



Website redesign process and user experience analysis of new website, Case: Company X

Dilasha Mahat Chhetri

Haaga-Helia University of Applied Sciences

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Author(s)

Dilasha Mahat Chhetri

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This study focused on the website redesign process in a startup, usability evaluation on different stages of the website development. The analysis was done on how the user interacts with the company website. A good user experience can help to create a delighted customer whereas a bad user experience causes frustration among the users. The objective of the thesis is to find and develop a framework which will provide a deep understanding of the entire website redesign and launch process and focus on user experience of the new website based on usefulness, consistency, accessibility and appealing.

Whether it is a first-time visitor or a frequent visitor to your website you want your user to view the right content to the right person. The company decides to redesign the website on different grounds. Some being, to change a company's look, make it easier for its user to get all the relevant information.

The thesis consists of two parts. The first part contains the website redesign process. metrics and analytics that led to website redesign process, test at different development stages. The second part consists of a website usability test and result analysis. In the second part, usability test techniques used is system usability scale (SUS) evaluation.

The study gives a brief introduction on the startup company IT project. The development of IT projects in different iterations. The website's usability is considered in different development phases and the feedback at each iteration is considered in the development of the next versions.

Keywords

Website redesign process, System Usability Scale (SUS) evaluation, Usability test, Startup company

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1 Introduction

In today's modern business world, a company's online presence contributes remarkably to the success of a business. It is not enough that a company merely exists on the internet, but it is highly important to learn how it is perceived in the digital platform. Company's website gives the first impression to potential customers. Various aspects are considered while accessing the quality of the website and the most important factor is user experience. The impact of good user experience in any business can be in terms of credibility, conversion, business goals.

The aim of this research is to develop a framework which will show different aspects of the website redesign process and to perform UX analysis of the new website. This research hopes to find web usability of the website and provide recommendations based on usability testing. To measure the overall usability of the website, System Usability Scale (SUS) will be used. The usability testing will be performed on two individuals. A user requirement document will be prepared. The individual selected for the research will be the potential user of the company.

There are various reasons a company decides to redesign their website and most common of them all is an underlying desire to improve the look and functionality of the website. Nevertheless, a website redesign is a good decision for many businesses. (Hawk, 2019). The authors knowledge and experience gained during the studies in business information technology and working within the company team can be utilized to help the company X in building the framework and performing the test.

With the website redesign, a company hopes to deliver the right content to the right person at the right time. The business goal is not achieved if the change leads to bad user experience and the change ends up frustrating and confusing the user. It is important for businesses to identify their vision and needs in the initial stage. When the business goal is aligned with the visitor's needs then a good user experience is achieved. Hubspot.

User experience is the overall experience a user gets when interacting with a product or service. Along with measuring the physical look and feel of the product, few other key factors to describe the user experience are useful, findable, accessible, valuable, desirable, usable, credible. User experience (UX) focuses to enhance positive experience keeping in mind simplicity and usefulness. (CMARIX). A bad web design often makes users face difficulty in finding the information they are looking for. This forces users to leave the website with frustration. For any company who fails to consider UX in their design should consider

the fact that it is easier to get new customers rather than trying to get back dissatisfied customers.

1.1 Research objective and research questions

The objective of this research is to find the website redesign process and conduct user experience analysis of the new website. A company goes through the redesign process with different reasons. With this research, we will find the reason that led to the decision for the company X website redesign and how did the process take place. In the overall picture of the redesign process, we will see if the information technology department is the only one responsible for the change or if the other departments' input were also considered. Was UX analysis considered in any stage of the process, or the change took place just assuming what the user wants rather than knowing. The user experience analysis will be conducted to see the interaction between a user and the website and recommendation will be provided based on the analysis.

This research hopes to provide a deeper understanding of the redesign process and uncover if the new website meets the needs of the intended users. The website redesign process takes a lot of organization resources and time. Usually, a company does not go through the change unless necessary and if the change does not meet the company needs, the change might end up being a waste of resources. Considering from a UX point of view, all the stages of the redesign should include the user or in other words it should be user centered. Before the launch of the final website at each iteration, the design should be evaluated against the user requirements.

The redesign process includes the main steps taken by the information technology department for the launch of the new website. It also includes contributions from different departments in the design process. The process starts with the reasons leading to the change and ends with the web design analysis of the website. The review helped the author to find the user involvement in the design process and see if the user finds the new website effective, efficient, and satisfying.

From review of the process the author discovered that the timeline of the website launch was affected by the coronavirus COVID-19 situation. The website launch planning started before the situation. In the beginning everyone was struggling to cope up with the change in their work environment. There were often team online meetings and conversations through slack channel. The change slightly shifted the delivery of the new website. The author researched the redesign process before the launch and after the launch of the new website, user experience analysis was conducted. The main aim is to see if the website

meets the needs of the intended user and if it does not how can it improve the site structure, content, page design to ensure that it meets the quality and usability requirements.

These research questions will show the objective of the thesis in a practical way to understand and use. The research questions are:

1. What is the website redesign process and what are the main steps taken before launching the website?
2. What are the main reasons that lead to the decision of the website redesign? Why is the company thinking about redesign?
3. How is the new website perceived by the intended users along with the usability testing of every page?

To answer above questions, the author conducted survey. The methods used to collect data are questionnaire, interview. With the results, the author can better understand the website redesign process, find if the goal of the new website is achieved and utilize the gained information to give an overview framework of the redesign process in a startup company and measure the performance of the new website. The first question gives a better understanding of the website redesign process. Along with the steps in the redesign process, it will also find the philosophy adopted for the project. The literature review including business cases, data analysis, face to face interviews, are the foundation of the website redesign process.

After deep understanding of the first question, the research will find the reasons that lead to the decision of website redesign, the steps involved in the process. The second question will help the author to gain a better understanding of the startup organizational structure. The research will be focused on analysis of the old website and will list the reasons that lead to the change. The answer to the second question comes from the author's working experience in the company and the interviews conducted with the IT department. The nature of the company and the company structure are taken into consideration when listing the reasons for website redesign.

Following the analysis of the first two questions, the author will analyse user experience of the new website. Certain reasons lead to the website redesign process and the third question would help to find out if the new website solved those reasons. A thorough user experience evaluation will help to find how the user interacts with the new website and if the new website has a better user flow. It is equally important to understand if the new website is giving them a better and more enjoyable experience which will ultimately lead to conversion. User research and user testing is the foundation of the third question.

1.2 Research method

There are many research methods and for choosing the method, the author considered the problem and thought about the correct way to approach the problem. The author used a mix of qualitative and quantitative research methods. Among all the methods in qualitative research, the author chose the one-on-one interview. The author chose this method as it included open ended conversation between the interviewer and interviewee. The author hoped to gather in depth insights from the interviewee also wanting to learn about the user's first impression when they interact with the website.

One of the reasons that survey is different from other kinds of research is because it involves systematic observation. The author prepared the questionnaire aiming to get a range of answers, consistent answers to consistent questions. For getting information from the internal people, the author prepared the questionnaire accordingly and for getting information from the external people, the author did sampling. Rather than collecting data from the whole population, the author collected detailed data from a sample of the population that matches the target audience criteria. (Sapsford 2011, 7.)

