

Improve Usability for Websites of Small businesses

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Abstract

Small organizations, due to budget constraints, do not want to spend a lot on their websites. The importance of usable websites is increasing, and big companies are applying usability on their websites for better user experience. This paper highlights the benefits of a usable website, like satisfied customers, an increase in sales, improvement in the credibility of a website, and more. Eight website usability guidelines identified for small businesses include user-centered design, organize content and information, consistent, clean and straightforward layout and design, proper navigation, searchability, responsive design, page speed, usability testing. There are some limitations in applying usability like the resources needed for usability, finding experienced professionals, some tradeoff between Search Engine Optimization and usability, and more. Implementing usability in the early stages of website development will save the businesses money and help them generate more revenue by delivering better customer experience.

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Background

In a 2012 study, Google found that 79% of web users will go to a competitor's website if they do not find proper information on a business's website. In a competitive market, it is essential to have a website that attracts customers. Every organization aims at creating a user-friendly and engaging website. Users have many options online, and if the site is challenging to use, the information is not clear or difficult to read, it is hard to navigate, or does not answer their question, they will abandon the website (Nielsen 2012). 86% of web users want to see information about companies' products and services on the home page, and 64% want to see contact information (Huff Industrial Marketing et al. 2015, 5).

According to Nielsen (2012), "On the Web, usability is a necessary condition for survival." Usability for websites is the quality of experience users have while interacting with the site. If a user has a good experience on the website, they tend to come back. The usability of a website can be measured by the user's effectiveness, efficiency, and satisfaction.

The official ISO 9241-11:2018 definition of usability is "extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use" (2018). Another definition of usability is:

Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process. Usability is defined by 5 quality components:

- Learnability
- Efficiency
- Memorability
- Errors
- Satisfaction (Nielsen 2012)

Usability focuses on the user interface (UI), to enhance the end-user experience (UX).

Usability is a newer concept and is making its way in website development (Donahue, Weinschenk, and Nowicki 1999). Websites are the online storefront for all businesses. A site is accessible over the internet at any place and at any time. People can visit the website to learn about products and services offered, location, and contact information and reach out to the businesses. All this information, along with others, should be clearly displayed on the website, as a part of usability. The use of the internet is growing continuously. In the United States alone, there are 312 million internet users as of 2018. Moreover, in a recent statistic, it was found that only 10% of the adult population in the US do not use the internet (Clement 2019).

With the internet being so widely accepted, small businesses need a website to stay in the competition. However, in a survey done with 351 small business owners, it was found that only 64% of small businesses have a website presence (Delgado, 2018). Not having a website could hurt businesses as it may cause them to lose potential or even existing customers. Having a website gives small businesses these four advantages: Low-Cost Advertising, Visibility, Accessibility, and Sales (Jackson, n.d.). It is essential to showcase the businesses' website as a professional destination to build the trust of the users. 88% of users would not return to a website if they did not have a pleasant experience (Gomez 2010, 4).

The general population also includes people with disabilities, and in the US, that makes 25.7% of the total noninstitutionalized population (Okoro et al. 2018). Web accessibility is a part of usability, and according to Krug (2014, 259), a website is not usable unless it is accessible. "Web accessibility means that websites, tools, and technologies are designed and developed so that people with disabilities can use them. More specifically, people can:

perceive, understand, navigate, and interact with the Web and contribute to the Web" (World Wide Web Consortium n.d.). Section 508 and Section 504 of the Rehabilitation Act mandates accessibility of the website of all government institutions and groups receiving federal funding, respectively (Usability.gov 2013).

Usability problems are different for every website. Problems like website not being responsive, improper navigation, not enough or too much information, complicated to use, cluttered layout are some of the major usability issues. Usability testing will help identify the problems on a website that needs addressing. "Usability testing refers to evaluating a product or service by testing it with representative users" (Usability.gov n.d.). Large companies have the resources and workforce to do profound usability testing and evaluation, then editing the design of the website to make their user interface more interactive and experience more efficient.

Small businesses often do not have the budget to do an in-depth usability testing. "With so much economic activity happening online, companies need to ensure that their Web presence is accessible and acceptable to maintain future profitability" (Downing and Liu 2014). To stay ahead and in the game of this fast-growing online industry, small businesses need a way to determine the usability of their websites. Small organizations must implement cost-effective usability methods early on in the web development cycle to improve user experience on all display devices for lower cost and efficient development.

