



# A Usability Assessment of Pakistani Universities/Institutions Websites

By Muhammad Shahid Khan & Muhammad Abid Khan

*Gandhara University, Pakistan*

*Abstract* - Websites are playing a very important role in field of information Technology. Usability is also of much importance in exploring the websites. The objective of this paper is assessing the usability of the websites of the Pakistani Universities and giving the idea of developing the websites of the universities/institutions fulfilling the user needs. Different parameters were analyzed in light of usability in the websites of different universities in Pakistan. It was evaluated that these universities websites have the errors in the parameters not following the rules of usability. The usability of websites of different universities/institutions of Pakistan can be improved applying the one rule for every factor so that the user can encounter every task easily with no tedious effort and confusion. These rules of usability should be announced by the government and the universities should be limited in these rules to facilitate the fresh and experienced users.

*GJCST-E Classification* : K.4.0



A USABILITY ASSESSMENT OF PAKISTANI UNIVERSITIES INSTITUTIONS WEBSITES

*Strictly as per the compliance and regulations of:*



RESEARCH | DIVERSITY | ETHICS

# A Usability Assessment of Pakistani Universities/Institutions Websites

Muhammad Shahid Khan<sup>α</sup> & Muhammad Abid Khan<sup>ο</sup>

**Abstract** - Websites are playing a very important role in field of information Technology. Usability is also of much importance in exploring the websites. The objective of this paper is assessing the usability of the websites of the Pakistani Universities and giving the idea of developing the websites of the universities/institutions fulfilling the user needs. Different parameters were analyzed in light of usability in the websites of different universities in Pakistan. It was evaluated that these universities websites have the errors in the parameters not following the rules of usability. The usability of websites of different universities/institutions of Pakistan can be improved applying the one rule for every factor so that the user can encounter every task easily with no tedious effort and confusion. These rules of usability should be announced by the government and the universities should be limited in these rules to facilitate the fresh and experienced users.

## I. INTRODUCTION

Usability is an eminence element that analyzes how the interfaces are easy to use for the user. The following components can easily define the usability [1].

- Learnability is related with encountering the design for the first time; it will be simple for the users to perform the essential tasks.
- Efficiency is how rapidly a user can encounter the different tasks after learning the design.
- Memorability is to which extent the user has the ability to perform different tasks easily which he had encountered few years ago.
- Errors are how many mistakes made by the user, how rigorous they are and how easy they can be recoverable.
- Satisfaction is to what limits the design is satisfying?

Usability has much importance in the web e.g. if the website is designed so that a user is feeling comfortable to accomplish different tasks he wants and he is aware of the current location in the website (where he is in website now), so it is good, otherwise he will be confused and will never visit this website.

### a) Logo

On every page, there should be placed a logo of the organization at a constant place (top left corner), so

that the user is confident about himself that he is searching the same site to which he has entered some time ago [2].

### b) Title

Title/Name should be placed on every page and there should be a link on it [3].

### c) Search

On all pages of the website, there should a search option so that the users need not to go to the home page to search the specific word or topic [4].

### d) Breadcrumbs

It cannot be expected from the user for using the breadcrumbs efficiently. The competence of the navigation can be increased by using the breadcrumbs in effective way and directions will be provided to the users visiting the website [5].

### e) Visited and Unvisited Links

There should be the proper colors for the visited and unvisited links. A link should be of specific color (blue) before it is visited and its color should be changed to another color (purple) to assist the user to notify him the visited and unvisited links [6].

### f) Avoid Scrolling Horizontally

There should be a proper layout of the page so that the user can get rid of scrolling horizontally. Scrolling horizontally is the time consuming and boring process for the user for viewing the whole contents of the screen [7].

### g) Back button is disabled

Different websites have different links that open the new window and when they are opened by the user, the back button is found disabled and the new opened windows have no information about the past navigation of the user [8].

### h) Font Size

The font size in the websites should be at least 12pts [9]. The older persons of 65 years age and above are elder (ages 65 and older) are the fastest emergent on the net and 43% older persons face problem as compared to the young persons [10].

