LAB University of Applied Sciences

Thesis Plan

The Impact of Image Performance on Landing Pages

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1 Introduction

1.1 Background

It is crucial for business to adapt and utilize the best marketing instruments that are available. Businesses that don't use the most effective communication tools are left behind by their competitors. It is especially the case in this digitalized world, where digital platforms are our primary communicating tools. To promote their services or products, businesses use landing pages as their introduction to customers. Landing pages have the role of providing information to customers and guide them further in the purchasing process.

There are multiple components that make up an effective landing page, such as its copywriting, graphical designs, information hierarchy. This thesis will focus on image performance, a subpart of the overall speed of a landing page. Load time and resolution will be the aspects of measurements for the performance of images.

1.2 Problem Statement

While images are crucial for the visual appeals of landing pages, their performance can significantly impact user experience. However, the specific measures of image performance on these metrics are not well-experimented and documented.

1.3 Research Questions

The thesis will set out to find out how image performances, such as load time and quality, affect user engagement on landing pages. In the process of answering the question, further information about such topic will also be provided. Information such as the relationship between image performance and certain user experience metrics will be reviewed and discussed.

1.4 Objectives

The thesis aims to quantify the impact of image performance on user engagement metrics such as bounce rate and time on page, which to be summed up at the end into conversion rates.

1.5 Scope

Landing pages exists across many industries, where each having their own user base that have different expectations and tolerance for the site's performances. This study will focus on landing pages for service-oriented businesses in the computer software industry.

1.6 Thesis Structure:

This study will be separated into five parts. This introduction will be followed with the research method, then data explanation section, the analysis of the findings, then to the final discussion.

2 Method

2.1 Research Design

User experience tests will be used in during the research. Multiple landing pages with the same design will in turn be shown to the test takers in different phases. The key differences between each phase lies in the images of the landing pages. Different load times and resolution will be cycled between the versions of the landing page, with the purpose to record the user's experience when facing these performance conditions.

With the recorded behaviours from the viewer when interacting with the landing pages, user experience metrics could then be formed. After all the versions of the landing pages are shown to the test takers, a survey will be presented and filled. The data acquired in during the test will be later used for quantitative analysis, and the survey results will be analysed with qualitative methods.

2.2 Sampling

20 participants will be selected for the usability tests. The demographic of the group will be university students, with their age ranging from 21 to 25. The participants will take part in the experiment explained in the previous chapter, where their interactions with the landing pages will be recorded and survey taken at the end of the tests.

2.3 Data Collection

During the test, the test takers' interactions with the elements of the landing pages will be recorded. Scroll speed, time spent on each part of the website, mouse clicks and hovers are examples of what will be recorded in the test.

Besides the interacting data, web performance metrics will also be recorded to further study the effects of the changes in each phase of the landing pages experience. Bounce rate, time on page, and conversion rates are the examples for this data group.

The survey at the end of the test will collect both quantifiable and non-numeric data. Test takers will be asked about their feelings of the experience, and their answers will be captured using either the Likert scale, which spans from one to five, or with a free form text.

2.4 Data Analysis Techniques

For the quantitative data, statistical analysis will be performed to examine the relationships between image performance and engagement metrics. Correlation and regression will be the main techniques for this statistical analysis.

And for the qualitative side, quantifiable data will be organized and visualized to draw out more information, whereas the free form comments will be processed studied using thematic analysis, where they will be summarized to show the general theme of the test taker's perceptions and experiences.

2.5 Ethical Considerations

To ensure the privacy of the test takers, their participation to the test will be anonymised. No personal data will be collected from the participants and consents must be given before they start taking the user experience test.

3 Data

3.1 Introduction to Data

After being gathered from the User Experience tests, the dataset will be organized and visualized for further analysis. The tests have provided three groups of data, being the measurements of participants' interactions in each image performance scenarios, user experience measurements, and concluding comments in both free text and Likert's scale form.