Approach

US Department of Health and Human Services (HHS) (2006), in partnership with the US General Services Administration (GSA), had extensively researched and developed Web Design

and Usability Guidelines. This book provides 209 guidelines primarily for the people involved in the development and maintenance of a site to make them usable. The topics discussed below addresses the essential guidelines for small business websites –

- user-centered design
- organize content and information
- consistent, clean and straightforward layout and design
- proper navigation
- searchability
- responsive design
- page speed
- usability testing

To identify usability issues on a website, some usability testing or evaluation has to be done. There are many types of testing and evaluation techniques. The main objective is to identify cost-effective solutions for small businesses from a plethora of different kinds of usability testing techniques that already exist. Identifying and researching literature related to website usability testing will help determine these solutions. The questions while reviewing these pieces of literature would be –

- What are the benefits of applying a principal?
- When to apply usability?
- What will be the cost, time, and human resources needed?
- When and how to conduct usability testing?

The sources used in this research include government websites, peer-reviewed journals, books, white papers, conference papers, case studies, web news articles, and articles written by industry experts. While accessibility in websites is mandatory for some organizations as per federal law, this paper will not discuss it in depth.

Literature Review

In the modern age, accessing websites through the internet is the primary mode for consumers to gather information. Innovations in computer technologies help improve existing business growth by developing new models and applications. This change in technology has resulted in a shift in the web paradigm from a business-oriented design to a user-centric design (Kim et al. 2011). Unintuitive applications will drive away current and potential customers to other websites (Black 2015), as the small businesses primarily use the web to present, advertise and promote their products (Vila and Kuster 2012).

According to Krug (2014, 34), “If something is usable – it means that – A person of average (or even below average) ability and experience can figure out how to use the thing to accomplish something without it being more trouble than it is worth.” Many organizations’ sites focus on their internal design, failing to provide answers to customer’s questions and also fail to get business from said customers as they search for companies online (Nielsen 2006). Applying usability principles on a website requires experienced web development companies who are well versed in UI and UX. Finding and hiring such companies and hiring them for the project can be expensive (usability.gov n.d.)

A website with good usability is perceived as desirable and easy to use by the users. Such a usability implementation means providing consistency in ease of getting to the webpage

to support users' intentions on any given online session; clear interaction markers, ease of information finding, speed, organization, and layout of the webpage (Shneiderman 1998, 153).

In the past few decades, numerous studies have been conducted on the usability of a website, as it is gaining much attention (Palmer, 2002). With the growing popularity and results of usability, more companies realize that usability is not just for better user experience but is also good for business (Weinschenk, 2005). Cost from design to post-release increases in the factor of 10, i.e., if it costs \$1 to address something in the design phase, it will cost \$10 to fix it in the development phase and a \$100 if it is fixed after product release (Pressman 2010). A study found that testing a website prototype in the design phase solved 40% to 60% problems in the interface by changing the design. Improving the design also saved them money as they identified and fixed the problems in the early stage of the development cycle (HHS 2006, 189).

The cost-benefit ratio on investment on usability is between 1:10-100, that means for every \$1 spent on applying usability practices, the company will benefit between \$10 and \$100 (Donahue, Weinschenk, and Nowicki 1999). According to Nielsen (2003), an investment of 10% of the total development budget in usability can increase the site's ease of use by an average of 135%. In the research, they analyzed several usability cases. The improvement matrix of the websites in different areas is shown in Table 1.

Table 1. Usability benefit matrix

Metric	Average Improvement Across Web Projects
Sales/conversion rate	100%
Traffic/ visitor count	150%
User performance / productivity	161%
Use of specific (target) features	202%

Source: Nielson 2003

Usability Guidelines

User-Centered Design

User-centered design (UCD) is a continuous design process where the end-user and their needs are the focal points in every step of the process (Interaction Design Foundation n.d.). The first law of usability, according to Krug (2014, 38), is “Don’t Make Me Think,” i.e., make a website self-explanatory and straightforward. A study revealed a rise in customer satisfaction by 40% for Gartner Group in 1992 when they applied usability guidelines on their e-commerce website (Donahue, Weinschenk, and Nowicki 1999). Another study discovered an increase in user satisfaction by 67% after redesigning the website according to user requirements. Users were able to perform 30% more tasks in 25% lesser time (HHS 2006, 189). Some of the guidelines listed in the order of importance and relevance that mainly focus on UCD are:

1. Establish User Requirements: Exchanging information with the users is the first step towards having a successful website. Data gathered from these exchanges is used to build use cases, which describes what users want and need the website to do (HHS 2006, 2).
2. Understand and Meet User’s Expectations: Understand and fulfilling user requirements associated with page navigation, information, and organization (HHS 2006, 3).
3. Involve Users in Establishing User Requirements: The involvement of users in the early stage of development can answer questions related to user interaction with the website (interaction design foundation n.d.). Involving the users early in the

- process will help ascertain issues beforehand, and more effective solutions can be found early in the process (usability.gov n.d.).
4. Design for Working Memory Limitations: Do not expect users to remember things. They cannot hold much information in their short-term memory. Design the website in a way that is easy for the users to recognize instead of recalling something (Nielsen 2009; HHS 2006, 13).
 5. Standardize Task Sequences: By standardizing task sequences on a website, the user can navigate through the same process faster (HHS 2006, 11).

