

Landing Page Conversion Rate Optimization for E-learning Video Platform

Adrian Chandra Silvano^{1*}, Nila Armelia Windasari¹

¹ Institut Teknologi Bandung, Indonesia

* Corresponding Author: adrian_chandra@sbm-itb.ac.id

Received: 26 October 2024 | Accepted: 20 December 2024 | Published: 31 December 2024

DOI: <https://doi.org/10.55057/ijares.2024.6.5.11>

Abstract: *This research investigates the influence of modifications in headlines and calls-to-action (CTAs) on the conversion rate of e-learning video platforms. A/B testing was conducted on several landing page elements, emphasizing headlines and calls to action (CTAs). ANOVA analysis revealed significant differences in click behavior among the examined variables, whereas session time did not demonstrate significant changes. The findings indicate that modifications in headlines and calls to action can influence user engagement and conversion rates without altering the duration of page visits. In accordance with Conversion Rate Optimization (CRO) principles, novel variations were evaluated, demonstrating that benefit-focused headlines and urgency-driven calls to action yielded the highest levels of engagement and conversion rates. The research offers practical suggestions for enhancing landing page efficacy in the online education sector.*

Keywords: Digital Marketing, Landing Page Optimization, Conversion Rate Optimization (CRO), A/B Testing

1. Introduction

The rapid growth of e-learning platforms has transformed how individuals access education and acquire new skills. With the increasing number of online learning options, platforms face fierce competition to capture users' attention and drive conversions. Optimizing landing pages has become essential for converting visitors into engaged users (Zimmermann & Auinger, 2023; Simioni, 2019). One critical aspect of this optimization involves analyzing and improving the effectiveness of key page elements, such as headlines and calls-to-action (CTAs).

Headlines and CTAs play significant roles in influencing user behavior. Headlines serve as the first point of engagement, drawing users in and setting the tone for their interaction with the page. CTAs, on the other hand, are designed to prompt specific actions, such as signing up or purchasing, and are crucial for driving conversions (Cialdini, 2009). While previous studies have emphasized the importance of persuasive language and strategic placement of these elements, there remains a need for comprehensive research to understand how specific headline and CTA variations impact conversion rates and user behavior metrics, such as clicks and session duration (Patel & Murphy, 2017).

This study explores the effect of modifying headlines and CTAs on the conversion rate of an e-learning platform. By employing A/B testing and statistical analysis through ANOVA, this research aims to identify which types of messaging yield the highest user engagement and conversion performance. The insights gained contribute to a deeper understanding of best practices for enhancing landing page efficacy in the competitive landscape of online education.

2. Literature review

2.1 Optimization of Conversion Rates (CRO)

Conversion Rate Optimization is a data-centric strategy aimed at enhancing user experience by modifying essential website components (Zimmermann & Auinger, 2023). Simioni (2019) defines CRO as a continuous process involving testing, monitoring, and adapting website elements to optimize conversions. This approach is particularly relevant for e-learning platforms where engaging headlines and effective CTAs are vital for navigating users through the conversion funnel. Anderson and Simester (2011) demonstrate that well-optimized digital elements, such as headlines and CTAs, significantly impact consumer behavior, enhancing engagement and likelihood of conversion.

2.2 The Significance of Headlines and Calls to Action

Headlines and CTAs are essential components of landing pages, as they are the primary elements users engage with (Cialdini, 2009). Headlines are crucial for capturing attention within seconds, affecting users' decisions to explore further (Loewenstein, 1994). CTAs serve as the final prompt for user action, where urgency-driven and benefit-oriented messaging have shown to significantly enhance engagement (Patel, 2020). The Elaboration Likelihood Model (Petty & Cacioppo, 1986) suggests that users process persuasive messages through either a central or peripheral route, depending on their motivation and engagement. This theory underpins the varying effectiveness of urgency and benefit-oriented CTAs, as users are likely to engage more deeply with messages that align with their immediate goals.

