



Arab Web Accessibility Study

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- **Keyboard Accessible:** Ensure that all features can be accessed with a keyboard.
- **Enough Time:** Ensure that users are given an adequate amount of time to read and interact with the material.
- **Seizures and Physical Reactions:** Create content in a manner that avoids triggering seizures or eliciting bodily responses.
- **Navigable:** Offer ways to assist users in navigating, finding material, and determining their location.

3. Understandable i.e., Users must be able to understand both the information and how the user interface works.

- **Readable:** Ensure that the textual information is both comprehensible and easy to understand.
- **Predictable:** Ensure that web pages have consistent and predictable appearance and functionality.
- **Input Assistance:** Assist users in preventing and rectifying mistakes.

4. Robust i.e., users must be able to access the content as technologies advance

- **Compatible:** Maximize compatibility with current and future user agents, including assistive technologies (e.g., screen readers).

3. Methodology

To map the landscape of web accessibility across the Arab region, this study embarked on the examination of websites spanning all Arab countries. The countries included in this study encompass Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen. This expansive coverage ensures a comprehensive understanding of web accessibility practices across the Arab world, laying the groundwork for targeted improvements and the formulation of region-wide digital inclusivity strategies.

In the first quarter phase of our web accessibility analysis, we initially targeted 1,600 websites across the Arab region. However, due to unforeseen complications, the final analysis was conducted on 1,498 of these websites. The reduction in the number of websites was due to various errors and security barriers encountered when attempting to execute our proprietary evaluation code. These challenges ranged from technical errors within the websites themselves to stringent security measures that prevented our assessment tools from running effectively. Despite these obstacles, the substantial sample size of 1,498 websites remains representative and sufficient for drawing meaningful insights into the state of web accessibility within the region. The data derived from these sites have been critical in identifying both the strengths and areas for improvement in web accessibility practices, providing a robust foundation for our comprehensive quarterly analysis.



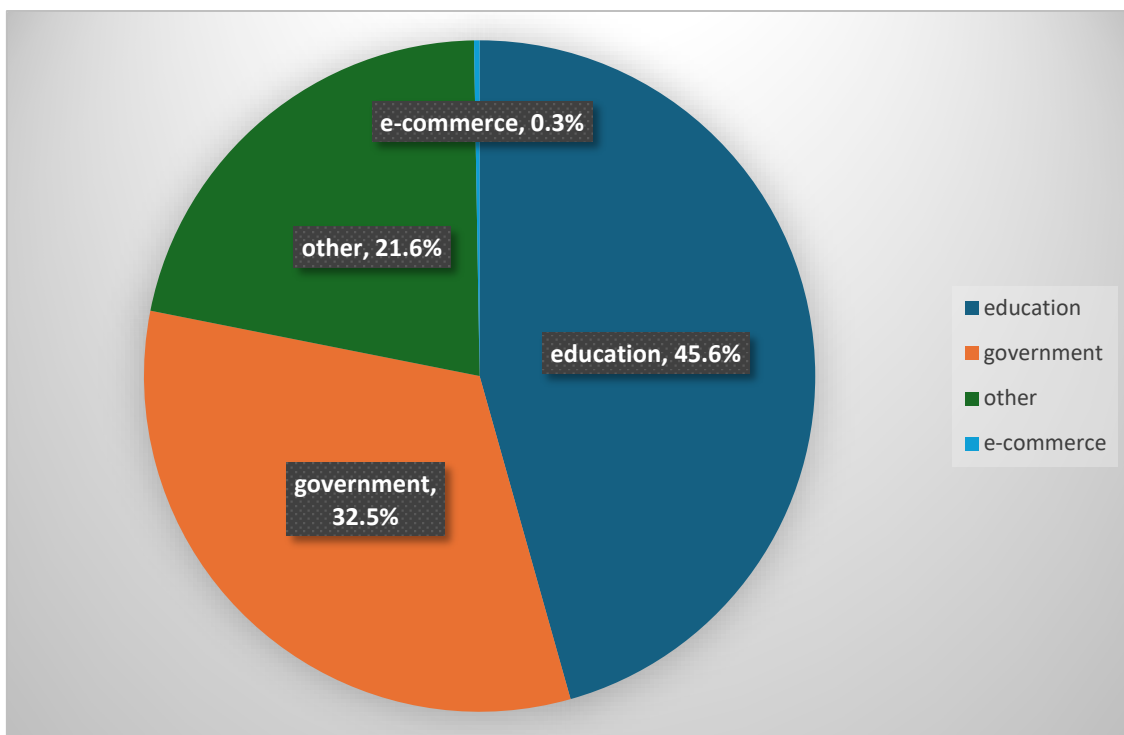


Figure 2: Website distribution by type.

4.3. Comprehensive Accessibility Audit Overview

The table below is the accessibility audit results of the 1498 websites based on automated testing. Precaution should be taken when interpreting the results as automated testing only assesses about 50% of the accessibility criteria. Extensive usability testing across multiple pages is required to understand the complete web accessibility status of the website.