6. Reduce the User's Workload: If there are tasks that can be automated and calculated by the computer, it is better to allocate it to the computer so users can concentrate on tasks that require their attention. For example, a mortgage calculator on a realtor's website (HHS 2006, 12).

Organize Content and Information

Information on the website will only be useful for users when they are organized and intuitive. If a company uses understandable and straightforward language on its website, it communicates the relevant information and business values more clearly and powerfully. There is more transparency between the organization and its users, which builds trust and credibility (Loranger 2017). Following are the suggested guidelines for the developers to organize content more effectively:

1. Provide Useful Content: Content on any website is the reflection of the organization, and it should be useful, engaging, and appropriate (HHS 2006, 2). 83% of people trust the website with precise and rich content (Sillence et al. 2004).

2. Organize Information Clearly: The website should display information in an organized and logical manner (HHS 2006, 170).
3. Facilitate Scanning, Ensure that Necessary Information is Displayed and Emphasize Importance: Users do not read an entire web page, they skim through it or scan them (Krug 2014, 49). Using clear headings, small and clear paragraphs, highlight important information (HHS 2006, 109, 171-72). Format the content on the site in a way that is easy for the user to scan. (Krug 2014, 60).
4. Communicate the Web Site's Value and Purpose: Emphasize the purpose of the website on the home page, do not make the users search for it (HHS 2006, 38). As mentioned earlier, the majority of the web users want to see information about the company's products and services on the home page itself (Huff Industrial Marketing et al. 2015, 5).
5. Avoid Jargon and Use Familiar Words: Familiar words register faster in the user's mind (HHS 2006, 160-61). Krug's (2014, 70) third law of Usability states, "Get rid of half the words on each page, then get rid of half of what's left." The idea behind this law is to avoid jargon, reduce noise, provide useful content and, reduce user's work. If the content is too long, 38% of users will likely stop engaging with the website (Adobe 2015).

Consistent, Clean and Straightforward Layout and Design

Websites must be well designed and easy to use, or users will switch to another website. In a survey done by Adobe (2015) with 2,008 consumers, one of the key findings was that 35% of users are likely to stop using the website altogether if the layout, content, or

images are unattractive and 38% might switch devices. In a research study conducted by Stanford Persuasive Technology, it was found that 75% of people decide a company's integrity by its website design, which includes the look and information design/structure (Fogg 2002). 94% of the web users base their first impression about a company is on the design of the website and do not trust an outdated webpage (Sillence et al. 2004). Some of the recommended guidelines for website designers and developers to improve usability are:

1. Increase Web Site Credibility: Some of the factors that affect the credibility of a website are up-to-date site, proper information display, functional design, proper layout and organization, and more (HHS 2006, 10; Fogg2002).
2. Place Important Items Consistently: Consistency is a vital component of the design. Consistency across the website reduces task completion and learning time, thereby increasing user satisfaction (Galitz 2007). A report by CX Network & Clicktale (n.d.) from 200 marketing and customer experience professionals says 73% of the brands fail to provide a consistent experience across all digital channels.
3. Avoid Cluttered Displays and Use Moderate White Space: Users want a clean, ordered, and clutter-free web page (Galitz 2007). White space or negative space is a friend while designing a website. 30% of white space is considered a reasonable amount (HHS 2006, 55).
4. Align Items on a Page: Use proper layout and alignment on web pages (HHS 2006, 51). 64% of people prefer an appealing layout and appealing design while viewing content in their personal lives and 68% in their professional life (Adobe, 2015).

Proper Navigation

Navigation is used by web users to find what they are looking for on a site. People will abandon a website if they are not able to navigate through it. Navigation should be “clear, simple, and consistent” (Krug 2014, 102). Navigation on a website is like display labels in a department store. If they are not appropriately marked, a customer will not be able to find the product they are looking for and end up being frustrated (Krug 2014, 112).