1.3 Scope and limitation and relevance of the study

This research is focused on the website redesign process and user experience analysis with the launch of a new website. The clear steps in the website design process can be followed by the company when doing the website design in the future. This research will help the company to gain understanding of the functionality of the new website. Based on the result of the user experience analysis, the company can imply the feedback for the improvement of the current website. A website redesign requires different resources of the organization and having a clear plan makes the entire process move efficiently and effectively. Website redesign projects take time, and, in some cases, they rarely finish on time. Having a clear step certainly acts as a blueprint and helps to stay on the right path, saving time and other resources.

To reach the decision of website redesign, a company should first understand one's need or business goal that is not met by the current website. It is important to list out the target users and specifications on what they achieve from the website. The project timeline helps to plan out the steps and perform tasks to meet the deadline. As different departments might have suggestions regarding the functionality of the website. It is important to categorize them based on nice to have versus necessary. (Herosmyth 2020)

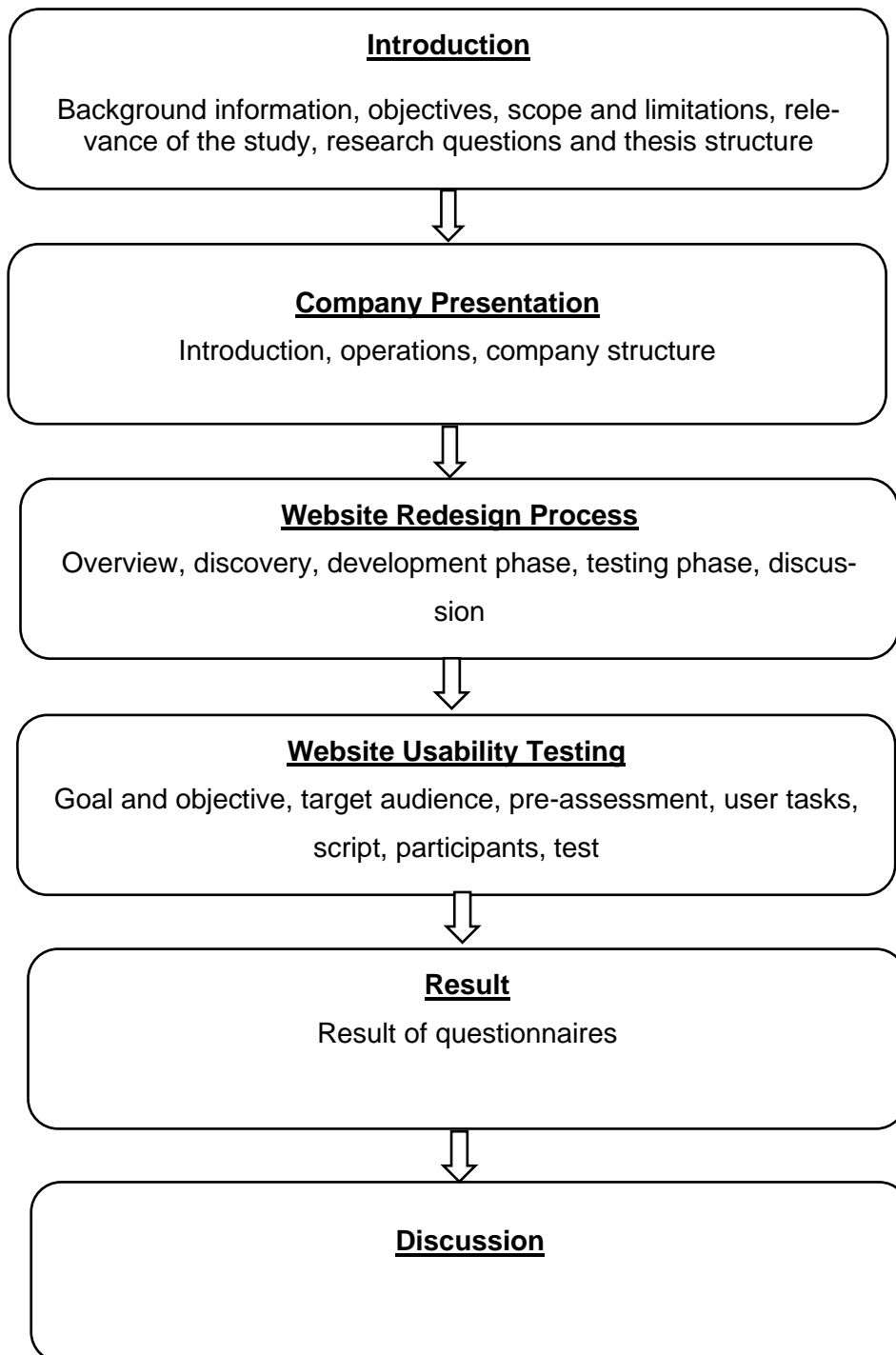
Company X is a startup company. It is a non-profit organization that equips talent with the skills they need to drive growth and innovation. (Company X, 2020) The author believes

one of the main reasons an IT project fails is because the technical team fails to recognise the importance of user experience in the design process. Skipping the testing phase or keeping the testing phase at the end of the project can be a warning sign. With the progress of the project, user testing should be done in each phase and the feedback should be used to ensure the delivery of a quality product. Lack of interest from the other department can also lead to the project failure. The framework developed with this report will provide each step carefully. Analysing the different stages of the website redesign process will help the company to find the factors that will contribute to a successful launch and minimize the above-mentioned risks.

Taking into consideration the nature of Company X and its goal, the study focuses on its target audience. This research focuses on the research redesign process conducted in a startup company and in doing so the research will not cover the work culture or the ecosystem of a startup company. In developing the framework of the redesign process, the double diamond model developed by the Design Council (UK) (see figure 1), has made an important contribution. The double diamond model has been the most used design model for many design projects. The model covers these aspects: user centred design, visual thinking, co-creation and agile. Some other reliable books which focus on user experience in design such as: *Designing User Experience* (Benyon,2019), *Handbook of Human Factors in Web Design* (Vu & Proctor, 2011) are added sources for developing a redesign process for company X.

Company X is a startup company which is small, and the internal resources are limited. Considering these factors, the framework is developed avoiding all complexities that would appear in a big corporation. However, the information presented covers all the relevant aspects of the project work in a startup company. The framework is developed in such a way that it can be modified depending on the nature of the software development project. It is also important to mention that the framework of the redesign process is not the sole objective of the thesis. The later part of the thesis will present the usability test. For the steps involved in the usability test, reference from the book *Usability Testing for Library Websites: A Hands-On Guide* (Norlin & CM! Winters,2001), are taken. Usability testing involves a complete set of tasks to observe/measure how usable a website is and how easy it is for users to reach their goal. Traditionally usability testing has been conducted in a dedicated usability lab. However, considering the seriousness of the current COVID-19 situation, there might be limitations with the usability testing method. To achieve the objective of the testing, remote usability testing will be adopted. Usability testing is performed on the third version of the website and based on the recommendations; the changes will be made before launching the final website.

1.4 Structure of the Study



2 Website redesign process

Website redesign projects could be a big one where the changes are done in the most visible parts of the UI, functional parts are changed or small ones where there are small UI changes, colour schemes. Regardless of the reason, the website redesign aims to improve the user experience (Alban 2022.). This chapter covers the website redesign process starting with the general description of the website redesign and the reasons that lead to the decision of redesign. There will also be discussion on the philosophies followed for the completion of the project, priorities, and obstacles. Furthermore, in this chapter the author presents the framework developed by the Design Council (UK), which is proven to be a commonly widely used design process model.