The "Success" column shows the percentage of sites that successfully implemented each success criteria according to the automated testing, the "Fail" column shows the percentage of sites that failed, and the "N/A" (Not Applicable) column indicates the percentage of sites where the criteria were not applicable. For in-depth information on the terms used in the success criteria and their corresponding pillar of accessibility—Perceivable, Operable, Understandable, and Robust—please refer to the appendix. The appendix is structured into two informative sections: the first elaborates on the definitions and importance of each success criterion (Appendix A), and the second maps these criteria to their respective pillars, providing an organized framework to understand the complex data (Appendix B).

Success criteria	Succes	Fail	N/A
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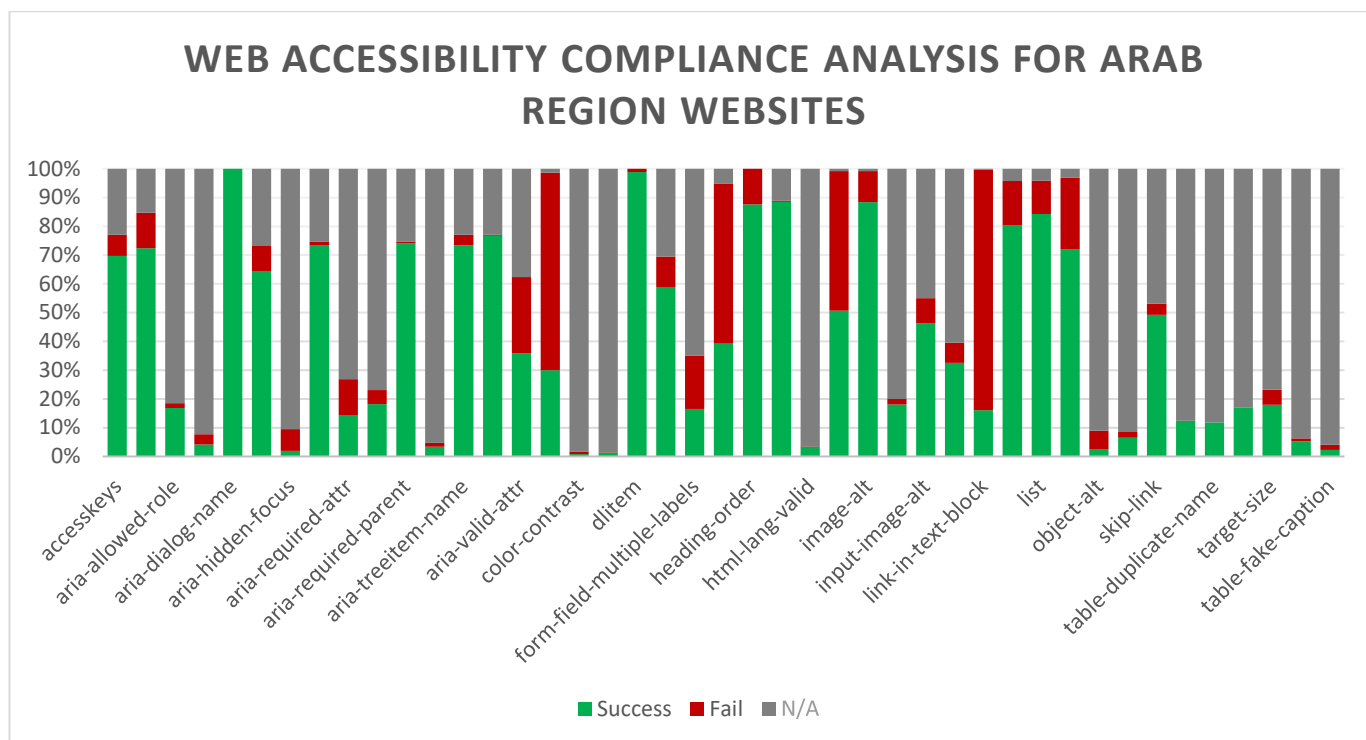


Figure 3: Web accessibility compliance analysis overview for Arab region websites.

4.4. Accessibility Performance Highlights

Some highlights and key points from the analysis:

1. High Success Rates based on automated testing:

- **aria-dialog-name** had a 100% success rate, indicating that all audited sites correctly implemented ARIA roles for dialogs.
- **dlitem** is almost universally correctly used, with a 99% success rate.
- **heading-order** and **list** both have high success rates at 88% and 84% respectively, showing that most sites use headings and lists correctly to structure content.
- **html-has-lang** had a high success rate of 89%, indicating that most of the audited websites specify a default language for their content.
- **image-alt** also has a high success rate of 88%, indicating alternative texts for images are decently implemented.



4.5. Perceivable Criterion Performance

Figure 4 below gives an overview of how well websites are meeting certain success criteria based on automated testing under the principle of "Perceivable," one of the four pillars of accessibility according to the Web Content Accessibility Guidelines (WCAG) on average. The "Perceivable" principle emphasizes the need for information and user interface components to be presentable to users in ways they can perceive.