Consistency in navigation assures the user that they are on the same website, and allows them to explore the website without getting confused. Correctly grouping and organizing the navigation according to the hierarchy is essential. Key questions related to navigation are: where is the user, how did they get there, where can they go next, and how can they get there quickly? (Galitz 2007)

1. Use Meaningful and clear Link Labels: The links should be visible and self-explanatory. Clear names help users navigate quickly. It should also be clear whether something is clickable or not (HHS 2006, 77, 86).
2. Breadcrumb Navigation: It is hierarchical information which answers the question, where the user is and how they got there (Galitz 2007).
3. Enable Access to the Homepage: In the navigation, it is important to give access to the homepage in all the pages, so users can go back and start over. It can be a logo of the company and should be consistent throughout the website.

Searchability

Adding the capability to search a website makes the user’s job easier and faster, especially with large websites (Galitz 2007; HHS 2006, 180-87). A large number of users prefer

searching for the content rather than browsing on the internet. Very few websites are small and well organized, where search functionality is not needed. In the majority of the websites, every page should have a search bar or a link to the search page (Krug 2014). Make the search feature intuitive, by giving hints, suggestions, ignoring letter case, and more. A responsive search interacts with its users. The results must be useful.

Search engine optimization (SEO) is based on improving the rankings in the search engine result. Useful content and usability results in good user experience and should be the focus of SEO (Rouse 2018). Usability and SEO are dependent on each other for the success of a website. Having a good SEO and an unusable website will get the users to the website but not attract them in using the service or buying the product. On the other hand, a website with good usability will encourage users to use the services. However, with poor SEO implementation, they will not know about the website, as it will not appear on the search engine results (Nielsen 2012).

In many ways, SEO and usability have similar fundamentals, but sometimes they conflict with each other. Things like keywords that are included in the website content are often complex words, which are tough to understand. Another example is the fat footer. They are suitable for usability, as it gives users another opportunity to look for the information at the end of the page. They are also useful for SEO as they feed the search engines with the critical links of the websites. However, these days, it is often seen that for SEO purposes, websites have a footer that contains excessive information making the footer unusable (Nielsen 2012).

Responsive Design

It is an approach to website creation that changes the layout dynamically according to the size and orientation of a screen (Rouse 2012; Schade 2014). These days every desktop, laptop, tablet, and mobile device have a different screen resolution. Mobile devices are widely used, and almost half (48.91%) of the world population accesses websites through mobile devices, excluding tablets (Clement 2019).

Having a responsive website or a mobile website is vital for any business, as 50% of mobile users are less likely to use a website that is not mobile-friendly even if they like a business. This research also shows that the user's opinion about a company can quickly be changed just by the mobile site experience. A mobile website is not about a little extra sale anymore, but it is more about building and maintaining a relationship with its users (Google 2012). Having a responsive design also improves operational efficiency and productivity. A company redesigned the screens of its website by applied usability principles and increased the throughput by 25%, and reduced the errors by users by 25% (Donahue, Weinschenk, and Nowicki 1999).

Next Page: Figure 1: Desktop and mobile screen display comparison.



Source: Google n.d.

Applying optimization techniques to a website does not necessarily transform them into a mobile-friendly version. As shown in figure 1 above, the mobile version of a website (middle image with x) is the same as the desktop version. That version may involve pinching and zooming in to read the content or any information. Such experiences will be frustrating for the users, and they will end up leaving the website (Google n.d). As more websites are now viewed via smartphones, designing a website for smaller screens rather than just optimizing the desktop version is another alternative. Krug (2014, 225-26) suggests designing the mobile version first, with the essential part for the users and, and then scaling it up for desktops. Consistency across different display devices is also a part of usability. The design should ensure a similar experience for users when they access the website through different devices, i.e., desktop, laptop, tablet, and smartphones (Black 2015).

Page Speed

A user wants to feel in control while accessing a website, and when the response time is more than 1 second, they feel held back and are reluctant to click (Nielsen 2009). Nielsen (2009) believes most people will leave the website if the response time or page loading time is more than 10 seconds. People want everything to load instantly on their devices, and hence web experience must also be designed for fast use. A recent study by Google shows that 53% of users would move on if a mobile website takes longer than 3 seconds to load (An 2018). Designers must use caution while using images on a page, so it does not slow down the page. The image must be optimized for web pages (HHS 2006, 145). Figure 1 shows the impact of delay in page loading speed on mobile devices.