2.1 Overview of the website redesign process

A company adopts different marketing strategies to be known to the audience. The first step a user takes to learn about the company is to visit its website. One could say that a company's website is its most valuable online asset. Depending on what impression the website makes on the user, the user decides to be involved or get in business with the company. The success of a company's website can be measured from the generation of conversion rate from the website.

Other key metrics are sessions, users, pageviews and bounce rate. Further the terms are explained as; sessions are made once a user has completed a 30 min time in the landing page, pageviews are the number of times a page has been viewed, users are the number of people who has initiated at least one session and bounce rate is the rate of user who visits the website but leaves without interacting further with the site (White 2016). Depending on the nature of the company whether it is a business to business, business to customer or hybrid which is the combination of both, a certain percentage of bounce rate is considered good. These metrics are playing a significant role in determining the success of the website. It also helps a company to learn where they are currently or which of their marketing efforts requires attention.

A careful analysis of the current website is done and if the conclusion is reached that the business goal is not achieved with the current website, website redesign can be the best way to help a business be more successful. Before starting the website redesign, it is essential to find the goals that you want to achieve. The goals can be to find (application of marketing strategies to attract website visitors), convert your visitors to leads & sales and analyse (produce measurable ROI). Website redesign does not mean that one needs to start from scratch and remove all the current contents, photos, blog and so on but it

means that one needs to determine what is their inventory of website assets and then protect these assets during redesign. A website asset can be in terms of its contents, links, keyword rank and conversion tools. One of the pitfalls of website redesign is not realizing valuable content and removing it. It can result in decrease of traffic and leads. (Volpe, 2009)

2.2 Discovery Phase: Gathering insights and contextual research

The author interviewed people who were directly involved in the website redesign process and other team members who contributed to the project in one way or other to gather insights on the issues with the current website, pain points and team vision with the new website. The tasks were divided as:

2.2.1 Finding existing problems

Detail analysis of the analytics reports, insights from UX design research was done by the team to find out the common struggles regarding the existing website. This step encouraged the team to look more into the current content and find out what is working, what is not working and finding website assets. Regarding finding valuable content, deciding on the contents that are ignored by the user or if the content no longer adds value to the company message, common user flow patterns from SEO reports were analysed. A shared file was created where different teams would put functions and features which are nice to have versus necessity. This file was further assessed by the IT team and necessary changes were implied based on the suggestions.

After interviewing the teams who were directly involved in the website redesign process, few reasons were identified that lead to the decision of website redesign. These reasons helped the website redesign team to keep a goal in their mind throughout the process and carry out activities in line with the goal. Among other reason the top four reasons were:

- Giving the website a fresh look: As the company has had the old website for quite some time, it was time to access the website and redesign to give a fresher look. After the initial user analysis, it was concluded that many users didn't like the current design and the website didn't seem to be professional. The aim with this step was the new website should look and feel good as well as the conversion rate should be lifted.
- Make the website more user friendly: The aim of any website is to give an amazing experience to the user that would encourage the user to visit the website again. The google analytics report from Jan 2020 to June 2020 clearly showed that 82.7% of the users of the website were new visitors and only 17,3% users were returning visitors. This data required immediate action from the team to access the website and to find why the users are not returning to the website.

- Report shows the performance of the old website: Company X keeps track of its channels and contents to see its social media (SoMe) performance. These analyses are presented in the monthly scoreboard slides. Analysing the website performance in the monthly scoreboard, it was found that from Jan 2020 to June 2020 every month there is an increase in the bounce rate, decrease in the sessions, users and page views. The google analytics report further showed that most of the users are spending only 0-10 seconds on the website.
- Contents: After website analysis, it was found that most of the contents were clutter and obsolete. To attract more visitors, it is important to have fresh content. Fresh content is liked among users as well as search engines. The SEO report helped to find the contents that were either ignored by users, broken or they no longer added value to the company goal. It was also brought into attention that some part of the old website didn't work.
- Website goal: To measure the performance of the website and to find if the website fulfils the target objective, a goal was defined in the google analytics. The website goal was to find out how many users joined the team. To reach the goal, it was to see how many people proceed from the 'Home' page to 'Get Involved' page to 'Join the team'. As per google analytics report from January 2020 to June 2020, it was found that out of 6016 users from 'Home' page, 877 proceeded to 'Get involved' page and from there 381 proceeded to 'Join the team'.

2.2.2 Target audience

One of the important steps in the redesign process was identifying the ideal audience. This step helped to learn more about the personal goal, pain point and intent of the user. As per the google analytics report, the in-market segment (39,47% of total user) are: employment, employment/career consulting services, business services/staffing & recruitment services, business services/advertising & marketing services, software/business & productivity software, business services, employment /IT & technical jobs, financial services/ investment services, education/post-secondary education, travel/hotels /accommodations. Among these audiences, the highest percentage of users researching the company 's product or services is for employment.

After consideration of the company's goal and mission, an initial hypothesis was made about the user groups and their journey mapping. Majority of website visitors are program and event participants (existing and prospective) who visit the website to find relevant information and partners & speakers are secondary users, who usually reach out through different channels. The new website content strategy was that the content should primarily target the majority visitor's need and the content directed at the secondary users shall be presented in a way that it doesn't create friction for primary users.

2.2.3 Suggestions for the new website

After discussion on the functions and features which are nice to have versus necessary, following suggestions were considered important in the website redesign:

Search bar: Search bar in a website helps the user to find out what they are looking for quickly without having to go through the entire contents. This helps the user save time and would encourage the user to come back to the website again. It was found that the existing website doesn't have a search bar and it impacted the analytics report. It was further analysed that based on the words the user entered in the search bar, a quick and instant feedback from the user was achieved and this information helped to find what the user was looking for. Based on this response, necessary changes to the website could be done.

Newsletter subscription pop-up: As the marketing team was giving their effort on promoting newsletter in the social media platform. It was found that the necessary steps were to be taken to increase the current subscription rate. Taking into consideration the visibility aspect, content flexibility, better conversion rate, it was suggested that a pop up will contribute in getting more people to subscribe to the newsletter.

Net Promotor Score (NPS): NPS is a management philosophy. Net promoter companies commit to specific processes and systems where everyone of the company is involved, especially the leaders to earn customer and employee loyalty. NPS is calculated based on the response to a key question, using a 0-10scale: How likely is it that you would recommend Company X to a friend or colleague? Based on customer response, customers are sorted into three groups: promoters (9-7), passives (7-8) and detractors (0-6). NPS is calculated; percentage of promoters minus the percentage of detractors (Markey & Reichheld 2011). Including the rating system on the website will help to find the overall perception of Company X.

Event Calendar: After discussion with the marketing and event team, it was found that it was easier to get detailed information of the participant if one has participated through the Eventbrite. For further clarification, Eventbrite is an event management and ticketing website. It was also found that most of the participants do not follow Company X social media to get the updates. Including an event calendar plugin or directly integrating Eventbrite to the website will help the user to learn about events to create and manage events in the website.

2.2.4 Goal of the new website

Before deciding on the steps of the website redesign, it is important to consider why one needs or wants to redesign the website. After outlining the goals, prioritizing them will be helpful in the future and planning can be done accordingly (Patel, 2020). These were the goals the team wanted to accomplish: fresher design, more engaging contents, give a good company impression, give information about the event so that the user knows what is happening. So far, the company has been using social media and Eventbrite platform to publish the events and reach potential participants. The team had to manually update all the events in the website through word press. This was taking extra time for the team. The redesign team focuses on solving this issue. The team plans on using word press and Eventbrite as a third-party API. With the new website, they plan to fetch the data to the website from the Eventbrite page. As the events on the website will be based on Eventbrite, so if something needs to be changed, it can be changed through the Eventbrite. One doesn't need to be programmers/developers for making necessary changes. This will give flexibility to the marketing and event team to make necessary changes by going through the Eventbrite website and editing themselves.