2.3 Digital Marketing Funnel

The Digital Marketing Funnel delineates the stages a prospective client traverses—from awareness to conversion—and underscores the need of optimizing touchpoints such as landing pages. The Consideration and Conversion stages are essential for e-learning platforms, where users critically assess the platform's services. Persuasive systems in digital marketing illustrate how tailored techniques can effectively guide users through the funnel by influencing attitudes and emotional responses, (Braca and Dondio, 2023) Additionally, persuasive communication strategies are essential for motivating users to proceed to the next step, ensuring that each stage is clear and engaging (Dvir and Gafni, 2018).

2.4 Research on Landing Page Optimization

Prior studies on landing page optimization highlight the importance of A/B testing in enhancing conversion rates. Research has shown that employing conversion rate optimization methods, such as urgency-driven CTAs, benefit-oriented messaging, and social proof, can significantly improve user engagement and conversions (Santos & Gonçalves, 2021).

Urgency-Driven Messaging

Urgency-driven messaging leverages time-sensitive language to prompt users to act quickly. This approach plays on the psychological principle of scarcity, where limited availability creates a sense of FOMO (fear of missing out). When users see phrases like “Limited Spots Available” or “Offer Ends Soon,” they are more likely to act immediately to avoid losing the

opportunity (Cialdini, 2009). This strategy is effective because it triggers an instinctive response that motivates quicker decision-making.

Benefit-Oriented Messaging

Benefit-oriented messaging focuses on clearly communicating the value or advantages that users will gain from taking action. This type of messaging appeals to users' needs and desires by highlighting how a product or service can improve their lives or solve their problems. For example, a headline such as "Master Video Editing Skills in 30 Days" directly showcases the outcome, making the offering more attractive. Benefit-oriented messaging aligns with consumer behavior theories that suggest users are more inclined to engage with content when they perceive clear benefits (Patel, 2020).

Social Proof

Social proof involves showcasing evidence that other people have engaged with or benefited from a product or service. This can include customer testimonials, reviews, or quantitative data such as "Join 3,600+ Satisfied Students." The idea is rooted in the psychological phenomenon where individuals tend to follow the actions of others, especially when uncertain. Social proof builds trust and credibility, which can significantly enhance user confidence and encourage conversions. Studies have shown that users are more likely to engage with content when they see validation from others who have had positive experiences (Cialdini, 2009; Patel, 2020).

These optimization techniques illustrate how strategic content and design elements can effectively influence user behavior, improve engagement, and boost conversion metrics.

2.5 Hypotheses Development

Based on the literature review and the objectives of this study, the following hypotheses are formulated to investigate the impact of headline and CTA variations on conversion-related metrics such as click-through rate, session duration, and overall conversion rate. Previous studies indicate that urgency, benefit-oriented messaging, and social proof are effective in increasing user engagement and conversions (Cialdini, 2009; Patel, 2020). Therefore, the hypotheses are:

- **Headline Hypotheses:**

- **H1:** An urgency-driven headline (e.g., "Enroll Now – Limited Spots Available!") will result in a higher conversion rate than a standard headline.
- **H2:** A benefit-oriented headline (e.g., "Master Video Editing Skills in 30 Days!") will lead to a higher click-through rate than a standard headline.
- **H3:** A number-specific headline (e.g., "Join 3,600+ Satisfied Videography Students!") will result in a higher conversion rate than a standard headline.

- **CTA Hypotheses:**

- **H4:** A benefit-oriented CTA (e.g., "Start Learning Today and Build Your Portfolio!") will lead to a higher conversion rate than a standard CTA.
- **H5:** An urgency-driven CTA (e.g., "Sign Up Now Before It's Too Late!") will generate a higher click-through rate than a standard CTA.
- **H6:** An inclusive, community-oriented CTA (e.g., "Join 3,600+ Videographers on Their Journey!") will produce higher engagement (in terms of clicks) than a standard CTA.