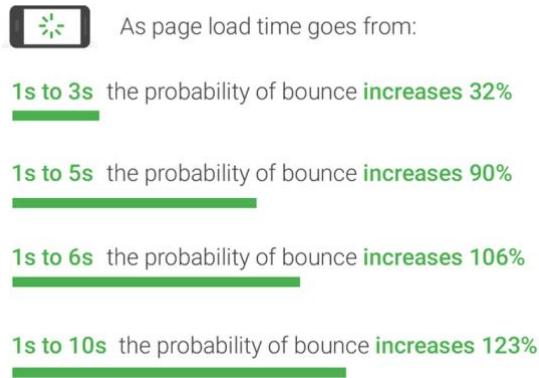


Figure 1. Impact of delay in page loading speed

Source: An 2018.

Page loading time also affects the SEO of the website. According to Google (2010), it also ranks website according to the page loading speed. The reason behind it includes better user experience and reduced operating costs. If users do not experience any delay in the purchasing process, 86% of them are likely to buy the product, whereas a five-second delay will result in a 45% successful purchase. A drop of 13% purchase orders is observed even with a two-second delay (Keeton, Coppinger, and Venable 2014).

Usability Testing

Usability.gov (n.d.) defines usability testing as an evaluation method used for assessing a product or service by putting it to test with its targeted user base. The goal of usability testing is to find the problems related to usability by collecting qualitative and quantitative data to determine tester's satisfaction with the product. According to Krug (2014), the way to getting a good site is to test it. The primary way to make a website more usable is through usability testing (Black 2015). Thirteen guidelines in the book Research-Based Web Design & Usability Guidelines (HHS 2006) address usability testing. The core ideology of all the guidelines is to

identify the best usability method and use the collected data wisely towards improving the website.

While performing usability testing, five steps should be followed. First, find appropriate participants. Next, prepare a script for the test, which includes questions and tasks for the participants. The third step is to observe the participants carefully while conducting the session. Fourth is to collect all the data and interpret the test results. The last step is to recommend fixing the problems based on the level of severity (Black 2015).

An effective way to create a usable and useful website is to use an iterative design approach. It is a continuous process of developing and testing prototypes (HHS 2006, 189). Instead of spending the entire budget on a single usability testing, it is advised to do small iterative tests, with 3 to 5 users, to improve the UI and UX of the website. The cost is relatively less, and it is more effective (Nielsen 2000). A study revealed that after redesigning a website using the iterative approach, users were able to perform 8 to 10 tasks faster and more efficiently (HHS 2006,189). User-centric design is central to the development of a usable website. In order to achieve UCD, it should be tested often and early in the process (usability.gov n.d.). Many methods can be used to do this. They are:

- Laboratory usability testing: It is a method in which participants are observed performing tasks. The testing method involves participants performing a series of tasks on the website. These tasks might involve looking for some information, making comparisons, going through a process of purchasing a product, or something else (Hallahan 2001). The tasks are based on the individual website's needs. Five participants are enough for a small business website. (Nielsen 2000). Usability

testing has proven to reduce costs like telephone support, which contributes to a massive expense for larger organizations. Ford Motor Company invested \$70,000 in building a usability lab (one-time) and doing usability tests, which lead to an initial savings of \$100,000, and the benefits continued over subsequent years. When a web application is easy to understand, learn, and use, they seldom call for support (Donahue, Weinschenk, and Nowicki 1999). This type of testing can be done in a formal laboratory setup, in a room with portable recording equipment, in a room with a person observing and taking notes, or remotely (Usability.gov n.d.). Some of the methods that fall under laboratory testing are:

- Wireframe or prototype testing: This type of testing helps in defining the hierarchy, layout navigation, and more. It helps in ordering and positioning the content, functionalities of the website, and desired behaviors (usability.gov n.d.).
- Card Sort: Often, the navigation or content is designed in a way that makes sense to the company rather than the users. Card sorting helps identify what kind of navigational grouping is preferred by the users. It is a method in which users group different labels. Sorting is an excellent technique to use to organize the information architecture of a website (Sherwin 2018).
- First click testing: A method of testing that examines how efficiently a user was able to navigate the website. It also determines whether or not the user was able to finish the task given and how long it took them (Sauro 2011).

