DOES THE FORM OF TEXT PLAY A ROLE IN CLICK THROUGH THE BUTTON ON WEBSITES?

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Abstract: Internet usage, clicks through the website elements and search for information on the websites has become common part of our daily life. Understanding how users move and behave on websites is crucial for maximizing conversions and designing the layout of any website. The goal of this study is to find out whether the form of the text in the button plays the role and influence click-through rate of the selected elements. There were tested text links and text in buttons. There were tested various forms of the text – verb in the polite form of address, verb in the informal form of address, the call to action in form of the noun instead of the verb. Results of the study show whether the text in buttons influences the click-through rate of these buttons, the results of the other part show how users interact with various elements.

Keywords: Human-computer interaction, user interface, website ergonomics, website usability

JEL Classification: M31

INTRODUCTION

Call to action (CTA) stands for the desired action on the website. As one of the key performance indicator of the website components can be click-through rate which says how people were attracted by the CTA, whether CTA is relevant and whether the website component is well made from usability and graphic design point of view. Call to action can be form of the text, symbol, picture or other graphics. In the most cases they are in the form of hypertext link, banner or button. The present study explores factors which influence the click-through rate of the elements on the websites. There was tested text in buttons and measured whether the form of the text influences click-through rate or not. There were tested various forms of the text – verb in the polite form of address, the verb in the informal form of address, the call to action in form of the noun instead of the verb.

1. LITERATURE REVIEW

One of the first research of computer interaction and software usability is the study from John Gould and Clayton Lewis which is investigating the importance of the end-user presence during the development of the software and applications (Gould, 1985). In 1990s thousands of web usability guidelines were written and about 80 % of findings and insights from these studies continue to hold and they are still valid (Nielsen, 2007). Jakob Nielsen, leading expert in user experience and usability testing, published in 1990 his study where he investigated an ideal number of testers in accordance with the uncovered problems and costs of testing (Nielsen, 1990). Steve Krug made the importance of the usability testing more visible by his book „Don't Make Me Think", where he described how managers, developers, and owners of the websites should approach to the website projects (Krug, 2000). Usability testing of the websites and applications becomes major part during the development process, but also after launching even small changes on existing websites. In 2003 book Observing the User Experience was published, where the author Mike Kuniavsky looked into the right usability testing procedure (Kuniavsky, 2003). Sauro and Lewis came up with the book Quantifying the User Experience in which they work with the usability testing findings like with the inputs to advanced statistical methods (Sauro, 2016). With the website design is a closely connected feeling which users have after coming on the websites. Some part of the feeling is

influenced by the design of the units on the websites, whether there is three dimensional or flat design used.

1.1 Three-dimensional Design vs. Flat Design and minimalism

Three-dimensional effects give users an illusion of depth, which helps see visual hierarchy and better see and understand which elements are static and which are interactive. In general, people got used to the following visual design: 1. Elements which appear raised look like they could be pressed down. This type of buttons is visible also in public transportation etc. 2. Elements that appear sunken or hollow look like they could be filled. This type of elements is often used as a signifier for input fields (e.g. textbox, search field, reply box etc.).

Flat design is nowadays often used and popular style which is defined by the absence of three-dimensional website elements and 3D visual effects. Flat design is considered as a reaction to skeuomorphism design which can be defined as an object that has unnecessary, ornamental design features that mimic a real-world precedent and intend to help users understand how to use a new interface by allowing them to apply some prior experience and knowledge about that precedent (Moran, 2015).

With flat design are unfortunately connected also some usability issues (bad visibility of clickable elements etc.) and sometimes flat-designed websites tend to sacrifice users' needs for the sake of trendy aesthetics. Nowadays users are better at detecting linked elements than before, but even though in long-term exposure to flat clickable elements has been noticeable user efficiency reduction by complicating users' understanding of what is clickable and what is not. And the recognition of clickable elements with important call-to-action is for business and for the successful meeting of the goal absolutely crucial (Moran, 2017).

Usability issues within flat design were proved for example in the experiment which was done in 2017 by Kate Moran. There was conducted a quantitative experiment using eye-tracking equipment and desktop computer. 9 web pages were taken and modified. Nearly two identical versions of each page, with the same layout, content and visual style were created. These two versions differed only in the use of strong, weak, or absent signifiers for interactive elements (buttons, links, tabs, sliders etc.). 71 general web-users were recruited and to each participant was shown one version of the 9 sites and one task for that page was given. Eye movements of the participants were tracked and the number of fixations, as well as the task time, were measured. The average amount of time and the average number of fixations were significantly higher on the weak-signifier versions than the strong-signifier versions. On average participants spent 22 % more time looking at the pages with weak signifiers and had 25 % more fixations on the pages with weak signifiers. More time and effort spent looking around the page are not good. The weak-signifier across the page also caused that people had to look around more and it changed also user gaze patterns (Moran, 2017).