### i) Typeface

There should be the two font style i.e. Verdana or Arial and the Verdana font style is preferred and is linked on all the pages of the website. This font style can

Author <sup>α</sup> : Gandhara University, Peshawar, Pakistan.  
E-mail : shahidkhan123@gmail.com

Author <sup>ο</sup> : University of Engineering & Technology, Peshawar, Pakistan. E-mail : engrabid08@gmail.com

be used in the whole website to increase the efficiency of the website [11].

j) *About US*

The About us section is visited by the users to know about the university/Institution website to decide about believing him. It has been surveyed that the sites and mission, and decide whether to trust the

1. *Quaid E-Azam (http://www.qau.edu.pk/)*

S. No.	Parameters	Yes	No
1	Logo	Yes (But hidden on linked pages)	
2	Title	yes	
3	Search		No
4	Breadcrumbs	yes	
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	yes	
8	Font Size	yes	
9	Typeface	yes	
10	About us used for org. info		No option available
11	Site Map	yes	

In accordance with the different rules and searching for these rules in the website of the above mentioned institution, it has been taken in the consideration.

The monogram of the institution is present on the home page at its proper place (top left corner), but when the website was further navigated, there is missing of the monogram on the top left corner of linked pages. The title of the site is present on the home page as well as on the linked pages at the top of the page but the link is not available on this title.

According to the rules, there should be a search option on the top right side of the page on the home page as well as on the linked pages, but after searching that site, there is no search option on the home page and the linked pages.

The breadcrumbs are creating step by step in the site when this site is further visited.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be able to visit further links by clicking on the enabled back button.

organization. Our studies show that companies neglect vital prospect to join with users through the portal [12].

k) *Site Map*

Site maps are used in different websites supplying the summary of the whole website. It provides the tree structure of the website [13].

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

As according to the rules, there should be an "About Us" option in which there will be the information about the organization/institution, but after visiting the site of that institution, it has been noticed that there is no "About Us" option present on the page.

The "Site Map" is present on the page of the site which shows all the contents of the site in hierarchy structure, so by clicking on the "Site Map", it will be helpful for the user to see that what contents this site involves.

2. *PIEAS (http://www.pieas.edu.pk/)*

S. No.	Parameters	Yes	No
1	Logo		No
2	Title	yes	Link not available
3	Search		No
4	Breadcrumbs		No
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	yes	
8	Font Size	Yes	
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map		No

The monogram of the institution is not at the proper place (top left corner).

The title is available on the home page and on the linked pages but the link is not available on this title.

According to the rules, there should be a search option on the top right side of the page on the home

page as well as on the linked pages, but after searching that site, there is no search option on the home page and the linked pages.

There is no creation of the breadcrumbs when the site is further explored.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far. There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally. When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be able to visit further links by clicking on the enabled back button.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site. The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

“Site Map” is not present which can lead to confusion for the user because the “Site Map” provides the contents of the website in tree structure from which a user can estimate that what the contents it involves in less time.

3. *Aga Khan University, Karachi (http://www.aku.edu/Pages/home.aspx)*

S#	Parameters	Yes	No
1	Logo	Yes	Not a Top left
2	Title	yes	
3	Search	Yes	
4	Breadcrumbs	Yes	
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	Yes	
8	Font Size	Yes (12)	
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map	Yes	

The monogram of the institution is not at the proper place (top left corner).

The title is available on the home page and on the linked pages.

The search option in this site is present on its proper place (top right corner) following the rule which is assistive for the experienced and fresh users to search all the contents of the website which he wants to search by saving precious time.

all the contents of the website which he wants to search by saving precious time.

The breadcrumbs are creating step by step in the site when this site is further visited.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be able to visit further links by clicking on the enabled back button.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is present on the page of the site which shows all the contents of the site in hierarchy structure, so by clicking on the “Site Map”, it will be helpful for the user to see that what contents this site involves.

4. *University of Agriculture, Faisalabad (http://uaf.edu.pk/new/default.aspx)*

S#	Parameters	Yes	No
1	Logo	Yes	Not a Top left, Link
2	Title	yes	Link not available
3	Search		No
4	Breadcrumbs		No
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	Yes	
8	Font Size	Yes (12)	
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map		No

The monogram of the institution is present on the home page but is not on its proper place (top left corner) and is not available on the linked pages.