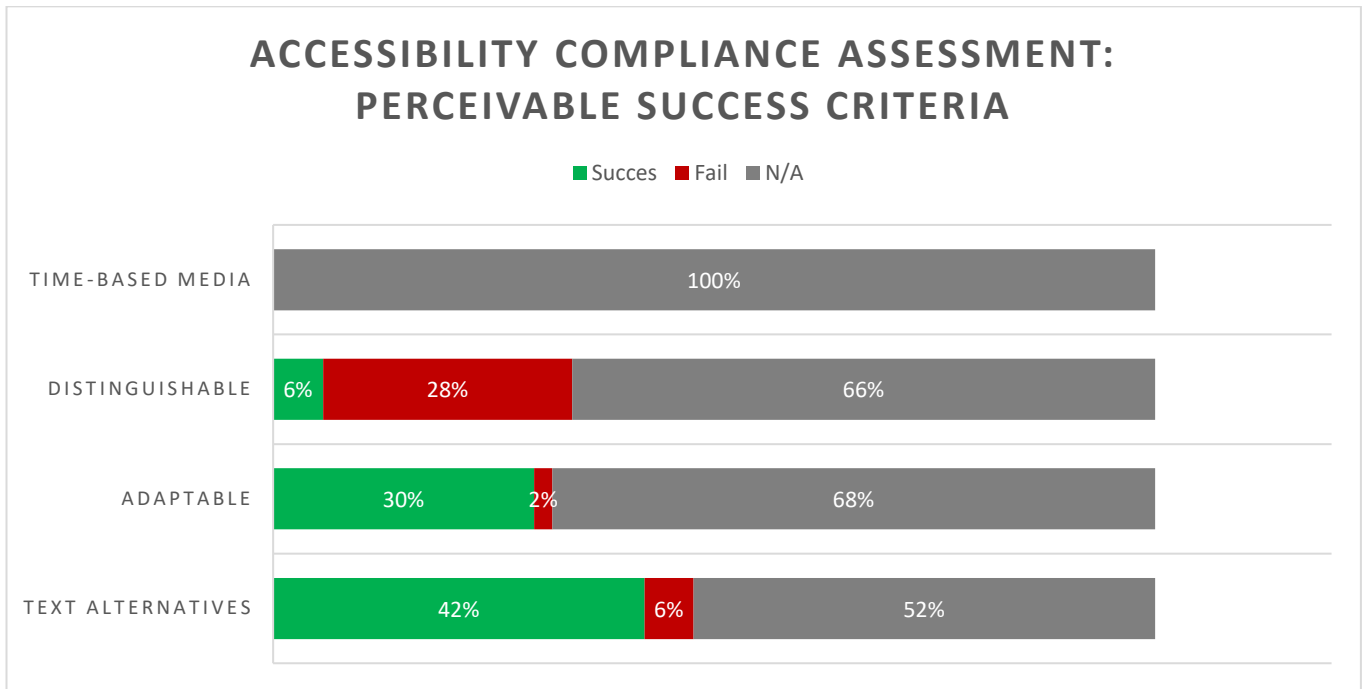


Figure 4: Perceivable success criteria compliance assessment analysis results overview.

1. Text Alternatives (Average: 42% Success, 6% Fail, 52% N/A):

This success criterion focuses on providing text alternatives for any non-text content. The data suggests that 42% of the sites have provided text alternatives for non-text content, while 6% have failed to do so. A significant 52% of the criteria were marked as not applicable. Figure 5 demonstrates the varied success rates in meeting perceivable success criteria for text alternatives.