3.2 Quantitative Data Presentation

Quantitative data gathered from the tests will be condensed into different graphs or tables and labelled. Page load times, image load times, bounce rates, time on page, conversion rates, mouse hovering locations and their click counts are the names of some data that will be presented and analysed later.

After being presented separately, the dataset will be compared to each other using charts in places that are appropriate to compare. Here, corelation charts and regression charts for the regarded metrics will be briefly introduced.

3.3 Qualitative Data Presentation

Qualitative data will be processed and presented with two different parts. Free form text comments will be read through and summarized to find recurring themes and outliers, if there are any. Numeric comments from Likert's scale section will be treated with the similar process as the quantitative dataset. Labelled graphs and tables will be the representation of the data, and they will be briefly introduced being brought into to deeper analysis.

3.4 Contextual Information

In this part, additional details on the design choices and content strategies of the landing pages will be analysed. The analysis will show the benefits and drawbacks of the design techniques used on the landing pages and give alternatives in opposed for the chosen design. This section will be concluded with analysis of these chosen design and how they affect the user's interpretation with the landing page's image performance.

4 Analysis

4.1 Quantitative Data Analysis

With the user interactions dataset combined with the image performance dataset, the study can continue to its analysis. Using correlation analysis, performance metrics that have closer relations to user experience will be ruled out for further investigation, and the non-correlated factors can be dismissed. After that, these metrics will be put into the regression analysis process, which further determined the impact of image performance on user experience.

4.2 Qualitative Data Analysis

The two qualitative datasets gathered from the experiments will be analyzed in two different methods, depending on their characteristic. The free form responses from the test takers about their experiences will put through a thematical analysis. The result of this analysis will provide general feeling of the test takers throughout the test: How compelling was the landing pages? What were the good and bad parts in the landing pages? And finally, specific questions on the images of the pages.

This thematic analysis will be combined with the quantitative findings on the Likert's scale will provide more clarity to the research questions. Data on the feelings of the test takers that were collected as numeric values will put through the regression analytic process, as the above quantitative dataset.

4.3 Interpretation of Findings

This part will discuss findings when compared the results of the quantitative and qualitative analysis. Which part of the two analysis works with each other to support the hypothesis of the impact that image performance has on user experience? Which parts of the two go against each other, and that need further research to resolve the conflict? What improvements on the user experience test, based on the test participants comments?

Besides comparing the two analyses together, the study will further investigate other existing literature on web performance and user experience. The main objectives when researching these papers will be looking for established supporting findings on image performances.

4.4 Discussion of Unexpected Findings

All of the data collected from the user experience test, including both quantifiable and user feedback, will be analysed one more time for unexpected findings. This subchapter will discuss those findings, on the reason on what might have happened that lead to such result, the impact of them on the main findings that have been established, and whether these unexpected findings are relevant enough that needed to be further research on.

5 Conclusion

5.1 Summary of Key Findings

This part of the study will briefly go through again all the analysis made in the research, discussing their objectives of finding the relevance of image performance on user experience, their process, and their results. Then it will proceed with the summary of the key factors that influence how users respond to image performance on landing pages.

5.2 Implications

Practical implications will be discussed on this part of the study. The implications are for web designers, marketers, and developers on design and developments techniques for optimizing image performances on landing pages. The practices of making the landing pages for the tests will also be discussed, extracting the techniques used and how they can be implemented in practical solutions. Considerations are then raised to suggest how the findings can inform best practices on landing page design and development.

5.3 Limitations

With all the suggestions being made, the study have its limitations. Its limitations will be acknowledged in this part, such as the focus on service landing pages of one industry, or the demographic and sample size of the UX test participants. There will a discussion of how these limitations might impact the generalizability of the findings and its implications on practical solutions.

5.4 Suggestions for Future Research

The study aimed to be enough to raise the discussion of image optimization. Having the result of one demographic and one specific part of the web technology, the research suggests further explorations of the same topic on the outer scope. Other types of web pages or long-term effects on user behaviour are the example suggestions of how to further carry on the research.

5.5 Final Remarks

Concluding thoughts on the significance of the study and its contributions to the field of digital marketing, web design and web development.