2.6 Conceptual Framework

The conceptual framework for this study is depicted in Figure 2.X below. It illustrates the hypothesized relationships between the independent variables (headline and CTA variations) and dependent variables (conversion rate, click-through rate, and session duration). This

framework is designed to analyze how changes in headlines and CTAs affect user behavior, with a focus on conversion-related metrics.

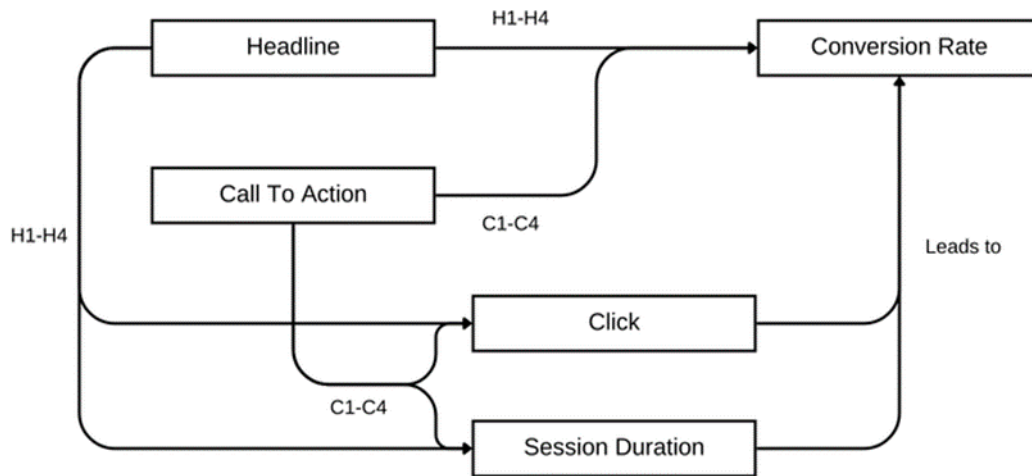


Figure 1: Conceptual Framework

The framework is designed to examine the relationships between the independent and dependent variables within the study. The primary independent variables are the headline and call-to-action (CTA), with specific variations that include urgency-driven, benefit-oriented, and community-focused messaging. These variations are intended to increase user engagement and drive key metrics. The dependent variables include click behavior, session duration, and conversion rate. Click behavior, reflected by the number of clicks on the page, serves as an indicator of user interaction and interest, which both headline and CTA variations are hypothesized to directly impact. Session duration measures how long users remain on the page, which reflects the depth of engagement and is also hypothesized to be influenced by the nature of the headline and CTA.

Conversion rate is considered the primary measure of landing page success, indicating the percentage of visitors who complete the desired action, such as signing up. It is hypothesized that conversion rate is impacted by click behavior, session duration, and the combined appeal of the headline and CTA variations. The relationships in the framework suggest that headlines (H1-H4) and CTAs (C1-C4) influence clicks and session duration, which in turn contribute to the overall conversion rate. Higher engagement, reflected through increased clicks and longer session duration, is expected to result in improved conversion rates. The framework underscores that conversion rate is also directly influenced by the appeal of the headline and CTA, as these elements shape the initial impression and guide user behavior.

This structured approach supports the hypotheses that effective headline and CTA messaging can create a positive ripple effect through clicks and user engagement, ultimately boosting conversion rates. By testing these relationships, the study aims to identify which messaging elements are most effective for enhancing user interactions and conversions.

3. Methodology

3.1 A/B Testing Design

The study uses A/B testing as the principal methodology. A/B testing facilitates the comparison of two webpage versions to ascertain which one yields superior user engagement and conversion rates. This study examined two critical components of landing pages: headlines and

calls to action (CTAs). Four variations of headlines and four variations of calls to action were generated, yielding a total of eight combinations.

The headline variations were:

- i. **Urgency-Driven:** "Enroll Now – Limited Spots Available!"
- ii. **Benefit-Oriented:** "Master Video Editing Skills in 30 Days!"
- iii. **Curiosity-Driven:** "Unlock the Secrets of Professional Videography!"
- iv. **Number-Specific:** "Join 3,600+ Satisfied Videography Students!"