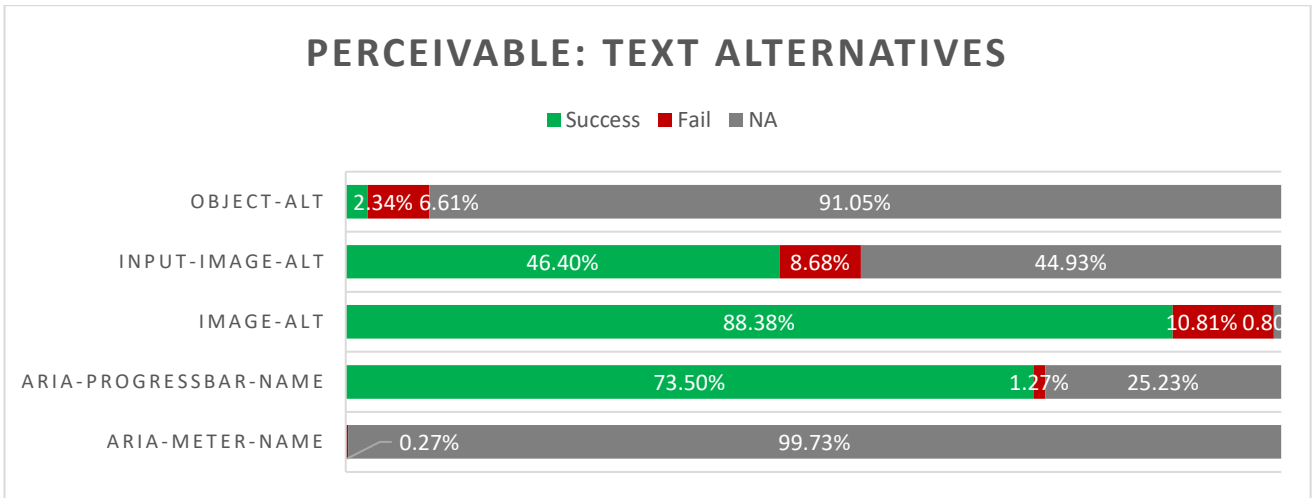


Figure 5: Text Alternatives success criteria compliance assessment analysis results overview.

2. Adaptable (Average: 30% Success, 2% Fail, 68% N/A):

Being adaptable means that content can be presented in different ways without losing information or structure, such as through assistive technologies. Only 30% of the sites successfully met this criterion based on automated testing on average, with a small failure rate of 2%. However, a majority, 68%, was rated as not applicable. Figure 6 demonstrates the varied success rates in meeting perceivable success criteria for adaptable.

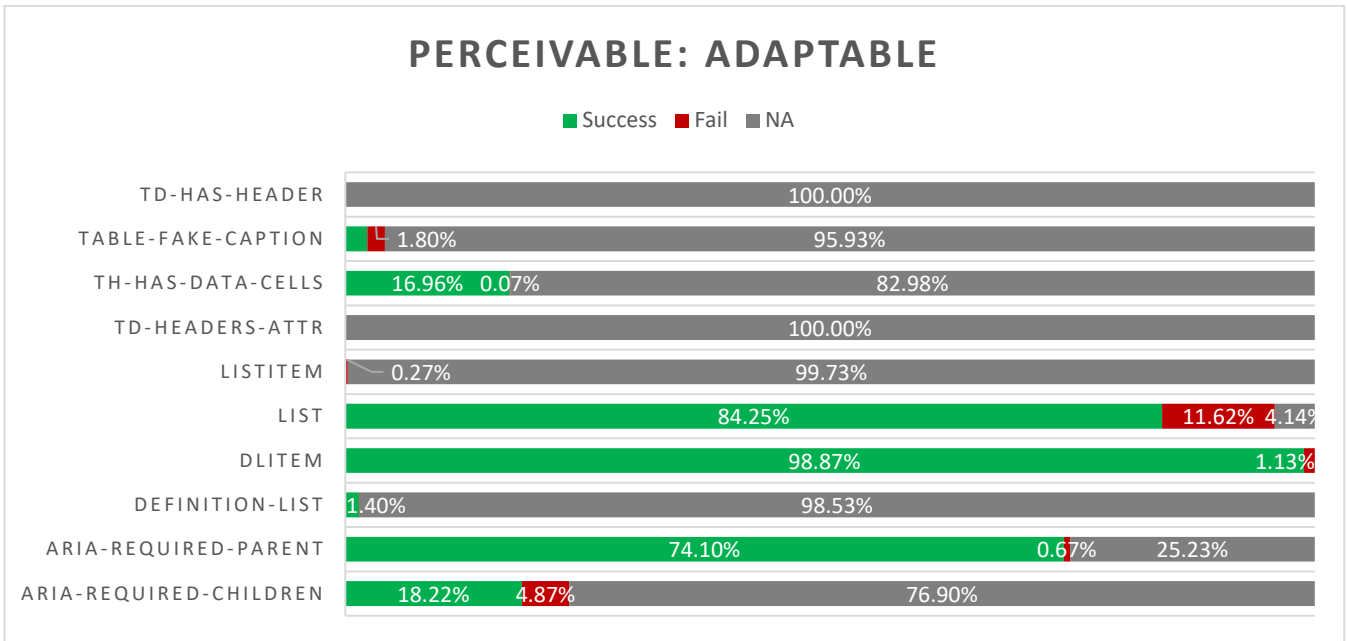


Figure 6: Adaptable success criteria compliance assessment analysis results overview.



3. Distinguishable (Average: 6% Success, 28% Fail, 66% N/A):

This success criterion is crucial for making it easier for users to see and hear content, including separating foreground from background. The low success rate of 6% indicates a significant area for improvement, with 28% of sites failing this criterion according to automated testing. Figure 7 demonstrates the varied success rates in meeting perceivable success criteria for distinguishable.