- Eye-tracking: This method tracks precise eye movement of the user while they are performing the tasks with an eye-tracking device (Rohrer 2014).
 - Moderated usability testing: It is practiced either in-person or remotely. Moderator(s) (people conducting the test) facilitates the session and gives the participant tasks to perform and asks them questions. There is live communication between the people (Babich 2017).
 - Unmoderated Remote Usability Testing: It is a quick and inexpensive method that records the behavior and collects participants' feedback as they are performing predefined tasks (Rohrer 2014; Babich 2017).
- Heuristic usability testing: This is an evaluation method in which a usability expert examines the site and evaluates it based on usability principles (HHS 2006, 200). This method can be expensive as it may require more than one expert to inspect the website. The expert requires experience and skills to effectively evaluate the website and hence are hard to find and can be pricey (usability.gov). Nielsen (1994) developed ten general usability principles for evaluating a website. Although he developed these in 1994, they are still relevant for evaluating websites as they are broad criteria and not specific guidelines. They can also be used as a checklist by developers to evaluate the website.
 1. Visibility of system status: Inform the user about the status by providing feedback, showing progress, or any other means.

2. Match between system and real world: Communicate with the users using familiar words and simple language. The information is for the users and must be easily understood by them.
 3. User control and freedom: Users should be able to exit the unwanted state by undoing their actions. Also, give them the option of redo wherever possible.
 4. Consistency and standards: Have consistency in conveying similar things.
 5. Error prevention: Design carefully to prevent error state on the website. Ask for confirmation from the user before executing an action.
 6. Recognition rather than recall: Provide instructions and easy to use a system where the user does not need to remember too much information.
 7. Flexibility and efficiency of use: Design for both expert and new user groups. Give users the option to customize their experience.
 8. Aesthetic and minimalist design: Provide relevant information to the users. Use minimal and straightforward design and layout.
 9. Helping users, recognize, diagnose, and recover from errors: Indicate error messages clearly and in a simple, user-friendly language. Suggest options to rectify the error.
 10. Help and documentation: Give the users features like search, frequently asked questions, instructions, step by step guidelines, video tutorials, or other options for ease of use.
- Inquiry-based usability testing

- Focus groups: This concept involves a moderated discussion between 5 to 10 participants talking about their experience about websites in general and what they potentially want to see on a website (usability.gov n.d.). This practice is discouraged by many usability experts as it may not solve the usability issues by just discussing it. Carefully observing the users will highlight the problem, according to Nielsen (2012) and Krug (2014).
- Ethnographic Field Studies: This study is done in an environment that is preferred by the participant. They interact with the website while the researchers observe the interaction (Rohrer 2014).
- Interviews: This process can be remote or in-person, where the moderator asks the participant's opinions about the website (Rohrer 2014).
- Surveys, questionnaires, customer feedback: These are another inexpensive way to gather information about the website in the form of questions. It can be done by using survey tools while using the site or email feedback (Babich 2017).
- A/B Testing (Other terms: "multivariate testing," "live testing," or "bucket testing"): This method is helpful when the company has to decide the best option out of two available options (Rohrer 2014; Babich 2017).

In general, factors affecting the cost of the testing are, testing method used, size of the team, number of participants and their compensation, time-period of testing. Some of the other elements to consider while budgeting for testing is how often the testing needs to be done if a testing area needs to be rented, and if any equipment needs to be purchased or

rented (usability.gov n.d.). Formal testing may cost between \$5000 to \$10000 (or more per round), and a less formal may cost somewhere around a few hundred dollars per round (Rinder 2012; Krug 2014, 181).

Solution

The research supports the application of usability methods early in the development cycle for better user experience as the cost increases exponentially to rectify a usability related mistake later on in the web development process. Usability is crucial for a small business' website. A usable website will attract more customers with an aesthetic design and efficient interaction between the user and the website. This, in turn, will increase the profitability of a website as more users will be willing to make purchases and will likely return in the future (Rinder 2012).

There are many ways usability can be applied to a website. One of the methods is to apply usability guidelines in the development phase. The most important guideline to follow before designing or redesigning a website is to know the audience. The design, content, and layout have to be done, keeping the end-user in mind. The guidelines for a usable website are:

- user-centered design: know the user and design for them
- organize content and information: provide relevant content and information in an organized manner
- consistent, clean and straightforward layout and design: provide a clean and aesthetic design
- proper navigation: provide navigation that is easy to understand and learn. Do not make the users think (Krug 2014)

- searchability: give the users an option to search. Optimize the website for search engines
- responsive design: optimize for different screen sizes. Depending on the budget, design a different website for mobile or optimize the layout for an excellent mobile experience.
- page speed: make sure the website loads fast
- usability testing: if the budget permits, always test. That is the best way to know if guidelines are properly implemented or not.

Most issues on a website can be identified by testing with as little as 3 to 5 users.

