



Research Article

Analysis of Usability and User Experience on News Portals Across Generation from Baby Boomers to Generation Alpha

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A B S T R A C T

The rapid development of digital technology in Indonesia has not been fully supported by adequate digital literacy, creating generational gaps in technology use. These differences may influence usability and user experience (UX) when users access online news websites. This study aims to analyze differences in usability and UX among generations on the Detik.com news website using a quantitative approach. A total of 400 respondents participated in this study, consisting of Baby Boomers (17), Generation X (99), Millennials (124), Generation Z (128), and Generation Alpha (32). The Kruskal-Wallis test was applied to examine significant differences in usability and UX among generational groups, while the Mann-Whitney test was used as a post hoc analysis to identify specific differences between generation pairs. The results show significant differences among generations, with Generation Z demonstrating the highest user experience, while Generation Alpha obtained the lowest results, particularly in the learnability aspect. The most dominant differences were found in comparisons involving Generation Alpha, whereas Generation X and Millennials showed no significant differences. These findings contribute to understanding intergenerational differences in usability and UX on digital news platforms and provide practical implications for developing adaptive, accessible, and user-centered website designs.

1. INTRODUCTION

The rapid development of digital technology has significantly transformed patterns of social interaction and the dynamics of people's lives, both in Indonesia and globally. Based on data from Statistics Indonesia, the increasing accessibility and affordability of internet services have contributed to a significant rise in the number of internet users in Indonesia, from approximately 100 million in 2018 to more than 185 million in 2024. This indicates that the internet has become an essential need in supporting various societal activities, such as obtaining information, communicating, and engaging in digital interactions [1][2]. However, this increase in access has not been fully accompanied by adequate public ability to understand and utilize digital information. Indonesia's digital literacy index remains in the moderate

category, with a score of 3.54 out of 5, indicating that the digital literacy capability of society is still not optimal [3]. This condition increases vulnerability to misinformation and disinformation and affects the quality of public understanding and decision making [4].

The digital literacy gap is also influenced by differences in generational characteristics in adopting digital technology. Data from Statistics Indonesia show that the older the generation, the lower the level of adoption and interaction with digital technology. In addition, most Indonesians access the internet through mobile devices, particularly smartphones, reflecting differences in usage habits among generations. Older generations tend to use technology for communication and simple information consumption [5], while younger generations utilize it more intensively for

various digital activities [6]. These differences indicate that each generation has distinct preferences and needs in interacting with technology [7].

In this context, usability becomes an important aspect in determining the success of a digital system, as it relates to effectiveness, efficiency, and user satisfaction [8]. The concept of usability, which originally developed from the Human–Computer Interaction (HCI) approach, has been expanded through the concept of user experience (UX), which includes users’ perceptions, emotions, and responses during interaction with a system. The measurement of usability and user experience has been formalized through international standards such as ISO 9241-11:2018, ISO/IEC 25010:2011, and ISO 9241-210, which provide a systematic evaluation framework [9]. Preferences regarding usability also differ across generations, where younger generations emphasize visual design and functionality, while older generations prioritize simplicity and ease of use [10][11].

As one of the main digital media platforms, news websites play a strategic role in improving public literacy. In Indonesia, Detik.com is one of the most widely used news websites, making it a relevant object of study. The usability quality of a news website greatly influences information comprehension, as information structure, readability, and ease of navigation can affect users’ cognitive load [12] [13]. In addition, news consumption patterns also vary across generations, where older generations still rely on conventional media, while younger generations are more active in accessing news through interactive digital platforms [14] [15].

Nevertheless, previous studies have generally focused on usability evaluation in a broad sense and have not specifically examined differences in usability and user experience across generations, particularly in the context of news websites in Indonesia. In fact, differences in generational characteristics and preferences may influence how users interact with and evaluate the quality of a digital system. Therefore, this study aims to analyze the differences in usability and user experience among generations in the use of the Detik.com news website.