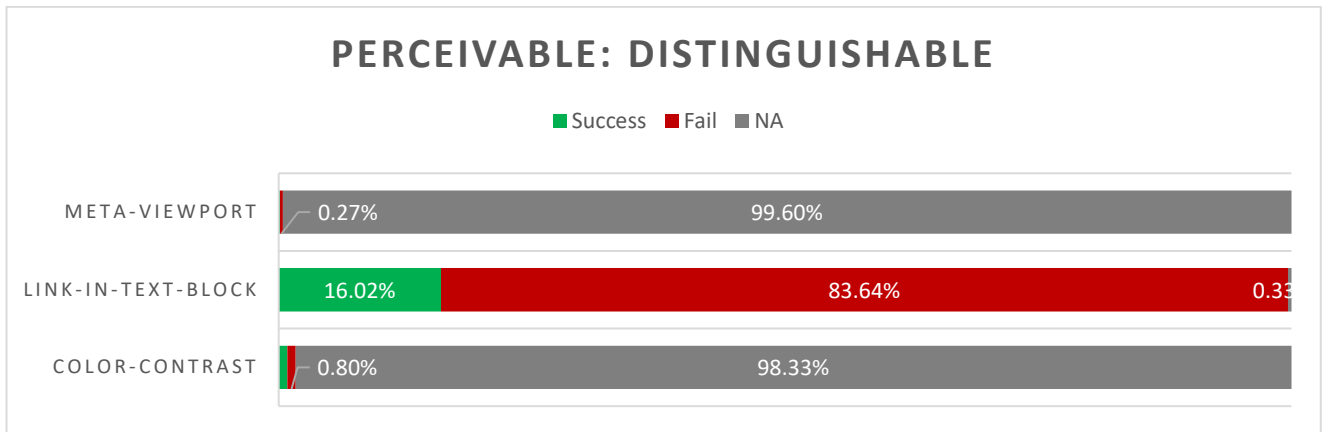


Figure 7: Distinguishable success criteria compliance assessment analysis results overview.

4.6. Operable Criterion Performance

Figure 8 below gives an overview of how well websites are meeting certain success criteria based on automated testing under the principle of "Operable" one of the four pillars of accessibility according to the Web Content Accessibility Guidelines (WCAG). The "Operable" principle emphasizes that users must be able to operate the interface (the interface cannot require interaction that a user cannot perform).

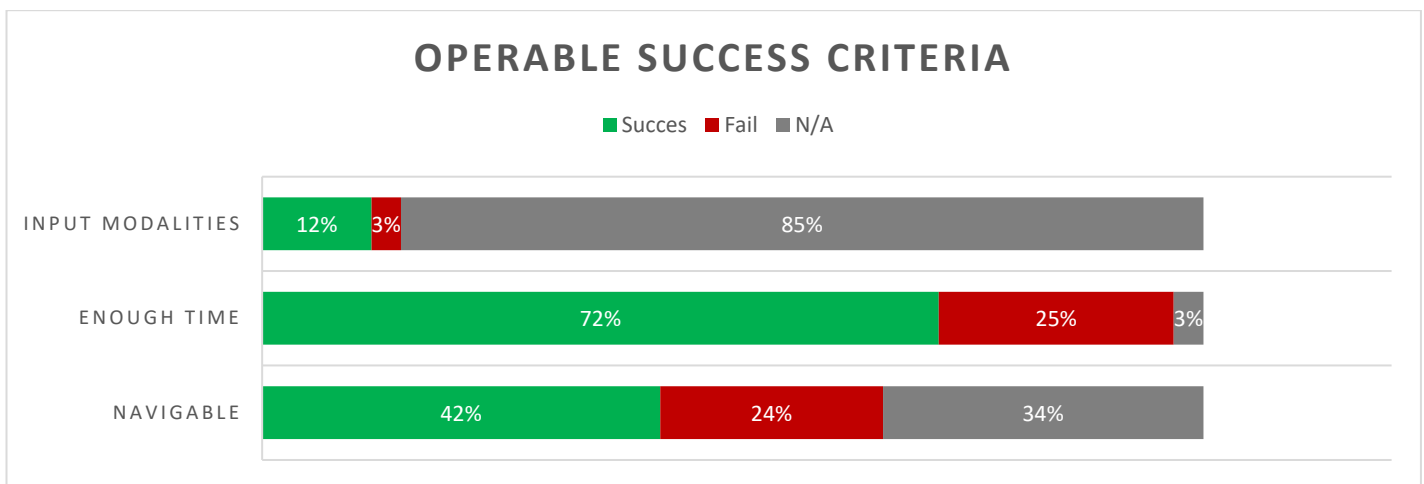


Figure 8: Operable success criteria analysis results overview.



1. Navigable (Average: 42% Success, 24% Fail, 34% N/A):

"Navigable" assesses whether users can navigate and find content. Based on the automated testing employed, the 42% success rate shows that less than half of the websites have adequately provided navigational mechanisms. A failure rate of 24% indicates that nearly a quarter of the websites have issues that could hinder navigation for users, particularly those using screen readers or other assistive technologies. 34% were marked as N/A. Figure 9 demonstrates the varied success rates in meeting operable success criteria for navigable.