The other study tested the impacts of two clickability cues (depth and color contrast of the buttons) on a users' ability to find and click on the button. 20 participants were asked to find and click on the call-to-action button on various websites while their gaze was tracked with an eye tracker. A post-hoc pairwise comparison showed that participants fixated on the button significantly faster when contrast was present than when contrast was absent and post-hoc independent samples t-test revealed that when contrast was absent, participants fixated on the AOI faster when depth was present than when depth was absent (Lucaites, 2017).

It is advised to have a balanced approach and if designers or managers want to design flat design look, it is necessary to keep in mind what is important for users than what is managers' or designers' taste and desire.

1.2 Clickable Elements

Clickable elements must retain sufficient cues to suggest clickability. Signaling clickability with cues such as text, color, size, shape, borders and placement can give interactive components the proper look. As Nielsen Norman Group says: "People treat clicks like currency and they don't spend it frivolously" and "life is too short to click on things you don't understand" (Loranger, 2015).

One of the most important factors in attracting clicks is the link text quality. The link text should be unique, descriptive, start with keywords and contain call-to-action text. The most helpful link text describes the page that's being linked to and start with the most important words. High-quality text links help users improve page scannability and thus the orientation on the page is much easier for the users. According to the eye-tracking research done by Jakob Nielsen in 2009, the first 2 words and their meaning is the main signal for the scanning eye (Nielsen, 2009). By typical clickability elements are meant text links, buttons, symbols or icons, images or graphics.

The most traditional cue for hyperlinks is text link. The blue color is the safest link color, meanwhile, other colors work just as well as long as the links are visible in the body text. If there is no particular reason to prefer another color, it is still recommended to have blue text links as the safest choice. The position of text links can help you determine whether or not underlining is necessary. The navigation menu and lists do not require underlining, because already their locations and purpose identify them as links. The designers and managers must be aware of the fact that the static items should not have the same color as hyperlinks, and it is not recommended to use blue text or underlined text for non-clickable items and text links should be consistent throughout the whole website (Loranger, 2015).

Buttons, symbols and icons are the most popular forms of link text nowadays. These elements should at least remotely resemble physical items from the real world. In order to be recognizable, these clickable elements must keep the right visual design to trigger the right, quick and accurate association. Interactive components in flat design should look clickable even without effects such as grafients and shadows. Non-clickable items should not look like the buttons and confuse peoples' mind. If there are too many clickable elements people could have difficulty picking out the right one (especially, when similar-looking items compete each other). If there is not a really strong resemblance shape or an icon that has become standardly used, it is recommended to be always combined with other visual sign, such as a text label. Sometimes icons added to buttons or other clickable visual items, especially in flat design, help people to indicate clickability (Loranger, 2015).

Using images and graphics as clickable elements can be confusing (especially, when they are not part of some whole component (e.g. tile)). It is highly recommended to make all elements that are associated with each other clickable. There is bigger probability of capturing intended clicks by this way (Loranger, 2015). In order to capture more clicks and to make clear that image or graphics is clickable, it is good to use mouseover effect and effect when image or graphics is clicked (e.g. change color or zoom in an image or graphics after mouseover or enlarge image when clicked).

2. METHODOLOGY

In this study quasi-experiments on three webpages on the websites of Faculty of Business Administration were conducted. Research consists of finding the optimal type of text link from the click-through rate point of view and whether form of the text influences clickthrough rate. In quasi-experiments, we tested click-through rate of the text links and text in buttons. The following hypothesis was set: H1: Clickthrough rate of buttons on the website is independent on the text of the buttons. H2: Clickthrough rates of highlighted buttons are equal to click-through rates of paragraph headings. There were used heatmaps analysis and scroll-maps analysis in this study. Hotjar heatmaps, which were scanning the behavior of the users, were set on 3 webpages. Analyzing of the hits through the buttons on google tag manager and google analytics was set on the webpages. Three types of the text were tested (verb in the polite form of address, the verb in the informal form of address, the call to action in form of the noun instead of the verb). We also studied the relation between clickable links in form of highlighted buttons and plain headings.

Respondents in our quasi-experiments were all the visitors of the websites fph.vse.cz/uchazeci/bakalarske-studium/, fph.vse.cz and of the website myfph.cz/uchazec/ (visitors who immediately left the websites without doing any action were excluded). Respondents were between 18 and 34 years old in most cases (80 % of the respondents). Respondents were from the Czech Republic in most cases (90 % of the respondents). Gathered data were analyzed using statistical methods. As most of the data at our disposal are categorical, and in a lot of analysis our aim was to find dependence/independence of certain web page elements on their change, given differently by each quasi-experiment. Main statistical tool we used was Pearson chi-square statistics (Hebák, 2015) to test our hypothesis. Statistical analyses were performed using statistical programing language R - R core team (R Core Team, 2018) and results were interpreted using 5% level of significance.