2. METHOD

This study was designed using a quantitative approach to evaluate the usability level of the system based on the ISO 9241-11 and ISO/IEC 25010 standards, as well as the user experience based on the ISO 9241-210 standard. The research design was systematically structured through several integrated stages, starting from the literature review, concept formulation, and concluding with the drawing of conclusions. The overall research procedure flowchart is presented in the figure below:

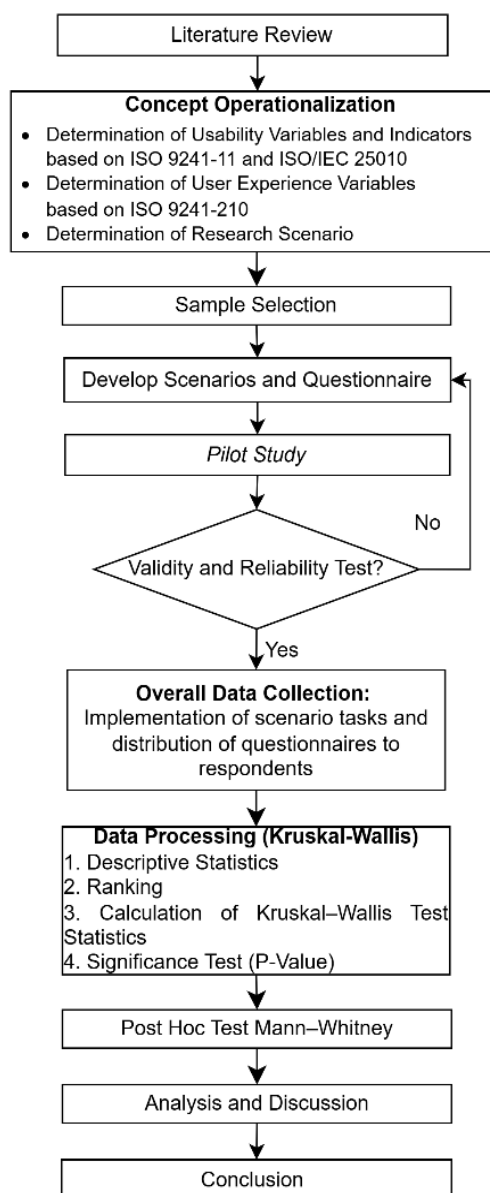


Figure 1. Flowchart

2.1. Data Collection and Variables

Data collection in this study was conducted through a questionnaire survey of Detik.com users during the

January–March 2026 period. The data used were primary data collected using a non-probability sampling technique with a purposive sampling approach, involving respondents who had accessed Detik.com and belonged to five generational groups. The respondents consisted of Baby Boomers (born between 1946–1964), with this study specifically limiting the group to respondents aged 61–64 years and totaling 17 respondents who were still categorized as productive-age individuals according to BPS and actively used digital devices, Generation X (born between 1965–1980) totaling 99 respondents, Millennials (born between 1981–1996) totaling 124 respondents, Generation Z (born between 1997–2012) totaling 128 respondents, and Generation Alpha (born from 2013 onward) with this study limiting the group to children aged 9–12 years and totaling 32 respondents.

The limitation of Generation Alpha was applied because children in this age range are considered capable of reading and understanding written information as well as using digital media independently, in line with UNICEF’s findings on children’s digital literacy development. Meanwhile, the limitation of the Baby Boomer group was applied to ensure the cognitive and physical readiness of respondents in completing the research instrument. The number of respondents was determined based on analytical requirements and the Slovin formula.

The research variables included usability as the independent variable based on ISO 9241-11 and ISO/IEC 25010 standards, consisting of effectiveness, efficiency, satisfaction, appropriateness recognizability, learnability, operability, user error protection, user interface aesthetics, and accessibility. Meanwhile, user experience (UX) was used as the dependent variable based on ISO 9241-210, including emotional aspects, beliefs, preferences, perceptions, physical and psychological responses, behaviors, and accomplishments before, during, and after use. Data were measured using a Likert scale to evaluate respondents’ perceptions and identify differences in usability and UX across generations.

The conceptual framework of this study is illustrated in Figure 2. The framework depicts the comparison of usability and user experience perceptions across five generational groups based on the dimensions adopted

from ISO 9241-11, ISO/IEC 25010, and ISO 9241-210:

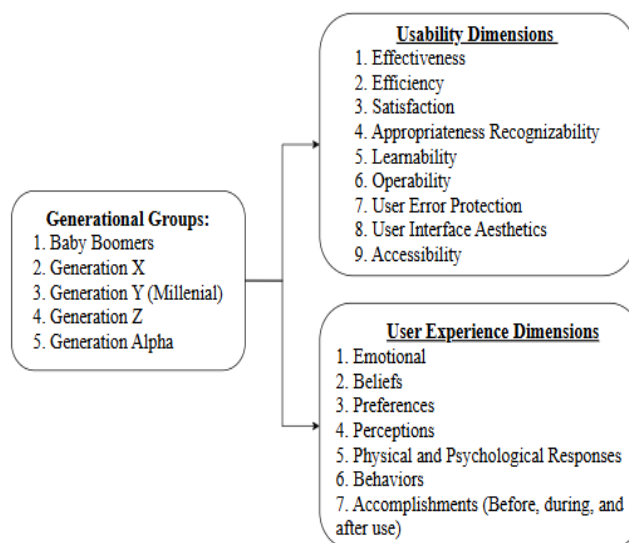


Figure 2. Conceptual Framework of the Study

2.2. Data Analysis

Data analysis was conducted to process and interpret the collected data in order to answer the research objectives. The analysis consisted of validity and reliability testing, followed by non-parametric statistical tests, namely the Kruskal–Wallis test and Mann–Whitney test, to examine differences in usability and user experience perceptions among generational groups:

- a. Validity and Reliability Test: The validity and reliability tests were conducted to ensure that the research instrument used in this study was appropriate, accurate, and consistent in measuring the intended variables. The validity test was performed to determine whether each questionnaire item was able to measure the constructs of usability and user experience (UX) accurately. An item was considered valid if the calculated R-value was greater than the R-table value or if the p-value was less than 0.05. This indicates that the questionnaire item had a significant relationship with the total score and was suitable for further analysis. Furthermore, the reliability test was carried out to assess the consistency and stability of the questionnaire items in measuring the research variables. The instrument was considered reliable if the Cronbach’s Alpha value was greater than 0.70, indicating that the items had an acceptable level of

internal consistency and could be used as a reliable measurement tool in this study [16].

- b. Kruskal-Wallis Test: The Kruskal–Wallis test is a non-parametric statistical test used to determine whether there are significant differences in the median values among three or more independent groups. This test is commonly applied when the data do not meet the assumptions of parametric tests, such as normal distribution or homogeneity of variance. In this study, the Kruskal–Wallis test was used to identify whether there were significant differences in respondents’ perceptions of usability and user experience (UX) across different generational groups. The use of this test is considered appropriate because the study involved more than two independent generational categories, namely Baby Boomers, Generation X, Millennials, Generation Z, and Generation Alpha [17].
- c. Mann-Whitney Test: The Mann–Whitney test is a non-parametric statistical test used to evaluate the significance of differences between two independent groups [18]. This test is generally used as an alternative to the independent sample t-test when the data are not normally distributed. In this study, the Mann–Whitney test was applied as a follow-up test when the Kruskal–Wallis test showed significant differences among generational groups. The purpose of this test was to identify which specific pairs of generations had significant differences in their usability and user experience perceptions. The decision making criterion is based on the P-Value, if the P-Value ≤ 0.05 , there is a significant difference between the groups, whereas if the P-Value > 0.05 , there is no significant difference between the groups [19].

3. RESULT AND DISCUSSION

3.1. Respondent Characteristics

The characteristics of respondents in this study were used to provide a general overview of the profiles of the respondents involved. The respondent characteristics presented include gender, generation, latest educational background, occupation, access device, and intensity of website use.

Table 1.

Demographic Characteristics of Respondents				
No	Characteristic	Category	Frequency	Percentage
1	Gender	Male	190	47.5%
		Female	210	52.5%
2	Generation	Baby Boomers	17	4.25%
		Gen X	99	24.75%
		Millennial	124	31%
		Gen Z	128	32%
		Gen Alpha	32	8%
3	Access Device	Smartphone	379	94.75%
		Laptop/Pc	16	4%
		Tablet	2	0.50%
		Computer	3	0.75%

The results show that female respondents were slightly more dominant, accounting for 52.5%, while male respondents accounted for 47.5%. Based on generation, most respondents were from Generation Z at 32%, followed by Millennials at 31%, Generation X at 24.75%, Generation Alpha at 8%, and Baby Boomers at 4.25%.

In terms of access devices, smartphones were the most widely used device, with 94.75% of respondents accessing the website through smartphones. This indicates that most users interact with the website through mobile devices. Therefore, website usability should be strongly considered from a mobile-user perspective, especially in terms of navigation, readability, button placement, and ease of interaction.