The title of the page is available but there is no link available on the title.

According to the rules, there should be a search option on the top right side of the page on the home

page as well as on the linked pages, but after searching that site, there is no search option on the home page and the linked pages.

There is no creation of the breadcrumbs when the site is further explored.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be able to visit further links by clicking on the enabled back button.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is not present in the site to assist the user to see the contents of the website in less time.

5. *University of the Punjab, Lahore* (<http://www.pu.edu.pk/>)

S#	Parameters	Yes	No
1	Logo	Yes	Link
2	Title	yes	Link not available
3	Search	Yes(without no text field)	No
4	Breadcrumbs	Yes	
5	Visited & unvisited Link	Yes(proper color)	No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	Yes	
8	Font Size	Yes	
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map	yes	

The logo is present on the home page at top left corner but the link on it is not available.

The title of the page is available but there is no link available on the title.

After visiting this website it has been noticed that there is a search option present on the home page

as well as on the linked pages but it is wonderful to see that only the “search” text is present and there is not text field present beside it but when the search text is clicked, the search text field appears.

The breadcrumbs are creating step by step in the site when this site is further explored.

The non visited links appear blue as and when these links are visited, they also change color from blue to another color rather than a purple as according to the rules.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be able to visit further links by clicking on the enabled back button.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is present on the page of the site which shows all the contents of the site in hierarchy structure, so by clicking on the “Site Map”, it will be helpful for the user to see that what contents this site involves.

6. *National University of Sciences and Technology (NUST)* (<http://www.nust.edu.pk>)

S#	Parameters	Yes	No
1	Logo	Yes	
2	Title	yes	Link not available
3	Search	Yes	
4	Breadcrumbs	Yes	
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	Yes	
8	Font Size	Yes	
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map		No

The monogram of the institution is at the proper place on every page.

The title is available on the home page and on the linked pages but a link on it is not available.

The search option in this site is present on its proper place (top right corner) following the rule which is assistive for the experienced and fresh users to search all the contents of the website which he wants to search by saving precious time.

The breadcrumbs are creating step by step in the site when this site is further visited.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be able to visit further links by clicking on the enabled back button.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is not present in the site to assist the user to see the contents of the website in less time.

7. *Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (http://www.uaar.edu.pk/)*

S#	Parameters	Yes	No
1	Logo	Yes	
2	Title	yes	
3	Search		no
4	Breadcrumbs	Yes	
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	Yes	
8	Font Size	Yes (12)	10,11
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map		No

Both the logo and title are present, the logo is at its proper place having a link on it but the title has no link on it.

According to the rules, there should be a search option on the top right side of the page on the home page as well as on the linked pages, but after searching that site, there is no search option on the home page and the linked pages.

The breadcrumbs are creating step by step in the site when this site is further visited.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was

noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be able to visit further links by clicking on the enabled back button.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is not present in the site to assist the user to see the contents of the website in less time.

8. *University of Health Sciences, Lahore (http://www.uhs.edu.pk)*

S#	Parameters	Yes	No
1	Logo	Yes	Link not available
2	Title	yes	Link not available
3	Search		No
4	Breadcrumbs		No
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable		No
8	Font Size	Yes (12)	10,11
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map	Yes	

Both the logo and title are available but there is no link available on it.

The search option is also not present and breadcrumbs are also not creating in the website of this institution.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

The back button in this site became disabled when further navigation is encountered which is

problematic for the user because a new window is opened for each navigation and the user cant go back by clicking on the back button which became disabled.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is present on the page of the site which shows all the contents of the site in hierarchy structure, so by clicking on the “Site Map”, it will be helpful for the user to see that what contents this site involves.

9. *COMSATS Institute of Information Technology (CIIT), Islamabad <http://www.ciit.edu.pk/>*

S#	Parameters	Yes	No
1	Logo	Yes	Link not available
2	Title	Yes	Link not available
3	Search		No
4	Breadcrumbs		No
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable		No
8	Font Size	Yes (13)	10,11
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map		No

In the website of this institution, the logo and title both are present but the link is not available on both of them. The search option and breadcrumbs are also not available in this site.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

The back button in this site became disabled when further navigation is encountered which is problematic for the user because a new window is opened for each navigation and the user cant go back by clicking on the back button which became disabled.