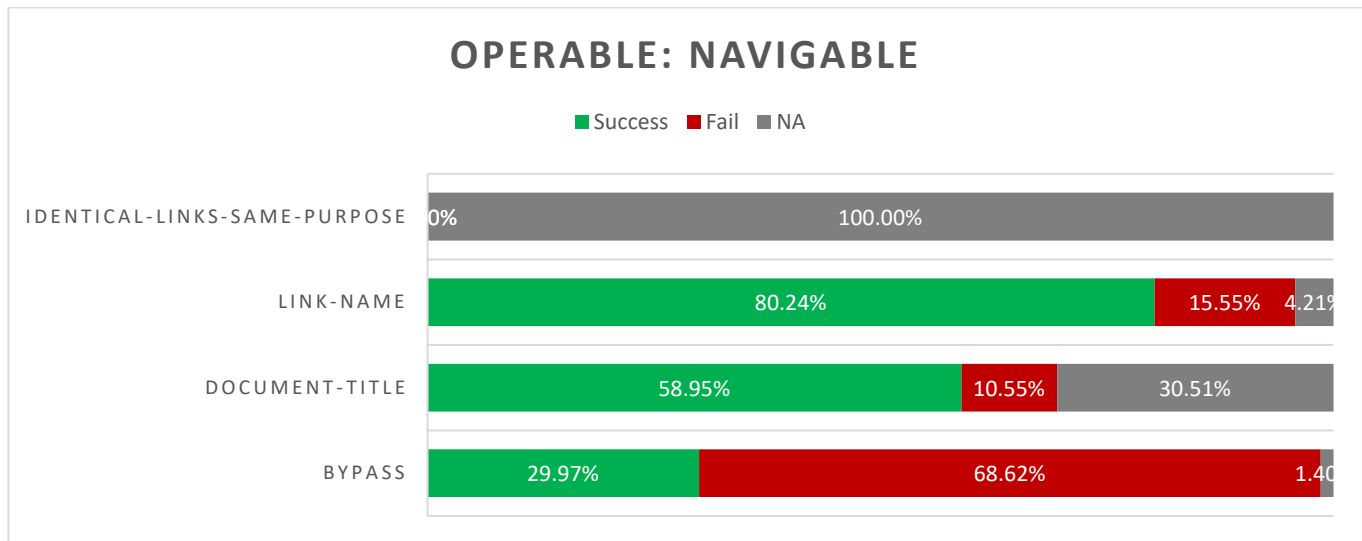


Figure 9: Navigable success criteria compliance assessment analysis results overview.

2. Enough Time (Average: 72% Success, 25% Fail, 3% N/A):

"Enough Time" evaluates whether users have enough time to read and use the content. According to the automated testing results, 72% success rate suggests that most websites give users sufficient time to interact with content, which is essential for those who require more time due to a disability. However, a quarter of websites have failed this criterion, pointing to a notable proportion of content that could be inaccessible due to time constraints. Figure 10 demonstrates the success rate in meeting operable success criteria for enough time based on meta-refresh.



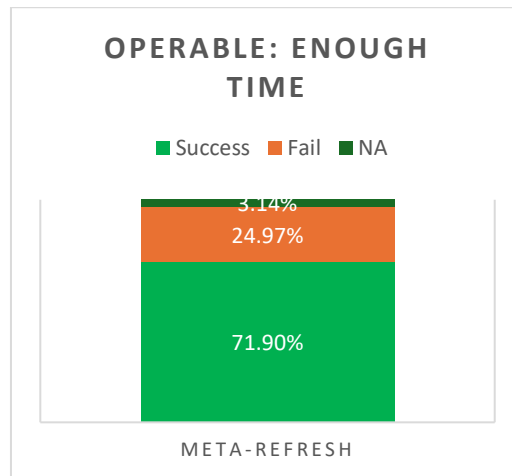


Figure 10: Enough Time Success Criteria Compliance Assessment Results Overview

3. Input Modalities (Average: 12% Success, 3% Fail, 85% N/A):

"Input Modalities" refers to providing users with various options to input data beyond traditional keyboard interfaces. The success rate based on automated testing method is remarkably low at 12%, indicating a significant area for improvement in accommodating diverse input methods, such as voice commands, on-screen keyboards, or other assistive devices. With 3% failing, it suggests few websites have attempted to implement this and failed. Figure 11 demonstrates the varied success rates in meeting operable success criteria for input modalities.