3.2. Scenario Task

Task scenarios were used to measure the usability and user experience levels of the website based on respondents’ ability to complete tasks that represent the main activities of users. Each respondent was asked to complete several scenarios according to the main functions of the website. The scenarios and testing results are presented as follows:

Table 2. Task Scenario

Task Scenario	Successful	Unsuccessful	Success Percentage
Searching for news through the category menu and reading news based on a specific category.	391	9	97.75%
Commenting on a news article.	342	58	85.50%
Sharing a news article.	359	41	89.75%

Searching for and accessing the LIVE TV feature that is currently streaming.	347	53	86.75%
Average Success Percentage	89.94%		

Based on the task testing results, all scenarios showed a relatively high success rate. The scenario with the highest success rate was searching for news through the category menu and reading news based on a specific category, with a success rate of 97.75%. This finding indicates that the main navigation structure of the website is relatively easy to understand and supports users in accessing news according to their preferred categories.

However, the results also show that the success rate decreased in scenarios involving more interactive or supporting features, such as commenting on news articles, sharing articles, and accessing the LIVE TV feature. The lowest success rate was found in the commenting scenario, with a success percentage of 85.50%, meaning that 58 respondents were unable to complete the task successfully. This suggests that the comment feature may still present usability barriers for some users. These barriers may be related to the visibility of the comment button, the login process, unclear interaction flow, or users' difficulty in understanding the steps required to submit a comment.

Similarly, the scenarios of sharing a news article and accessing the LIVE TV feature also did not achieve success rates as high as the news category search scenario. The article-sharing scenario achieved a success rate of 89.75%, while the LIVE TV access scenario reached 86.75%. Although these percentages are still considered high, the number of unsuccessful respondents indicates that some users still experienced difficulties when using additional features beyond simply reading news. This shows that the website's interactive and supporting features may require further improvement, especially in terms of button placement, icon clarity, navigation consistency, and ease of access for users from different generational groups.

Overall, the average success rate of 89.94% indicates that the system is generally able to support users in completing various tasks effectively. Nevertheless, the difference in success rates across scenarios shows that

the usability experience is not equally strong across all website features. The website performs best in supporting the core activity of searching and reading news, but it still needs improvement in features that require user interaction and more complex navigation. Therefore, future usability improvements should focus not only on maintaining the effectiveness of the main news access function, but also on improving interactive features such as commenting, sharing, and accessing LIVE TV. These improvements are important to create a more consistent, accessible, and engaging user experience.

3.3. Validity and Reliability Test

Validity and reliability tests were conducted to ensure that the research instrument used was able to measure the variables accurately and consistently. The results of the validity and reliability tests are presented in Table below:

Table 3.
Validity Test Results

Variable	R-Value	R- Table	Result
Effectiveness	0.856		Valid
Efficiency	0.886		Valid
Satisfaction	0.952		Valid
Appropriateness	0.916		Valid
Recognizability	0.942	0.098	Valid
Learnability	0.959		Valid
Operability	0.867		Valid
User Error Protection	0.916		Valid
User Interface Aesthetics	0.891		Valid
Accessibility	0.943		Valid
User Experience			Valid

Table 4.
Reliability Test Results

Variable	Cronbach's Alpha	Standard Value	Result
Effectiveness	0.977		Reliable
Efficiency	0.976		Reliable
Satisfaction	0.974		Reliable
Appropriateness	0.975		Reliable
Recognizability	0.974	≥ 0.70	Reliable
Learnability	0.974		Reliable
Operability	0.976		Reliable
User Error Protection	0.975		Reliable
User Interface Aesthetics	0.975		Reliable
Accessibility	0.976		Reliable
User Experience	0.974		Reliable

Based on the validity test results presented in Table 3, all variables obtained R-values ranging from 0.856 to 0.959, exceeding the R-table value of 0.098. These findings indicate that all questionnaire items were able

to accurately represent the constructs being measured and were therefore considered valid. The relatively high validity coefficients suggest that the instrument effectively captured respondents' perceptions of both usability and user experience dimensions, supporting the adequacy of the adopted measurement framework.

The reliability test results in Table 4 show that all variables achieved Cronbach's Alpha values between 0.974 and 0.977, substantially higher than the minimum acceptable threshold of 0.70. These results indicate excellent internal consistency among the measurement items and demonstrate that the instrument can provide stable and consistent measurements across respondents. However, the exceptionally high Cronbach's Alpha values may also indicate potential redundancy among certain questionnaire items, suggesting that some items could be measuring highly similar aspects of the same construct. Therefore, future studies may consider further refinement of the instrument to improve efficiency while maintaining its measurement accuracy and reliability.