Ideally, one should fix the usability flaws found in testing as soon as they are identified. Running small tests iteratively and revising the design uses smaller resources than doing a large, expensive study at the end of the development cycle. Iterative testing also improves the quality of user experience. Feedback from multiple testing sessions ultimately provides a more usable website (Nielsen 2000).

Developers can also use the ten guidelines Nielsen (1994) provided for heuristic evaluation as a checklist for their website development projects. Those are broad guidelines that will help in making the website more usable. If the website is a big project, the suggested best practice for investing in usability is 10% of the project's budget (Nielsen 2012).

Discussion

The advantages of implementing usability are multi-fold. Some of the well-known benefits are – improving user interface, user experience, and increase end-user efficiency. The company also benefits from applying usability as it cuts down some of the development costs

like training, maintenance, documentation, support, and increases website productivity. (Donahue, Weinschenk, and Nowicki 1999). There are some concerns while building a website for small businesses as they have a limited budget. Despite that, the opportunities afforded by the application of usability guidelines and usability testing are numerous. Websites are changing with continually evolving technologies, and so are the usability trends along with it. The Strengths, Weakness, Opportunity, Threat, and Trend analysis for usability for small business websites are mentioned below in Table 2.

Table 2. SWOTT analysis

Strengths

-
- Increased revenue generation from website
 - Satisfied customer resulting in return customers
 - Early implementation is cheaper
 - Save money on support
 - Less training cost for internal websites
 - Broad customer base when using responsive design
-

Weakness

-
- Skilled and knowledgeable developers and usability experts are required
 - It may be expensive to hire skilled experts
 - Sometimes testing needs to be repeated which can add up the cost
 - Different design for multiple screen-sized may add on to the cost of website development
-

Opportunities

-
- Using alternative usability techniques may save cost
 - Improve UI and UX based on user feedback
 - Increase productivity and efficiency
 - Test the website and gather reactions from users
-

Threats

-
- Choice between usability and SEO
 - Constant change in technology
 - Choosing the correct usability technique
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Trends

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- Responsive design or mobile first design
 - SEO
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The advantages of usability are not limited to just good user experience, but they have multiple benefits throughout the organization. When a website is usable, it improves the trust and credibility of the company. For smaller organizations, often positive and negative publicity is through word of mouth and online reviews. If a user has a pleasant experience on the website, they most likely will use the service or buy a product from the website, generating more revenue for the business. According to Nielsen (2003), investing in usability can return on an average 100% increase in sales or conversions. If the user is satisfied with both the website and the service provided by the company, they will leave a positive review, which increases the credibility of the company. Similarly, if a customer is dissatisfied with the website, quality of product or service may leave a negative review, which can adversely affect the company.

Another benefit of a satisfied customer is that they return to the same website and possibly bring their family, friends, co-workers, and more, as potential customers along with them. Having an intuitive website shows that the organization thinks about its users and designs for them. It will encourage them to use the services, and they might also be interested in any new products or services offered by the organization in the future. As mentioned earlier, 88% of users would abandon a website if they had a bad experience (Gomez 2010, 4).

Small companies, especially the ones that provide technical services, usually need a customer support department, which often receives calls about not being able to understand something on the website. The budget for such support often overruns and can be minimized by providing relevant content and easy navigation on the website (Donahue, Weinschenk, and Nowicki 1999). If a website is easy to use, people will learn to use it themselves faster, resulting

in fewer support calls. Training costs also cut down when a website is usable. The support team also needs less training, as it is easy to use.

If a company uses a website for internal use, it can also benefit from lower training costs. New users will require less time for training if the system is self-explanatory and intuitive. The maintenance cost of a sound system is also less in comparison to an unusable website. There will be fewer issues in a usable website, as most of the problems will be weeded out in its development phase. The site will only need upgrading every once in a while, with changing trends in technology. A website that is simple, consistent, and usable will have less documentation cost, as the technical writing for the system will also be more natural. For example, if a website is clear about its intended use, the documentation for that will also be clear and straightforward. Even a big website will have fewer documentation requirements as it will not be complicated and will clearly define its audience and use-cases from the beginning.

The technology is now moving towards mobile devices such as smartphones, tablets, and more. Responsive design for a website changes the layout to adapt to all screen sizes. Every desktop, laptop, tablet, smartphone, and other devices have a different screen resolution and size. Having a responsive website helps the organization give a consistent experience to the users across all display devices. Users will not be frustrated about the website not displaying well on their device. With nearly half of the world population accessing websites through smartphones (Clement 2019), companies might also look at making a better website just for mobile, although this might add on to the cost of website development. It also depends on the audience that the company is targeting. If the targeted user demographic is the younger

generation, having an excellent usable mobile website will help the business promote themselves more effectively.