2.3 Development Phase

Upon understanding the issues with the current website and user's need with the new website, the process of website redesign started. The current website is written in Word-Press and the redesign team plans to create the new website using React. As it is a completely different platform, the team must start everything from scratch. After analysis of the content of the current website, it was found that there were still some valuable contents that can be used with the new website. SEO was used by the marketing team for content creation and the redesign team used the same content provided by the marketing team.

2.3.1 Identification of priorities

Before starting the redesign process, it was important to take a moment to understand the tasks and set its priority level. When accessing the tasks, the difficulty level of each task was analyzed. Depending upon the level of difficulty, the priorities were set. A site map was created during the planning process. The site map showed a list of pages of the new website and its sequence. Based on the sequence of the website, the redesign process started. The work started first in the landing page, then to the team page, event page and so on. With each page of the website, a list of goals was prepared. The goals were: success page- replacing the text with infographic, contact page: address, contact form submission, map and so on. The redesign process started with building wireframes to show the user flow. The team worked on the paper prototype first followed by using the design

tool 'Figma' for digital prototype. The wireframe was later shared to another team. After considering the suggestions from the team, the website redesign process started.

2.3.2 Project management approach

For the website redesign project, the team has decided to adopt an agile software development method. Following the agile project management, transparency, inspection, and adaptation was maintained throughout the project. The Agile framework used in website development is scrum. As scrum is an iterative approach with sprint in its core, the team used inspection throughout the project. Within each sprint, the IT team developed and tested a functional website. The team decided on the website functions and features in increments at the end of each sprint. The outcome of each sprint is different versions of the website. With each sprint, a specific website version is tested to assess the progress. As the change in work environment took place in the beginning of the project, daily scrum meetings changed to weekly. The next task to be done is decided in the meetings. Considering the specific roles defined by scrum framework, people on the project were: product owner, development team and scrum master. Trello platform was used to keep track of product backlog, sprint backlog and product increment. (Layton, 2012)

2.3.3 Challenges

With the global COVID-19 pandemic, like any other organization, company X's faced operational and financial challenges. Different efforts were made by the company to turn the massive challenge into meaningful transformation. It was important to rapidly adapt to the new work environment keeping in mind the needs of the user. Yle (2020) article shows that furlough in Finland has hit record high. In the middle of overwhelming and competing challenges, company X did have to let go of a few team leaders. This change impacted the progress of the website redesign. The departments that were active in the process were IT, marketing, and design. The furlough impacted on the design team head which made the IT team take over some responsibility of design. In the later stage of the project, other design team members joined and were responsible for icons. There was still a shortage of people with video editing skills. Therefore, the plan of adding video on the landing page was still missing. The change also impacted the deadline of the project. Even though with all challenges, the redesign team has been able to publish so far three versions of a working website.

2.4 Testing Phase

The redesign team have so far made 3 versions of a working website, named as MVP, Alpha, and Beta. With the purpose of finding the functionality and getting suggestions for

each version, the team prepared a list of questionnaires and shared it among the co-workers of the company. The feedback was deeply analysed, and the changes were made according to the website. Before testing the website with the end user, it was important to test the website within the company. As there are different departments in the company, each department would have a better perspective on how they want their company to be viewed. Such as event team would have better idea on how the events should be presented on the website to meet the goal, sales and partner team would have better idea about the partner page, hr team would have better idea about how to attract and recruit new employee, marketing team would have better idea on how to drive traffic, engage prospects and so on.

2.4.1 First version- MVP

The first version of the website with limited functionality was built with the purpose of testing the new website concept and presenting an initial framework. The team also aimed at finding the performance of websites in different devices. The initial feedback of the MVP version was that the icons looked childish, multi-coloured and in different shapes. The team prepared a list of questionnaires in google form to learn about associations people had when they thought of some navigation items. The questions focused on people's first reaction in terms of colours, contents and/or shape when they looked at a specific tab in the website. This helped the team to learn about people's perspective on the navigation items and the changes were made accordingly.

With the aim of finding co-workers' feedback and expectations with different pages in the website, the team prepared another set of questionnaires. To get a better view, all the feedback was presented in an excel file at first then a word document. This word document was accessible to all co-workers in case they wanted to add some suggestions or give their opinion. The file was analysed in terms of nice to have versus must have. This feedback gave better direction to the team and helped them learn more about everyone's expectations with the website.

2.4.2 Second version- Alpha

After working on the feedback from the first version, the team published the second version of the website- Alpha. A list of questionnaires was prepared in google form and was circulated among the co-workers. The aim with this version was to learn more about the usability of the website. On one hand the redesign team wanted to learn about the website in terms of effectiveness, easiness to navigate and on other hand about the functionality, design and so on. To quantify usability, the set of questions focused on using ratings as a metric. The co-workers were asked to rate each page of the website on a scale of 1-5

where 1 being highest usability problems and 5 being no usability problems. In addition to rating the questionnaire, users were also encouraged to add open suggestions and feedback.

The feedback from the google forms were placed in an excel file and with each feedback the responsible person was assigned to. Such as if there was an issue with the content, marketing team was assigned, if there was issue with the icons and design, design team. After analyzing the feedback, it came into attention that the ratings varied from 2 to 5. The team focused on the ratings which were 2 and made efforts to learn the problems in specific pages. The issues in general were:

- Pictures: Some pictures distract the audience from the content. For now, in the success story page, there is all text. Including an image in the page will grab the attention of the user and it will also help to communicate the story better.
- Traffic: Including unnecessary third-party links will drive the traffic away from the company's website.
- Text quantity. Too much text in certain pages which requires lots of patience from the user. This might end up making users frustrated.
- Important information: Some users found that the important info in certain pages were hidden.
- Layout: Some users had different opinions on what comes first in a certain page.
- Functionality: As this version is not fully functional, some users had some issues with the functionality of certain buttons.

The feedback of this version helped the team to come up with some essential changes with the website. These changes have improved the design of the website as well as has managed to reduce some user pains. The users have found a great improvement as compared to the earlier version in terms of visuality, user flow, illustrations, pictures. The team is working to solve the issues encountered from the feedback.

2.4.3 Third version- Beta

The usability testing of the Beta version is shown in the later part of this thesis.

2.5 Discussion

Upon analysing the entire redesign process, the author believes that the redesign team have created the new website by being agile and adapting to the change in the design process rather than following a rigid process. It is found that the team have considered the PACT (People, Activities, Context, Technology) framework in scoping the design problem. It is essential for designers to understand the people who will use the system, activities they will perform, context in which the activities will be performed and the technology that the designer will work with (Benyon 2019, 25).