Overall, the validity and reliability results confirm that the research instrument possesses a high level of accuracy and consistency, making it suitable for examining generational differences in usability and user experience perceptions of the Detik.com website.

3.4. Descriptive Statistics

Descriptive statistics were used to provide a general overview of the data characteristics for each research variable. The following are the results of the descriptive statistical analysis.

Table 5.

Descriptive Statistics

Variable	Mean	SD	Variance	Min	Max	Range
Effectiveness	2,96	0,676	0,457	1	4	3
Efficiency	2,92	0,662	0,438	1	4	3
Satisfaction	3,00	0,660	0,436	1	4	3
Appropriateness	2,99	0,698	0,488	1	4	3
Recognizability	2,96	0,655	0,429	1	4	3
Learnability	2,96	0,633	0,401	1	4	3
Operability	2,96	0,633	0,401	1	4	3
User Error Protection	2,89	0,663	0,440	1	4	3
User Interface	2,90	0,685	0,470	1	4	3
Aesthetics	2,95	0,694	0,481	1	4	3
Accessibility	2,95	0,694	0,481	1	4	3
User Experience	2,91	0,679	0,461	1	4	3

Based on Table 2, all variables obtained mean values ranging from 2.89 to 3.00 on a 4-point scale, indicating that respondents generally perceived the Detik.com website positively in terms of usability and user experience. Satisfaction showed the highest mean value (3.00), suggesting that users were generally satisfied with the overall interaction and performance of the website. In contrast, User Error Protection had the lowest mean value (2.89), indicating that respondents perceived the website's ability to prevent or handle user errors as relatively less optimal compared to other usability aspects. In addition, the standard deviation values for all variables were relatively low, ranging from 0.633 to 0.698, which indicates that respondents' answers were relatively homogeneous and showed limited variation. This finding suggests that users tended to share similar perceptions regarding the usability and user experience of the website. The relatively consistent responses also strengthen the reliability of the descriptive findings and indicate that the evaluated usability aspects were perceived similarly across respondents. Overall, the descriptive statistics demonstrate that the Detik.com website has generally achieved a positive level of usability and user experience, although certain aspects, particularly user error protection, may still require improvement to better accommodate users from different generations.

3.5. Differences Among Generations

The analysis of differences among generations was conducted using the Kruskal-Wallis test to identify differences in perceptions across each usability and user experience variable. The Kruskal-Wallis test was employed because the data did not satisfy the normality assumption required for parametric testing and involved more than two independent generational groups. The analysis was performed at a significance level of 5% ($\alpha = 0.05$). A P-Value less than 0.05 indicates a statistically significant difference in at least one generational group, whereas a P-Value greater than 0.05 indicates that there is no significant difference in perceptions among generations regarding the variable being tested. The results of the test for each variable are presented in **Table 6:**

Table 6.

Kruskall Wallis Test Output

Variable	Statistic	BB	X	Y	Z	A
Effectiveness	Median	2.5	3.0	3.0	3.0	2.0

	Mean	155	20	206	234	64
	Rank		2			
	H-Value			59.69		
	P-Value			0.000		
Efficiency	Median	2.83	3.0	3.0	3.0	2.3
						3
	Mean	161	20	197	240	74
	Rank		1			
	H-Value			55.95		
	P-Value			0.000		
Satisfaction	Median	3.11	3.0	3.0	3.11	2.3
						3
	Mean	180	20	197	239	69
	Rank		1			
	H-Value			56.58		
	P-Value			0.000		
Appropriateness	Median	2.75	3.0	3.0	3.0	2.2
						5
	Mean	160	20	198	236	83
	Rank		2			
	H-Value			48.43		
Recognizability	P-Value			0.000		
	Median	2.8	3.0	3.0	3.0	2.2
	Mean	142	20	200	241	60
	Rank		3			
	H-Value			69.29		
Learnability	P-Value			0.000		
	Median	2.78	3.0	3.0	3.0	2.3
						3
	Mean	158	20	202	235	65
	Rank		5			
Operability	H-Value			58.50		
	P-Value			0.000		
	Median	2.33	3.0	3.0	3.0	2.3
						3
	Mean	163	19	206	232	80
User Error Protection	Rank		8			
	H-Value			48.53		
	P-Value			0.000		
	Median	2.8	3.0	3.0	3.0	2.2
	Mean	155	21	198	234	67
User Interface Aesthetics	Rank		2			
	H-Value			58.89		
	P-Value			0.000		
	Median	2.67	3.0	3.0	3.0	2.0
	Mean	153	20	200	234	68
Accessibility	Rank		9			
	H-Value			58.12		
	P-Value			0.000		
	Median	2.57	3.0	3.0	3.0	2.2
						8
User Experience	Mean	143	20	198	238	65
	Rank		9			
	H-Value			69.90		
	P-Value			0.000		

