	0	-	0
Direct phone	1	100	1	100
Social networks	1	100	-	0



Messaging	1	100	-	0
The overall total for the dimension	5	71,43	3	42,86

Source: the current study

For this table that presents the results of another dimension of interactivity, which aims to analyse the availability of tools and applications facilitating and promoting personal communication, such as email a criterion that the study has assigned a score of 3, the CHU of Bejaïa has obtained 2 points since it offers the email addresses of the institution and its components, as well as those of doctors and specialists.

For its part, the site of the University Hospital of Bejaia obtained a score of 5 out of 7, while the website of the University Hospital of Tlemcen obtained only 3 because it does not have enough applications dedicated to personal communication such as forums.

The management of the two institutions studied have understood the importance of diversifying the digital tools that allow the public in general and patients to stay in contact with the institution. The availability of the institution's contact information (telephone, email, social networks) and the emails from doctors or departments on the websites demonstrate the willingness of management to facilitate contact with patients. This approach aims to comply with the requirements of social responsibility and aims to create a climate of trust with patients.

Table 6. The control of the use

Categories	UHC of Bejaia		UHC of Tlemcen	
	Point	%	Point	%
Cookies	-		-	
Inscription-		0	-	0
Total	0		0	

Source: the current study

The monitoring and control of the number and characteristics of the visitors are absent on both sites, for which both sites have not obtained any points for this dimension which should be taken into consideration to improve the interactivity of these sites.

From the data obtained, we can see that the interactivity through the websites of UHC of Bejaia, as well as the UHC of Tlemcen is limited. This is explained by this table:

Table 7. Represents all the dimensions of interactivity

The dimensions of interactivity	The points of the scale	The site of UHC of Bejaïa	The site of UHC of Tlemcen	Total of points	%
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The multiplicity of optional choices	13	6	6	12	46,15
The effort that the medium requires of the user	5	5	4	9	90
The adaptive response of the user	4	3	3	6	75
The possibility of enriching the information	7	2	0	2	14,29
Facilitation of interpersonal communication	7	5	3	8	57,14
Control of use	2	0	0	0	0
Total	38	21 55,26%	16 42,11%	37	48,68

Source: the current study

The table shows the total of the two websites that achieved 48.68% interactivity with 37 points out of the total points of the scale which is 76 (38×2) for both sites, which means low interactivity.

For the multiplicity of optional choices, both sites achieved 46.15%, as they do not offer enough choices for the visitors.

For the effort that the medium demands from the user: the analysed sites obtained a percentage of 90%. This is a high result that reflects the availability of tools and applications related to this dimension, such as social networks, speed, description of site components, etc.

For the adaptive response of the user, both sites obtained 75%, given the means offered on both sites that facilitate direct communication between the institution and users.

6. Conclusion

This study reveals the importance of digital technology in the field of public health. The functionalities and options offered by these innovant devices constitute advances in the communication of public health establishments in Algeria testifying to the will of managers to modernize their communication approach.

According to this study which was devoted to the analysis of interactivity on the websites of two public health organizations. There are dimensions of interactivity that are respected in a partial way by the two websites, object of the study, such as the possibility of enriching the information, an option absents on the UHC of Tlemcen website , as well as the last dimension of the Heeter scale which is the control of the use which is not available in the two studied sites.



For the possibility of enriching the information, the two sites of this study obtained 14.29%, thanks to the use of social networks on the part of the UHC of Bejaïa website, which allows users to share or mention the publications of the site, an option that is absent on the site of UHC of Tlemcen

Regarding the interpersonal communication, both sites obtained 57.14% for this dimension, the applications of this communication are much more offered on the site of UHC of Bejaïa and less used by that of Tlemcen.

The last dimension which is the control of the use is absent for the two studied sites.

For this, public health organizations are forced to take advantage and exploit the capabilities and characteristics of the web, particularly interactivity, which allows any organization that takes it into consideration to be close to its public.

For them, being interactive is synonymous with ensuring proximity with patients seeking to understand their needs, the option of online appointment booking offered on the site of UHC of Bejaïa gives users the opportunity to book an appointment remotely for the following examinations (mammography, MRI, or ultrasound), with the option of downloading the prescription in the form of an image or a PDF file, or Word offers to the patients. These possibilities offered facilitate the procedure to users, especially the elderly.

Different information that can be searched by the user-patient is available on the website of each institution, such as consultation tables, contact information of specialists including their email addresses, etc. The creation of blogs or forums to discuss health issues either in a specialist-led way or among patients themselves can provide a space for information exchange but can also morally help, with experience sharing.

7. Bibliography

- ALEMANNO PARINI Sylvie, & DURAMPART, Micheal (2015), *Transformations des organisations de santé à l'heure des médias sociaux, organisations digitales*, l'HARMATTAN, Paris .
- AMBROSINI Claudia Felten (2018), *La communication hospitalière publique à l'ère digitale*, Sciences de l'information et de la communication, Université Côte d'Azur.
- BAYLON Christian, & MIGNOT Xavier (2006), *La communication*, Armand Colin, Paris.
- BENLATRECHE Leila, (2014), *communication publique en Algérie entre professionnalisme et reconnaissance*, *revue des Sciences Humaines, Constantine, A*, pp. 7-16.
- BESSIERE Dominique (2009), *la définition de la communication publique: des enjeux disciplinaires au changement de paradigme*, (p. u. bordeaux, Éd.) *Communication et organisation*, 35, p14_28 , sur : <http://communicationorganisation.revues.org/286>, (Consulted on 06/16/2018).



- CHAREST Francis & BEDARD François (2009), *Les racines communicationnelles du web et des médias sociaux* (éd. 2ème édition), la presse de l'université de Québec, Québec.
- CHAREST Francis., LAVIGE Alain, & MIMOUNI Charles (2015), *Médias sociaux et relations publiques*, Presse de l'université de Québec, Québec.
- HEETER Carrie (2000), *Interactivity in the contents of disigned experiences.*, sur jiad.org: <http://www.jiad.org/article2.html>, (Consulted on 01/02/2019).
- MERAH Aissa & AHMEDI Dalila (2018), Communication médicale et marketing social de santé publique en Algérie -le cas des maladies non transmissibles-, in *Santé publique et communication* (pp. 47-58), L'Harmattan, Paris.
- MONTAGNI Ilaria, STAHL-TIMMINS Will., MAUNERAUD Lise, & KURTH Tobias, Stratégies numériques de diffusion auprès des décideurs, des resultats des chercheurs en santé publique, *Les enjeux de l'information et de la communication*, n°20/2, 2019, pp. 27-42, in : <https://lesenjeux.univ-grenoble-alpes.fr/2019/dossier/02-strategies-numeriques-de-diffusion-aupres-des-decideurs-des-resultats-des-chercheurs-en-sante-publique>, Consulted on (04 /01/ 2021).
- PASQUIER Martial (2011), *Communication publique*, de boeck, Bruxelles.
- PROULX Serge, SENECA Michel, & POUSSANT Louise (2006), *communauté virtuelle, penser et agir en réseau*, la presse de l'université de lavale, Québec.