Although there was no mention of following any framework in the redesign process, after cross checking the key activities performed by the redesign team with the double diamond design process model, the author found striking similarities and shared approach. The author strongly believes that if this model is followed in the future, the team can save time, effort and decrease the risk of failure. After researching the design process in eleven leading companies, double diamond model was developed that gave real insights into the way design operates in successful companies and these methods are suggested to be used by designers and managers (see Figure 1)

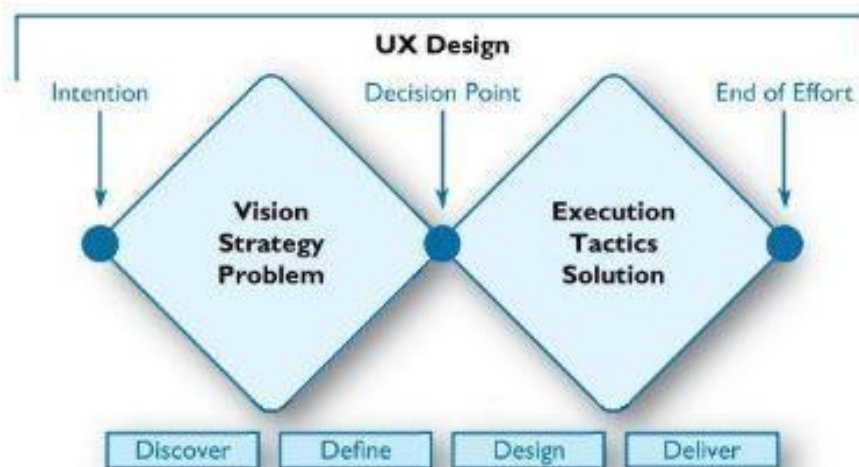


Figure 1. The double diamond model (Design Council 2005; Benyon 2019, 48.)

This characterizes the design process in terms of four processes: discover, define, design, deliver. The first stage is a discovery phase, where a user need is identified through market research, user research, managing information and design research groups. The second stage is the definition stage. In this stage, the user's needs are aligned to business objectives. The key activities are project development, project management and project sign off. The third stage is the development stage. Here a design-led solution is developed, iterated and tested within the company. The key activities are multi-disciplinary working, visual management, development methods and testing. The final stage is the delivery. The key activities during this stage are final testing, approval, launch and targets, evaluation, and feedback loop (Design Council 2005).

3 Web Usability testing

Usability testing is research and development methods that involve collection of data about how the end user interacts with the website by performing certain tasks in a given environment. Website usability testing helps to assess the effectiveness of the website. The testing focuses on analysing user's interaction with the website in terms of ease of learning and to use, accessibility, reduction of error, and efficiency and find if there are any problems they encounter. After analysing these data, necessary changes or improvement is recommended. From the end user point of view, the goal of the site is to provide a positive user experience and usability testing will ensure that the site is easy to use and increases user satisfaction. (Norlin & Winters, 2002)

3.1 Establish goal and objectives

The preliminary research during the redesign process using questionnaire methods helped to identify the expectations within the company and gain feedback. The goal of this usability testing is to find if there are any usability problems with the new website. With the usability testing, the author aims to find usability issues during the evaluation that will guide the design process. A web usability testing requires user centered data and for this, the methods that will be used are interviews, survey, contextual observation.

3.2 Target audience

Cooper, A (2004) argued that the more targeted a design is for a specific type of user, the more likely it is for eventual success. Before creating tasks, it is essential to create user personas. These personas describe user profiles and can be considered as hypothetical models of actual users. Based on the interview, the author conducted, Picture 2 and Picture 3 shows two personas. The author utilized her user research methods to determine the ideal average user of the website.