Based on the Kruskal-Wallis test results, all usability and user experience variables showed significance values of 0.000 or $p < 0.001$. Since these values are lower than the significance level of 0.05, the null

hypothesis H_0 was rejected. This indicates that there were significant differences among generational groups in evaluating the usability and user experience of the Detik.com website. Significant differences were found across all tested variables, including effectiveness, efficiency, satisfaction, appropriateness, recognizability, learnability, operability, user error protection, user interface aesthetics, accessibility, and overall user experience.

The H statistic values ranged from 48.43 to 69.90, indicating substantial variation in data distribution among generations. The relatively high H values suggest that user perceptions of the system's usability and user experience were not homogeneous across generational groups. The highest H values were found in user experience and learnability, indicating that the most prominent intergenerational differences occurred in overall user experience and ease of learning the system. This finding confirms that generational factors play an important role in differentiating user evaluations of digital news websites.

Based on the mean rank values, Generation Z consistently obtained the highest scores across most variables, indicating that this generation provided the most positive evaluations of the usability and user experience of the Detik.com website. In contrast, Generation Alpha consistently showed the lowest mean rank values across all variables, suggesting that this group experienced greater difficulties in using the website compared to other generational groups. Meanwhile, Generation X and Millennials showed relatively similar mean rank values, reflecting comparable perceptions of the system. Baby Boomers generally ranked below Generation X, Millennials, and Generation Z, indicating a lower level of acceptance toward the website.

Overall, the Kruskal-Wallis test results, supported by the consistent mean rank patterns, demonstrate clear perceptual differences among generations. Generation Z tended to provide the most positive evaluations, while Generation Alpha and Baby Boomers showed lower evaluations of the system's usability and user experience. These findings indicate that generational characteristics, such as technological familiarity, interaction habits, cognitive abilities, and user expectations, may influence how users navigate,

understand, and evaluate digital news platforms. However, the Kruskal-Wallis test only identifies the presence of significant differences among groups and does not determine which specific generational pairs differ significantly. Therefore, a Mann-Whitney post hoc test was conducted to further examine differences between generational pairs.

3.6. Differences Among Generations

To further examine the differences among generations, a post hoc analysis was conducted using the Mann-Whitney U test. This test was performed because the Kruskal-Wallis test only indicates whether significant differences exist among generational groups but does not identify which specific pairs of groups differ significantly. Therefore, the Mann-Whitney U test was employed as a pairwise comparison method to provide a more detailed understanding of the differences between generations. The analysis compared all possible pairs of generations, including Baby Boomers, Generation X, Generation Y, Generation Z, and Generation Alpha.

The statistical tests were conducted using a significance level of 5% ($\alpha = 0.05$). A p-value less than 0.05 indicates a statistically significant difference between two generations, whereas a p-value greater than 0.05 indicates that no significant difference exists between the compared groups. The results of the Mann-Whitney U test provide more specific insights into the differences in user perceptions of usability and user experience aspects of Detik.com across generations. These findings help identify the unique characteristics and preferences of each generation, which can serve as valuable considerations for improving user interface design and enhancing the overall user experience. The results of the Mann-Whitney U test are presented in the following table.

Generation	Effectiveness	Efficiency	Satisfaction	Appropriateness Recognizability	Learnability	Operability	User Error Protection	User Interface Aesthetics	Accessibility	User Experience
BB-X	0.13	0.18	0.48	0.15	0.02	0.11	0.21	0.05	0.05	0.03
BB-Y	0.09	0.28	0.58	0.25	0.09	0.18	0.15	0.17	0.12	0.08
BB-Z	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00
BB-A	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01
X-Y	0.77	0.80	0.81	0.81	0.88	0.89	0.55	0.40	0.55	0.44
X-Z	0.03	0.01	0.01	0.02	0.01	0.06	0.01	0.18	0.09	0.09
X-A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Y-Z	0.05	0.00	0.00	0.01	0.00	0.03	0.08	0.01	0.01	0.00
Y-A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Z-A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Figure 2. Post Hoc Mann-Whitney Test Results