Technological changes have also affected how people use services and buy products. These days people search for everything on search engines first for any information. For websites to appear on search results, they have to follow SEO guidelines and optimize the website accordingly. SEO and usability are similar in many ways, like they encourage alt tags, small image size, faster page speed, proper links, and many more. Despite having similarities, SEO, and usability sometimes conflict with each other. The tradeoff here is between short term and long-term gain. SEO will help the organization in the short term by getting people to the website, but if a website is not usable, users will not stay. Balancing SEO and usability is required for small businesses. SEO also keeps changing with advancing technology. It is sometimes challenging to keep up with the changing environment.

Another challenge that companies have to face is choosing the right usability evaluation method and finding relevant users. The cost of usability testing varies a lot, a simple moderated or unmoderated usability testing with 3 to 5 users would cost around \$300 to \$500 (Rinder 2012; Krug 2014, 181). This type of testing is usually enough for small business websites. The cost here can be justified by doing a cost-benefit analysis. It is also ok to conduct the test in a company's office or a conference room. The only requirement after that is an excellent for conducting the test, relevant users, and a usability expert with a notepad to conduct the session. During the testing session, moderators also get the opportunity to get feedback on the products and services offered on a company's website and what they would like to see on the website to improve it.

Companies can also opt for following usability guidelines mentioned in the solution by hiring a company to design or redesign their website accordingly. It can be a little challenging to find a company that has usability experts, and they are often expensive. Also, without testing the website, there is no sure way to know if the website is usable or not. The testing process might also have to be repeated a few times to make sure the website is up-to-mark, adding to the cost of developing the website. Despite these limitations and added cost, usability has many advantages and is beneficial for the company in the long run.

Recommendation

Small organizations that are looking for better sales and outreach from their website will benefit the most from this paper. A company interested in making a usable website, but concerned about resources spent in doing so would benefit from doing a cost-benefit analysis. That will give them an approximate return on investment for the project (Donahue, Weinschenk, and Nowicki 1999; Nielsen 2003). The organization which aims at creating an esthetic and intuitive web experience should engage in applying usability principles and do some form of usability testing. Every organization is different and so their web presence also differs. Before applying the solution on any website project, organizations must identify their audience and then design their website accordingly.

Designers and developers should push for applying a basic level of usability on the websites while designing them. They should be up-to-date with the advancing technology and research in the usability field. Web development organizations should organize frequent training and development sessions for their employees to keep them up-to-date so they can

deliver better results. They should encourage employees to seek training by giving them incentives.

Schools and educational institutions must include courses that teach usability for all technical fields to educate them more on how and why it is essential for any development project. When developing something, people are more focused on the functionality of a product rather than how easy it will be for the user to use the product. Usability is not just limited to the website but is applied in the design of things that we use in our daily lives. Technical things are complex to understand for people who are not very tech-savvy, hence the need to include usability study in all technical fields.

Further studies and research should be done to improve the technologies involving usability. With the change in the technological environment like the emergence of virtual reality, augmented reality, usability will also change for developing such websites and applications. Improvement in touch technology and emergence in movement tracking radar sensors (like hand gestures), facial/eye-tracking using infrared cameras will also affect how websites are designed. Applying usability will become more complex, increase the cost, time, and resources for such technologies. Further research on how to implement usability around these technologies will be the study of the future. Most small business owners might not use such technologies right now, but that might change with time too. Usability will be entirely different for these kinds of technologies, and we will study those in the future as researchers in the usability domain find more about it.

Conclusion

The website is an integral part of any business. It is an essential mode to reach consumers in the modern age. To reach more consumers, companies must design websites, keeping them in mind. It should be easy to use and must provide relevant information. Consumers have many options readily available on the internet, and the competition is fierce. The small businesses must have a usable website for a substantial web presence. The research supports the application of usability principals at the start of a project.

Usability is good for both consumers and businesses. Business and web developers must identify the end-users and how they will interact with the website. Applying usability principles and designing for the user will ultimately help the organization increase its outreach. Implementing usability guidelines and incorporating testing methods in the early phase of a project will help build a usable website and also saves cost. The usability guidelines are very generic and cover a broad spectrum of web design practices. Hence, businesses have to adopt these best practices for their use-case. The best way to know if a website is usable or not is to test it. Implementing testing in the development of a website can ensure building a user-friendly website. The resources spent on testing will directly benefit sales and other revenue generation activities through the website.

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