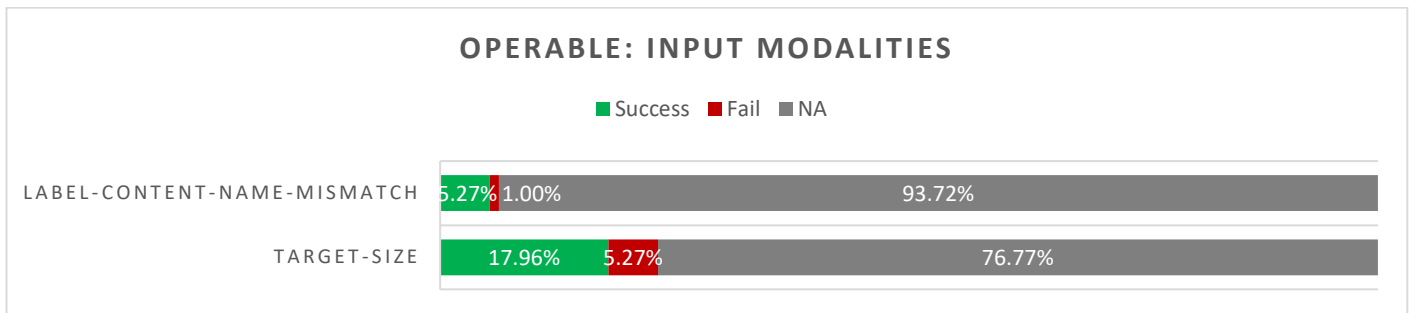


Figure 11 Input Modalities Success Criteria Compliance Assessment Results Overview

4.7. Understandable Criterion Performance

The figure provided below offers a comprehensive snapshot of the performance of websites against specific success criteria pertaining to the "Understandable" criterion, a fundamental component of accessibility outlined in the Web Content Accessibility Guidelines (WCAG). The "Understandable" criterion emphasizes the importance of content being presented in a clear and coherent manner, ensuring that users can easily comprehend the information provided. This criterion is essential for facilitating access to web content for individuals with diverse cognitive abilities and language proficiencies. By adhering to the



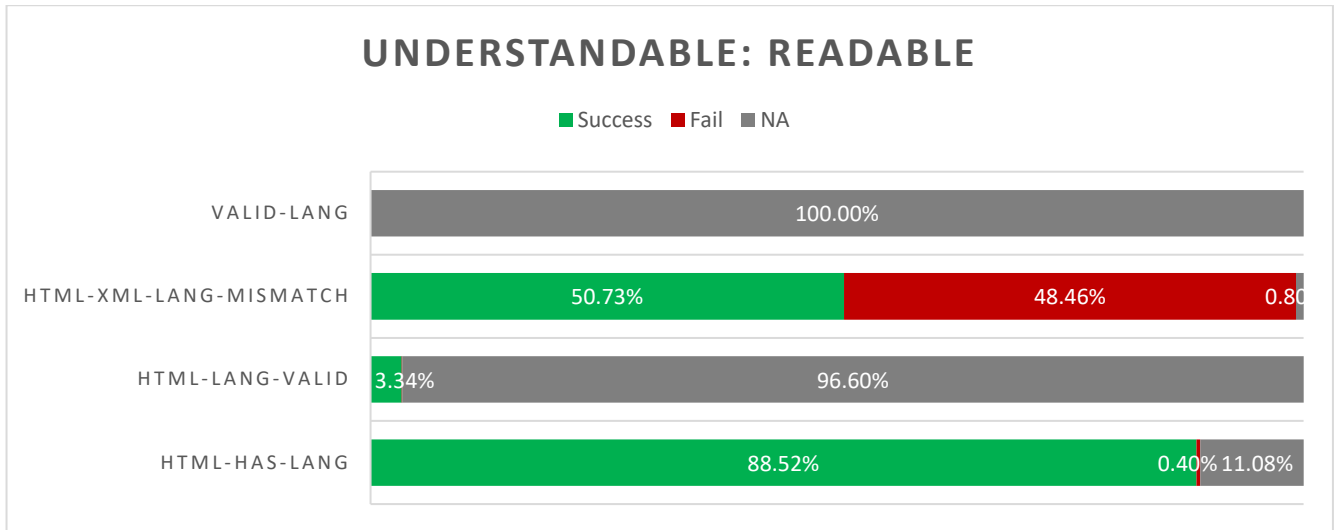


Figure 13: Readable Success Criteria Compliance Assessment Results Overview

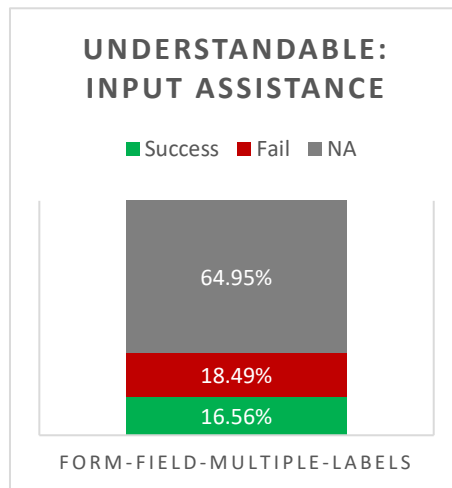


Figure 14: Input Assistance Success Criteria Compliance Assessment Results Overview

4.8. Robust Criterion Performance

The figure below gives an overview of how well websites are meeting certain success criteria under the principle of "Robust," one of the four pillars of accessibility according to the Web Content Accessibility Guidelines (WCAG). The "Robust" principle of the Web Content Accessibility Guidelines (WCAG) highlights the need for content to be robust enough that it can be reliably interpreted by a wide variety of user agents, including assistive technologies. This principle ensures that content can be accessed by different technologies now and in the future.