The results of the Mann-Whitney post hoc test indicate that there are significant differences between several generational pairs in the assessment of usability and user experience on the Detik.com website. The most dominant differences were found in comparisons involving Generation Alpha, namely BB-A, X-A, Y-A, and Z-A, where almost all aspects showed significance values below 0.05. This indicates that Generation Alpha has a different assessment pattern compared to other generations when using the Detik.com website. In addition, significant differences were also observed in the comparisons between Baby Boomers and Generation Z, as well as between Millennials and Generation Z, across most aspects, such as effectiveness, efficiency, satisfaction, learnability, operability, user interface aesthetics, accessibility, and user experience. These findings suggest that generational characteristics influence how users evaluate ease of use, efficiency, comfort, and overall experience when using digital news websites.

These findings indicate that generational differences in perception occur not only in usability but also in overall user experience. Usability serves as an important foundation in shaping user experience; therefore, differences in usability can directly affect users' overall experiences. This finding is consistent with previous studies stating that usability is part of the functional aspect of user experience [20]. Furthermore, age differences have also been shown to influence usability performance, such as error rates and the ways users interact with technology [21], which ultimately affect the overall user experience.

Therefore, generational differences can be explained by variations in user characteristics, including cognitive abilities, technological experience, and interaction preferences.

In contrast, the comparison between Generation X and Millennials did not show significant differences in all aspects tested, as the significance values were above 0.05. This condition indicates that both generations have relatively similar perceptions of the usability and user experience of the Detik.com website. Overall, the Mann-Whitney test results strengthen the finding that intergenerational differences do not occur evenly across all groups, but are more prominent in certain generations, particularly Generation Alpha and Generation Z. Therefore, the design of digital news websites needs to consider differences in user characteristics across generations in order to produce interfaces, navigation systems, and interaction features that are more adaptive and easier to use for various age groups.

4. CONCLUSIONS

This study aimed to analyze differences in usability and user experience perceptions of the Detik.com news website among five generational groups: Baby Boomers, Generation X, Millennials, Generation Z, and Generation Alpha. The results of the Kruskal-Wallis test indicated significant differences across all usability and user experience variables ($p < 0.05$), demonstrating that generational factors influence how users evaluate digital news platforms. Generation Z consistently obtained the highest mean rank values, indicating the most positive perceptions of website usability and user experience, while Generation Alpha showed the lowest evaluations across most variables. Post hoc Mann-Whitney analysis further revealed that the most dominant differences occurred in comparisons involving Generation Alpha, whereas Generation X and Millennials exhibited relatively similar perceptions.

These findings suggest that differences in cognitive characteristics, technological experience, and interaction preferences contribute to variations in usability and user experience evaluations among generations. In particular, the lower scores obtained by Generation Alpha, especially in the learnability

dimension, indicate that current website designs have not fully accommodated the needs of younger users. Therefore, improving learnability through simplified navigation structures, more intuitive interfaces, and age-appropriate interactive guidance is recommended. Overall, this study contributes to a better understanding of intergenerational differences in digital news consumption and provides practical insights for designing more adaptive, inclusive, and user-centered news websites.

REFERENCES

- [1] A. G. Gani, "Pengenalan Teknologi Internet Serta Dampaknya," *J. Sist. Inf. Univ. Suryadarma*, vol. 2, no. 2, 2014, doi: 10.35968/jsi.v2i2.49.
- [2] H. Lase, F. Hulu, E. Telaumbanua, and P. Giawa, "Analisis Pemanfaatan Jaringan Internet Dalam Meningkatkan Ekonomi Masyarakat Di Desa Silima Banua Umbunasi Kecamatan Ulu Idanotae Kabupaten Nias Selatan," *J. Soc. Sci. Res.*, vol. 4, no. 1, pp. 7427–7439, 2024.
- [3] Hadiyanto, R. Batubara, and I. K. Nawireja, "Hubungan Karakteristik Individu dan Aksesibilitas terhadap Internet dengan Tingkat Literasi Digital di Kalangan Pemuda (Kasus: Pemuda Desa Gunung Putri, Kecamatan Gunung Putri, Kabupaten Bogor)," *J. Sains Komun. dan Pengemb. Masy. [JSKPM]*, vol. 8, no. 03, pp. 28–39, 2025, doi: 10.29244/jskpm.v8i03.1347.
- [4] S. Boulianne and A. Shehata, "Age Differences in Online News Consumption and Online Political Expression in the United States, United Kingdom, and France," 2022, doi: 10.1177/19401612211060271.
- [5] A. Setyaningsih, "Mobile Phone Use Among Indonesian Elderly People and Its Obstacles," 2023.
- [6] B. S. Dwi Atmaja and S. Alvin, "Phubbing By Gen-Z And Gen-Y: Exploring Smartphone Usage And Its Implications On Interpersonal Communication In The Workplace," *J.*