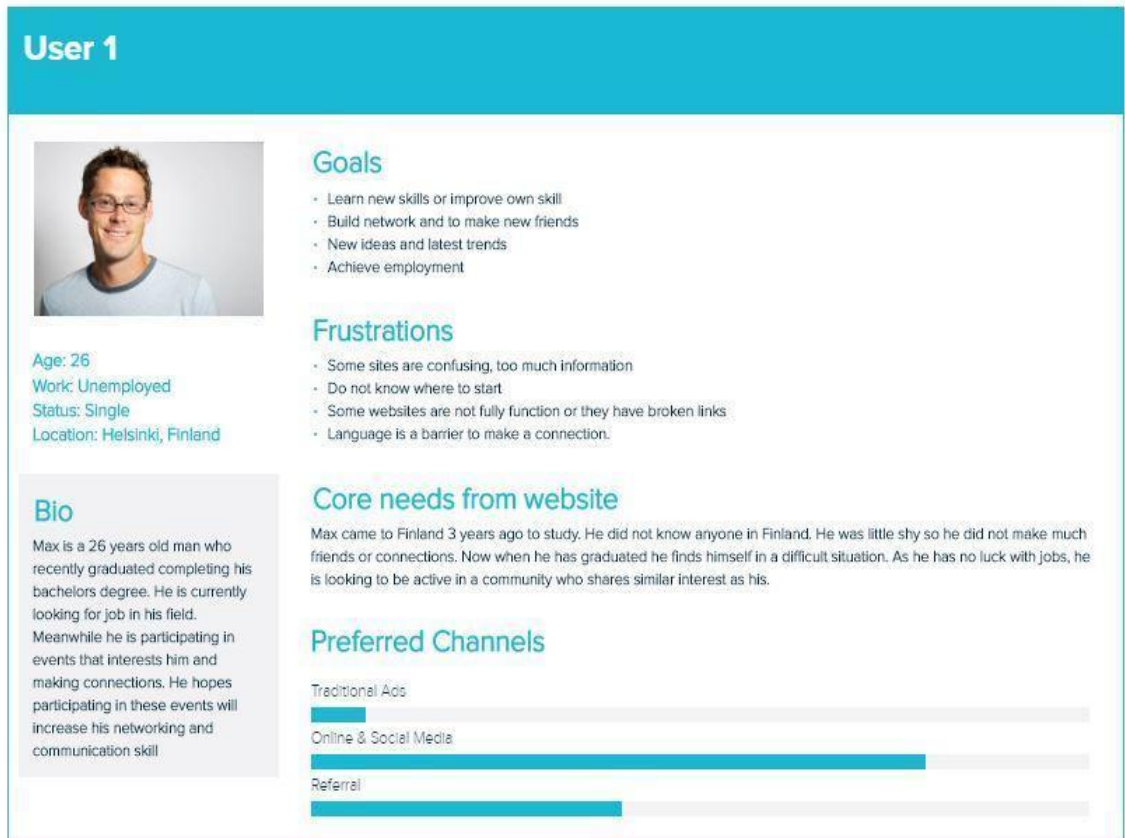


Figure 2: Persona 1

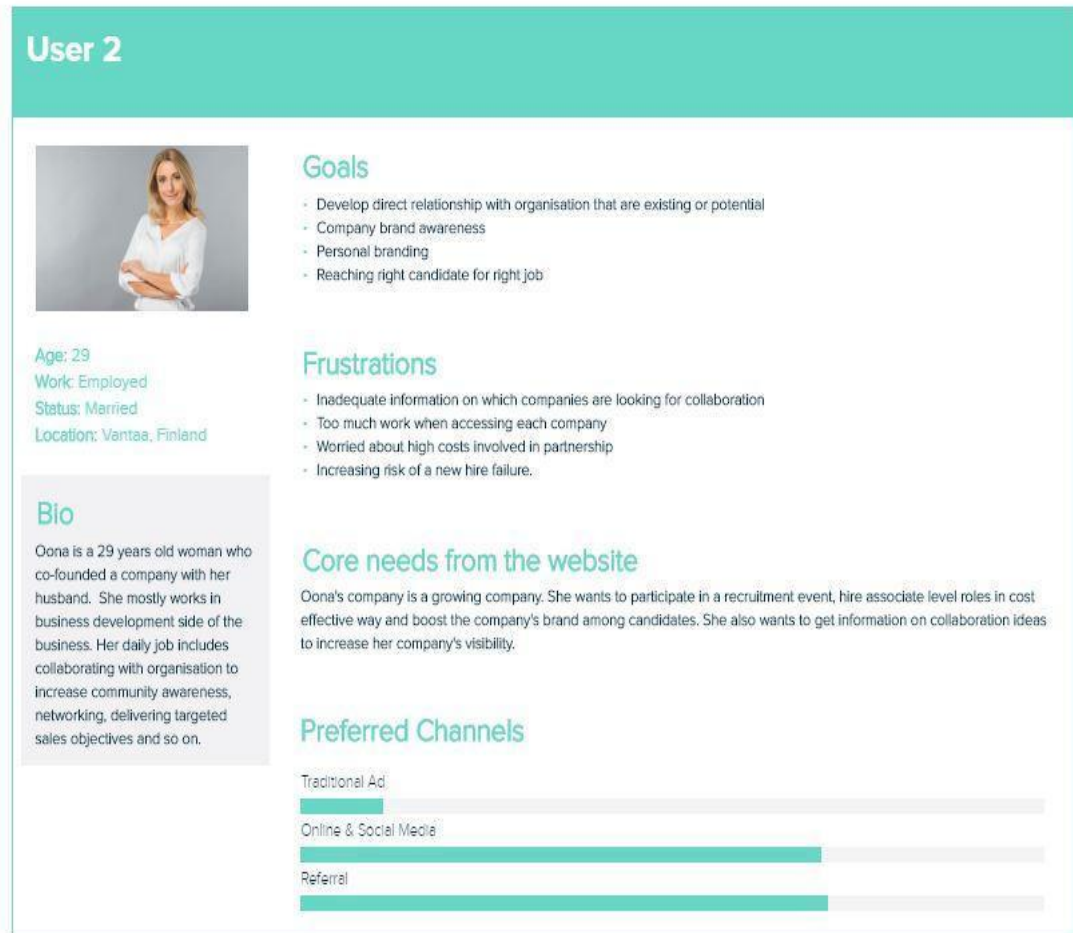


Figure 3: Persona 2

3.3 Pre-Assessment

It is important to find the focus area on usability testing. Any company can detect the issues in the website when the user complaints about the issues they are facing while using the website. But most of the time, rather than complaining about the website, the user rather leaves the website in frustration. Before testing the website among the users, one cannot assume the areas where the user might face challenges. To narrow the area to concentrate on, one can get the initial data through pre-assessment. The goal of the pre assessment is to get the understanding of the website users and their feedback of the website. (Norlin & Winters 2001, 24)

The author aims to reach the end users of the website outside the company. For this purpose, the author uses online surveys as an assessment tool. Brief research was conducted on finding the ways to reach the target audience. Since people do not like to spend more time and effort on the complex survey, the author kept the survey simple covering effectiveness, efficiency, and satisfaction. (Brooke, 1986) For the assessment of usability, the System Usability Scale (SUS) scale is used. The survey was posted in Facebook

groups, the company's community which has more than 2K members, authors private social media channels. The survey was also posted in the slack channel of UX Hel hoping to get some perspective from a professional of UX/UI background. Attachment 2 shows survey questionnaires with scales.

3.4 What are the user tasks?

The goal of tasks and questions is to see if the user will successfully be able to complete each task while navigating through the website. The pre-assessment survey was distributed among 24 people. The pre-assessment survey helped the user to reach more users and get a better understanding of the user.

3.5 Write the script

A script is written and followed throughout the session. This way of structuring the session gave a couple of advantages about gathering all needed information and analysing the results. The tasks for the users were read out loud by the observer during the session. The observer closely monitored the user actions and analysed the areas where the user struggled to navigate.

3.5.1 Purpose of the test

There are three objectives of the usability test. The first one is to inspect the overall functions of the website. The second is to learn if the user can navigate through the website and easily find the information they are looking for. The third purpose is to learn about the area of improvements on the website. The session took around 30 minutes.

3.5.2 Design of the website

The website version which was used for the usability test is not the final version. There are still some links on the website which are not fully functional. This was well communicated with the user beforehand so that the user does not get stuck at any specific area and end up being frustrated. It was important to let the user at the start of the session that the website design is being tested and not the person. The semi-functional website link was shared with the user.

3.6 Participants for the Usability testing

The user interview was conducted with 2 participants and the usability questionnaire was conducted with 23 participants. Potential users of the company website were selected to

take part in the test. For deciding on the potential users, the background, current employment status, were taken into consideration. This is because the website is for specific target groups and hence the selected participant would be someone belonging to the target group.

3.6.1 Establish a target market

To establish a target market, first analysis was done on the current users and the information that they search for from the company website. It was important to learn what are the interests of the participants so that we can analyse which section of the website they would use most often. The users were segmented based on what areas they were interested in. The choices available for selection in the questionnaire were categorized based on interest of past participants. It is presented in Table 1:

Table 1. The interested areas of the participants

Total number	Interested area
5	Gain new skills or improve your skill,
2	Networking
2	Be a partner of the company and acquire the right talent for your company
1	Gain new skills or improve your skill, be a partner of the company and acquire the right talent for your company
11	Gain new skills or improve your skill, Networking
2	Gain new skills or improve your skill, Networking, be a partner of the company and acquire the right talent for your company

3.7 The test

SUS		Strongly disagree 1	2	3	4	Strongly agree 5
1	I thought the website was easy to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I think that the content is clear and relevant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I thought there was too much inconsistency in this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I felt that the icons were professional looking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I liked the colour combination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I found the various functions in this website well integrated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7	I think there is too much text and less images	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I felt very confident using the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I would prefer to see a video on the landing page than image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	I would prefer to see other image in the landing page	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	On a scale of 1-5, how would you rate the usability of the web-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.8 Results of questionnaire

A structured questionnaire method was followed to get the feedback. The questionnaire is presented in Attachment 2 shows how the participants felt, thought on different areas on the website.

3.8.1 Overall experience

Most of the participants gave positive responses. The top five feedback from the free text field are:

- Pleasant when browsing through, the annoying thing was that many links took me to 3rd party websites (gallery -> Instagram, join -> Facebook, blog -> Blog in new window). Perhaps these pages could be somehow integrated, so it doesn't open 3 tabs when clicking on 3 links.
- I hope there's more pictures.
- Overall ok, just had an issue with the "team" page that took forever to load the pictures.
- I didn't try every link, but at least the "careers" link in the footer directs to the landing page; and the "work with us" which usually goes to a career page, goes to the partners page, I'd maybe rework the wording?
- A bit confusing because there are so many tabs. Front page doesn't have a clear hierarchy, doesn't promote current events.

3.8.2 Suggestion for the website

The suggestion field in the questionnaire was a free text area, intending to get most information from the participant.

- More visuals, bright pictures with people in it would be great.
- Less texts maybe.
- Integrate with already existing employment websites.
- Also, it would be convenient if the top menu bar would be always available, so the user would not need to scroll all the way up to navigate on the page (I do not know how it acts on Mobile, I was using a laptop)
- More options with relevant information will make the website more interesting.
- Images on the page are quite heavy and take too much time, compressing images will improve load time.
- In the partners section there is way too much text and multiple anchor links to the same contact place. Perhaps closing all content and only showing the titles. When the user clicks the title, the content would be shown.