2.1 Base Characteristics

An important part of our quasi-experiments deals with the perception of web page by its users. Modern web pages use fluid structures that allow them to adapt for different screen size and its resolution. This causes substantial changes in the appearance and design of the web page according to the used device. Because of that, it's common to distinguish 3 basic types of devices that are being used for viewing web pages – phones, tablets and desktops.

In our quasi-experiments we use data about behavior of users from phones and desktop. Tab. 1 shows basic long-term characteristics of visitors to website https://fph.vse.cz/. Low representation of visitors from devices in the tablet group led us to exclusion of that group from our quasi-experiments. The decision to leave out tablets from our quasi-experiments is also based on the structure of the web page https://fph.vse.cz/ which has two structures of appearance that are focused either on the mobile (long version) or desktop (wide version) devices. Tablets are left somewhere in the middle, adjusting on every device differently to wide or long version, based on the devices' screen resolution.

Tab. 1: General characteristics (average numbers for 1 year period)

	The average browser resolution for each type of device	Visits	Bounce rate
Desktop	1490x775	56 %	25 %
Phone	372x563	41 %	30 %
Tablet	971x775	2 %	24 %

Source: Quasi-experiment – base characteristics

2.2 CLICK-THROUGH RATE

The first part of the research consisted of changes in the text of the buttons and in the text links. Data were collected for 1000 pageviews on 3 webpages, always at least once for each different text on the buttons. There were up to 3 versions of the text in clickable elements tested. The goal of this part of the quasi-experiment was to discover which type of the text had the highest click-through rate (in simple terms – which type of the text worked the best).

Another part of this quasi-experiment focused on the difference of click-through rates of highlighted buttons compared to click-through rates of paragraph headings. Click-through rates were measured separately for mobile and desktop devices.

3. RESULTS AND DISCUSSION

Our first tested hypothesis was that click-through rate of buttons on the webpage is independent on the text of the buttons (verb in the polite form of address – e.g. "Zjistit více o FPH", verb in the informal form of address e.g. "Zjisti vice o FPH", the call to action in form of the noun instead of the verb e.g. "Více o FPH"). To test for independence, we used Pearson Chi-Square test. By the result of our first quasi-experiment was our first hypothesis confirmed. Results are shown in Tab. 2. For all tested cases we do not reject hypothesis of dependence on the significance level of 5 %.

Tab. 2: Text of the button – results

	Desktop			Phone		
	x^2	df.	p-value	x^2	df.	p-value
Verb Polite form / Informal form	1,4460	2	0,4852	0,5594	2	0,7560
Noun / Verb Informal form	1,7011	4	0,3633	6,4244	4	0,1293
Noun / Verb Polite form / Informal form	0,2464	2	0,8840	1,6867	2	0,4303

Source: Authors´ processing

For quasi-experiment with the second hypothesis that click-through rates of highlighted buttons are equal to click-through rates of paragraph headings we couldn't use Pearson Chi-Square test. This was caused by a lack of observations of clicking on the paragraphs which violates the important assumption of Pearson Chi-Square test. Instead, we used Fisher's Exact Test to look for the dependence. We get p -of 0,1003 for desktops and 0,9988 for mobile devices. Our findings indicate that click-through rates are not equal on both webpage elements for both types of devices.

CONCLUSION

In our quasi-experiment we tested three versions of the texts of the buttons. The quasi-experiments were conducted at the University on young people (a majority of visitors were students on the high schools and students at the University). We did not find any proof of the dependence of the influence of the verb in informal form, verb in polite form and noun on click-through rate. One quasi-experiment consisted of testing and comparing the click-through rate of two types of clickable elements – Heading and button. We found the evidence of the difference of the click-through rate between clickable paragraph heading and buttons in favor of button. The click on the website through the website element is the action which is measured as the fundamental conversion in most cases. The results of this study can help to optimize clickable elements on the websites. Optimization of the clickable elements can secondary also increase the conversion rate which is essential for website and business owners to gain profit from their online business.

Our quasi-experiment faced to the research limitation. It was launched on the websites most used by the students so the results could vary if the quasi-experiment runs on the websites with the other target groups. Other limitation is the volume of users who came on the websites and variety of the text used in the buttons. Other study with much bigger volume of users visiting websites or much more versions of the texts could get the different results. It gives the opportunity to repeat this quasi-experiment on larger volume of website users on different target groups with wider range of used texts in the buttons or in the headings. There are also many other factors which probably influence click-through rate and secondary also conversion rate. The relationship between the order of the elements on the webpage and click-through rate, relationship between number of the elements, absolute number of the clicks and relative click-through rate, optimization of the shape of the element and its relative position, the length of the text in text link or in buttons can be the selection of the topics for further research.

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