- Indones. Sos. Teknol.*, vol. 4, no. 8, pp. 908–918, 2023, doi: 10.59141/jist.v4i8.665.
- [7] I. Belic, H. Winskel, K. Allen, and M. Grant, “Communication Preferences and Factors Predicting Smartphone Addiction Among Four Generations of Australians: Gender and Generational Differences,” *J. Technol. Behav. Sci.*, pp. 373–381, 2025, doi: 10.1007/s41347-024-00437-3.
- [8] A. Žerovnik, “education sciences Technology-Enhanced Feedback System Usability in the Context of Self-Regulation Promotion,” 2024.
- [9] H. Bayomi, N. A. Sayed, H. Hassan, and K. Wassif, “Application-based Usability Evaluation Metrics,” no. January 2023, 2022, doi: 10.14569/IJACSA.2022.0130712.
- [10] H. Volfová, “THE WEBSITE THROUGH GEN Z’S EYES: KEY INSIGHTS AND IMPORTANT ELEMENTS FOR EFFECTIVE ONLINE PR PROMOTION OF UNIVERSITIES,” no. Godin 2020, pp. 2014–2017, 2025.
- [11] Q. Jiang, L. Deng, J. Zhang, and Y. Pengbo, “User-Centered Design Strategies for Age-Friendly Mobile News Apps,” no. 1800, pp. 1–17, 2024, doi: 10.1177/21582440241285393.
- [12] S. Eveland, William; Dunwoody, “User Control and Structural Isomorphism or Disorientation and Cognitive Load: Learning From the Web Versus Print,” 2001, doi: 10.1177/009365001028001002.
- [13] T. K. Ahsyar and A. Jakawendra, “ANALISA USABILITY WEBSITE BERITA ONLINE MENGGUNAKAN METODE USER CENTERED DESIGN,” vol. 6, no. 2, pp. 165–172, 2020.
- [14] T. Towner and C. L. Munoz, “Boomers versus millennials: Online media influence on media performance and candidate evaluations,” *Soc. Sci.*, vol. 5, no. 4, 2016, doi: 10.3390/socsci5040056.
- [15] R. Saleh Toulou and P. Hanaa Farouk Saleh, “Exploring news consumption patterns and preferences of Generation Z A field StudyCollege Vice-Dean for Education and Student Affairs,” pp. 27–71, 2025.
- [16] A. Yudhana, “Uji Validitas Dan Reliabilitas Kuesioner Model Utaut Untuk Evaluasi Sistem Pendaftaran Online Rumah Sakit,” vol. 9, no. 2, pp. 1621–1630, 2022.
- [17] E. Ostertagova, O. Ostertag, and J. Kovac, “Methodology and Application of the Kruskal-Wallis Test Eva Ostertagová,” vol. 611, pp. 115–120, 2014, doi: 10.4028/www.scientific.net/AMM.611.115.
- [18] D. Chicco, A. Sichenze, and G. Jurman, *A simple guide to the use of Student ’ s t - test , Mann - Whitney U test , Chi - squared test , and Kruskal - Wallis test in biostatistics*. BioMed Central, 2025.
- [19] N. Nachar, “The Mann - Whitney U : A Test for Assessing Whether Two Independent Samples Come from the Same Distribution,” vol. 4, no. 1, pp. 13–20, 2008.
- [20] J. Kim, J. Kim, and J. Y. Moon, “Does Age Matter in Mobile User Experience ? Impact of Age on Relative Importance of Antecedents of Mobile User Experience,” 2013.
- [21] N. E. K. Ñ and W. C. Yoon, “Age- and experience-related user behavior differences in the use of complicated electronic devices,” vol. 66, pp. 425–437, 2008, doi: 10.1016/j.ijhcs.2007.12.003.