- The dropdown when you hover over the tabs at the top sometimes glitch or lag. Consider a smaller drop down or stacked options like under hamburger menus.
- The 'for talents' button sends you to the 'About us' section, so I would guess that's a bug, but if not, I strongly disagree with that, as for partners button has it's own section and it would be very inconsistent
- You have a page counter on the events page that is not very good and easy to use. It shows 1 to 23 pages and I need to go through all of them. There is no way to jump straight away for any of these pages if wanted.
- More job postings.
- Navigation bar should have fewer items. Front page should tell how much Company X has impacted, what Company X has done, then Testimonials. Should have one main CTA button that appear again through the site.
- I would try and use more photos and videos of real-life people. Especially on the "Success Story" page. Otherwise, it's a bit text heavy.
- On the partner page I think the first thing that they should see/read is the 'Contact Us' bit.
- It needs far more content and more quality-of-life improvements.

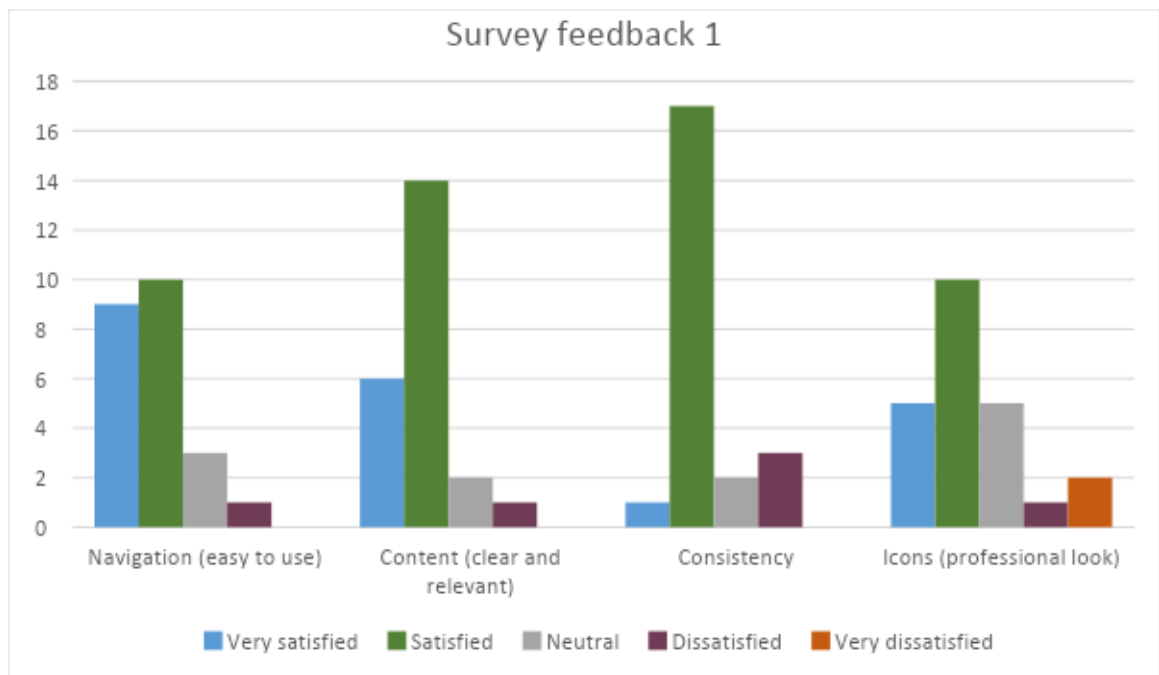


Figure 4: Users feedback on the website part 1

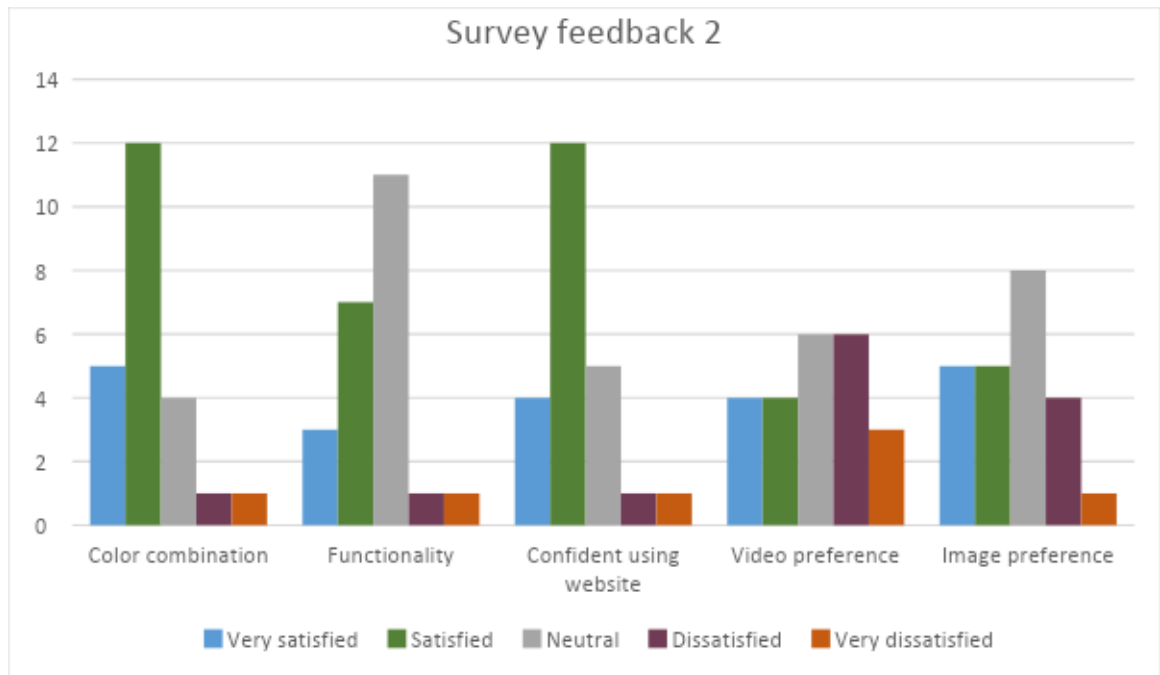


Figure 5: Users feedback on the website part 2

3.8.3 SUS scores

“To calculate the SUS score, first sum the score contributions from each item. Each item's score contribution will range from 0 to 4. For items 1,3,5,7, and 9 the score contribution is the scale position minus 1. For items 2,4,6,8 and 10, the contribution is 5 minus the scale position. Multiply the sum of the scores by 2.5 to obtain the overall value of SU. SUS scores have a range of 0 to 100” (Brooke, 1986)

SUS Score = 74.5

3.8.4 Interpretation of SUS scores

Table 2: Interpretation of SUS scores (table)

SUS Score	Grade	Adjective Rating
> 80.3	A	Excellent
68 – 80.3	B	Good
68	C	Okay
51-68	D	Poor
< 51	F	Awful