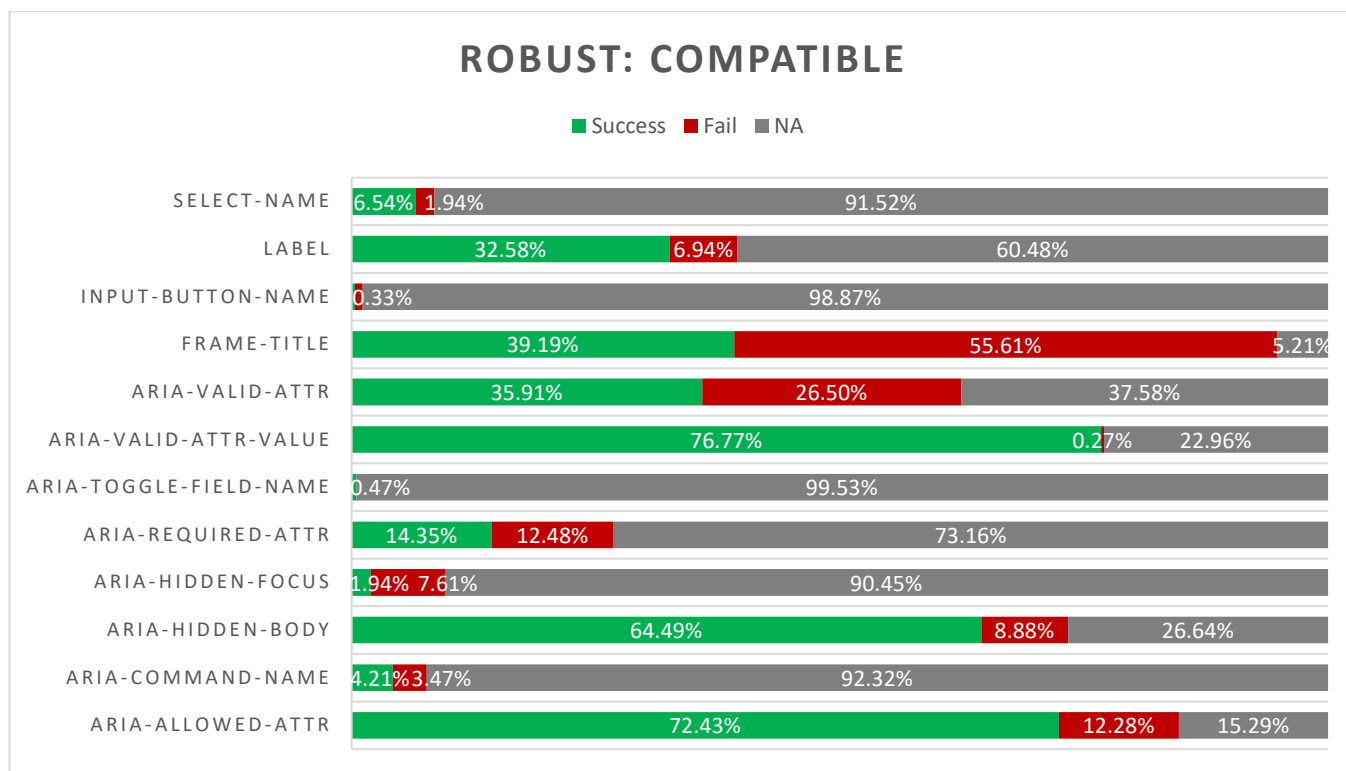


Figure 16: Compatible Success Criteria Compliance Assessment Results Overview

5. Conclusion

The examination of 1,498 websites in the Arab area provides a glimpse into the present condition of digital accessibility. Although there are certain areas of success, such as the proper application of ARIA roles for dialogues and the usage of list elements, the overall situation is diverse, with considerable differences in adherence to the WCAG requirements. While automated testing methods provide a valuable baseline for identifying accessibility issues, they are not sufficient on their own. Automated tools can only detect about 30-50% of accessibility barriers, often missing context-specific and user experience nuances. Manual testing and usability testing are crucial complements, as they allow for a more comprehensive evaluation by involving real users with disabilities and experts who can assess interactive and dynamic elements, ensuring a truly accessible and user-friendly experience.

The high success rates in specific criteria, such as html-has-lang and image-alt, indicate a positive trend toward making content more perceivable and accessible to users with disabilities. Nevertheless, the survey also revealed areas of concern where compliance is significantly lacking. The most striking is the poor implementation of distinguishable elements, which are fundamental to users with visual impairments. Furthermore, the high failure rate in creating navigable structures for assistive technologies highlights an urgent need for better structural accessibility on many websites.