The font size is at least 12pts according to the rules which is assistive for the aged people using that site.

The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is not present in the site to assist the user to see the contents of the website in less time.

10. *Lahore University of Management Sciences, Lahore (<http://www.lums.edu.pk/>)*

S#	Parameters	Yes	No
1	Logo	Yes	
2	Title	Yes	
3	Search	Yes	
4	Breadcrumbs	Yes	
5	Visited & unvisited Link		No
6	Avoid Scrolling horizontally	yes	
7	Back button enable	yes	
8	Font Size	Yes	
9	Typeface	yes	
10	About us used for org. info	yes	
11	Site Map	yes	

The monogram of the institution is at the proper place on every page

The title is available on the home page and on the linked pages.

The search option in this site is present on its proper place (top right corner) following the rule which is assistive for the experienced and fresh users to search all the contents of the website which he wants to search by saving precious time.

The breadcrumbs are creating step by step in the site when this site is further visited.

When the site was visited for surveying the colors of the visited and non visited links, it was evaluated that the when the links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

The links were navigated for further searching and was back to that link, it was noticed that the color of the visited link was not change to purple which is a big fatigue for the user using the site because he will not be aware of himself that which part of the site he has visited so far.

There is no horizontal scrolling in the website and the user is free of tedious effort to scroll horizontally.

When the site was checked for the back button, it was evaluated that when the different links were visited in the site, we were able to go back (the back button is enable) and the linked contents do not open in the new window, so the user will feel comfortable to use that site and will be enable to visit further links by clicking on the enabled back button.

The font size is at least 12pts according to the rules which is assistive for the aged people using that

site. The typeface in the site used is Verdana and Arial as in the rules.

“About us” is present in the site providing the information of the Institution.

The “Site Map” is present on the page of the site which shows all the contents of the site in hierarchy structure, so by clicking on the “Site Map”, it will be helpful for the user to see that what contents this site involves.

## II. CONCLUSION

After detailed study of the websites of different universities/institutions, it has been concluded that most of the institutions/universities do not follow the web usability rules due to which the users (fresh & experienced) face different problems exploring these sites and also a time consuming process. When the user visits a site which has no usability rules became bored in the first time of the exploring and never visits this site again. Different universities/institutions must follow the usability rules to facilitate the user in encountering different tasks which leads to time consuming free exploring tasks. Different parameters were analyzed in light of usability in the websites of different universities in Pakistan. It was evaluated that these universities websites have the errors in the parameters not following the rules of usability. The usability of websites of different universities/institutions of Pakistan can be improved applying the one rule for every factor so that the user can encounter every task easily with no tedious effort and confusion. These rules of usability should be announced by the government and the universities should be limited in these rules to facilitate the fresh and experienced users.

## REFERENCES RÉFÉRENCES REFERENCIAS

1. Jacob Nielsen's Alertbox: January 4, 2012. <http://www.nngroup.com/articles/usability-101-introduction-to-usability/>
2. <http://guidelines.usability.gov/guidelines/154>
3. <http://www.nngroup.com/articles/ten-good-deeds-in-web-design/>
4. <http://guidelines.usability.gov/guidelines/189>
5. <http://guidelines.usability.gov/guidelines/78>
6. <http://guidelines.usability.gov/guidelines/98>
7. <http://guidelines.usability.gov/guidelines/79>
8. [www.usability.gov/guidelines/guidelines\\_book.pdf](http://www.usability.gov/guidelines/guidelines_book.pdf)
9. <http://www.nngroup.com/articles/let-users-control-font-size/>
10. <http://www.nngroup.com/reports/senior-citizens-on-the-web/>
11. <http://webstandards.hhs.gov/standards/10>
12. <http://www.nngroup.com/reports/about-us-presenting-company-information/>
13. <http://guidelines.usability.gov/guidelines/76>