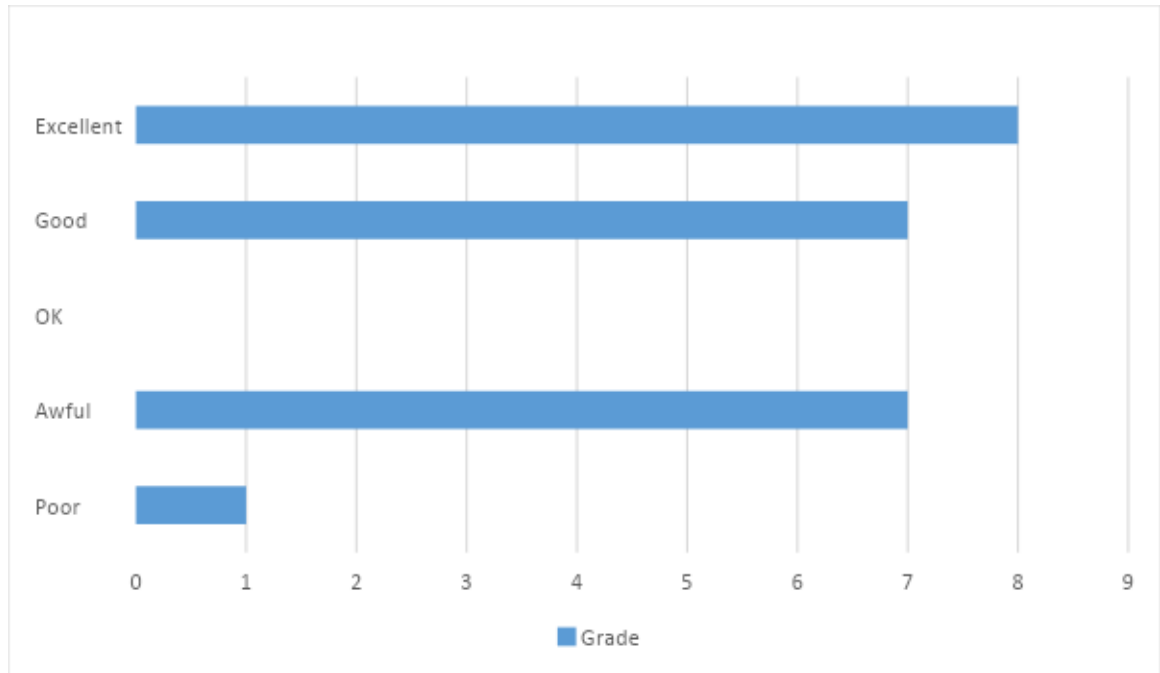


Figure 6: Interpretation of SUS scores (bar graph)

3.8.5 Website recommendation

In the questionnaire, there was a field where we asked if the participants would refer to the website. Out of 23 participants, 19 said that they would recommend the website to someone, 3 said that they would not recommend the website and 1 said maybe. The participants who did not want to recommend the website emphasized that the website needs more content.

4 Discussion

The company X went through the steps on the website redesign process, tested different versions of the website before final testing with the potential users. The feedback on each test result was implemented on the development of the next version. The team had taken the necessary changes on each version from a positive perspective which led to building a better website. Understanding the need to website redesign helped the company to make the decision. The website redesign process was improvised depending on the structure of the company. The company is a start up company and there are not many projects where all the team come together. This project improved the cross-team collaboration in the company. All teams came together to give feedback on the website and help on performing usability testing.

The overall test result was rated successful. Many improvement areas were found from the test results. The suggestions from users were invaluable and implementing them has improved the website usability. Understanding the potential users helped to get more clear information on user flow on the website. It was noticed from the test result that the company had to do some professional shoot to cover the landing page and other areas image requirements and to give the website a more professional look. There were quite many changes within the internal team structure which also needed to be included on the website. With the overall website redesign most of the nice to have, need to have been included.

This research helped the author to gain a better understanding of the startup ecosystem. Through this research, the author has gained more experience on conducting usability testing. Organizing such a sizable study, applying different methodologies for measuring and evaluating usability, communicating, and gathering information from within the company, from potential users, understanding user pain points, statistical data analysis has been a great learning experience. There are always areas for improvements and no product is perfect. Thus, the user hopes the company continues to record feedback from the users and implement it in different iterations.

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Appendices

Appendix 1. Questionnaire for the internal team

(Interview in form of an open conversation- IT team and the marketing team)

1. What are the reasons that lead to the decision of website change? When you analysed the old website, what were the common struggles?
2. What were the priorities of the website change?
3. Did you use the valuable content from the old website? Are there similarities in the current and old website?
4. Suggestions for the new website? Functions or features necessary to have versus nice to have.
5. How and what were decided on the sprints?
6. Which department was active in the process?
7. What were the obstacles faced during the project?
8. Did you follow any philosophies?
9. What platform was used for website redesign?
10. What do you want to accomplish with the new website? How will you measure success?
11. How many website versions are there? Did you test these versions with the users, (if yes) how was the feedback?

Appendix 2. User Study and Usability evaluation questionnaire

- What is your current employment status?

1 - Full time work	2 - Unemployed	3 - Studying	4 - Entrepreneur
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- What would you be interested in?

1 - Gain new skills or improve your skill			
2 - Networking			
3 - Be a partner of the company and acquire the right talent for your company			

- I thought the website was easy to use.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I think that the content is clear and relevant.

- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I thought there was too much inconsistency in this website.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I felt that the icons were professional looking.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I liked the colour combination.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I found the various functions in this website well integrated.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I think there is too much text and less images.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I felt very confident using the website.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I would prefer to see the video on the landing page than the image.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- I would prefer to see other images on the landing page.
- 1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree
- On a scale of 1-5, how would you rate the usability of the website? 1= Very dissatisfied, 5= Very satisfied
- 1- Very dissatisfied 2- Dissatisfied 3 - Neutral 4 - Satisfied 5 - Very satisfied
- Overall, what's your experience been with the website?
 - Do you have any suggestions or comments?
 - Will you refer to this website? Why or why not?

Appendix 3. Website Usability Test

The instructions

Hello,

Thank you for participating in the usability test. With this test we are gathering information on the usability of the website if people are finding information and whether it works as intended. The first thing I want to make clear is we are testing the website, not you. Please do not worry about making mistake. I have few questions and tasks I would like you to perform.

With your permission, we are going to record what happens on the screen and our conversation. The recording will only be shared internally, and it will help us gain information on how to improve the website.

Task and Questions

- Find the team members of the company?

The user navigates to the top bar and click on 'Our team'. The user finds the team member of the company easily.

- Find the article "Post-Pandemic Panoramic: How the world will look in 2022"?

The user goes to the homepage, scrolls down trying to find the article (The user asks to repeat the name of the article, the observer repeats) The user navigates to the top section and goes to the area where there are multiple articles and finds the correct article.

- There was an event called "My Start-up debut – Food Meets Tech". Can you find it?

The user navigates and finds the event section (The user asks to repeat the name of the event, the observer repeats) The user stays in the section for a couple of seconds (The observer repeats the event name). The user finds the event and click on 'learn more'.

- Find the latest upcoming event?

The user navigates to the event section and clicks on the first event on top. Now the third-party website is open as the event details are in the third-party website. The user repeats the name of the event and asks if it is correct. It is the correct event.

- There is a section on the website which shows the company's partner. Go through it.

The user easily finds the partner from the navigation.

- Find the "Join" on the website?

The user easily finds the partner from the navigation.

- Find the contact person for partnership?

The user easily finds the contact person for partnership.

- Where does the company have success stories?

The user navigates to the top section and finds the success stories in 'About us'.

- What are the two things that helped you most when using the website?
- Top section of the page. Also, the drop-down section has all needed information.
- Upcoming events
- What two things need improvement to help you more easily search the website?
- A search bar in the home would be helpful so that the user can search what he wants.
- More broad terms like communication. More tabs in the hover/click area.
- Is there anything on the website which you didn't like?

Everything was easy to locate. The colour scheme is ok. Not my favourite but ok. The image of one bald guy on the home page is not so good. A better picture would be great. The font colour of the company could be black as it would contrast with the background.