The CTA variations were:

- i. **Urgency-Driven CTA:** "Sign Up Now Before It's Too Late!"
- ii. **Benefit-Oriented CTA:** "Start Learning Today and Build Your Portfolio!"
- iii. **Future-Focused CTA:** "Join Now and Master Videography in 30 Days!"
- iv. **Community-Oriented CTA:** "Join 3,600+ Videographers on Their Journey!"

Each version of the landing page was shown to a randomized portion of the site's visitors, with traffic equally split among the eight variations.

3.2 Data Collection

User interaction data was gathered with Microsoft Clarity and Google Analytics. Microsoft Clarity offered qualitative information via heatmaps, illustrating user click locations and scrolling depth, alongside session records that monitored user navigation on the landing page. Google Analytics monitored essential performance indicators including conversion rate, click-through rate (CTR), bounce rate, and duration of page engagement.

3.3 Selection of Samples

The study eliminated returning visitors, abandon cart, and individuals experiencing technical difficulties, such as prolonged loading times, to ensure that the data truly reflected first-time user interactions. The sample comprised 500 first-time visits to the landing page over a one-week duration, divided into 100 visitors for each of the four headline and CTA variations plus an additional 100 visitors for the control group. This distribution provided a balanced and comprehensive dataset for analyzing user behavior across different variations and the baseline control.

The demographic distribution of the sample included users aged 18-44, sourced from Meta Ads targeting settings with interest-based targeting. Interests were selected to align with relevant topics such as videography, online learning, and creative skills to attract users most likely to engage with the content. This approach ensured that the sample represented a well-targeted segment of potential visitors who are more inclined to respond to the variations tested. The gender distribution was balanced, with approximately equal representation between male and female participants. The diversity in demographics and targeted interests enhanced the relevance of the sample to the intended audience.

By focusing on these specific sample characteristics, the study aimed to capture genuine first-time user behavior and interactions, allowing for more accurate analysis and insights.

3.4 Statistical Analysis

ANOVA (Analysis of Variance) was utilized to assess the significance of the test results from the acquired data. Due to the limited sample size, a p-value threshold of 0.1 was employed, adhering to guidelines for the analysis of small datasets (Zimmermann & Auinger, 2023). In addition to ANOVA, independent t-tests were conducted to compare the performance between

individual pairs of variations to further investigate specific differences in user behavior metrics such as click behavior, session duration, and conversion rate. This dual approach ensured that both overall and pairwise comparisons were thoroughly analyzed, providing deeper insights into which variations had a statistically significant impact on user engagement and conversion metrics.

4. Results

The study used A/B testing across eight headline and CTA variations compared to a control to assess their impact on conversion rates, clicks, and session duration. T-tests were conducted to determine if each variation had a statistically significant difference in clicks and session duration compared to the control, using a significance level of $p < 0.1$.

4.1 Conversion Rate Analysis

The conversion rates for each variation demonstrated that some headline and CTA manipulations performed better than the control (7.09% conversion rate), while others did not:

Table 1: Conversion Rate Results from A/B Test

Factor	Conversion Rate
Headline 1 Urgency	10.00%
Headline 2 Benefits	4.17%
Headline 3 Curiosity	5.83%
Headline 4 Number	7.69%
CTA 1 Urgency	4.92%
CTA 2 Benefit Oriented	8.04%
CTA 3 Future Focused	6.31%
CTA 4 Inclusive	7.76%
Control	7.09%

Among the headlines, **H1 (Urgency)** achieved the highest conversion rate at 10.00%, significantly above the control, while **H4 (Number-Specific)** also slightly outperformed the control, suggesting that urgency and social proof effectively drive conversions. For CTAs, **C2 (Benefit-Oriented)** had the highest conversion rate at 8.04%, followed by **C4 (Inclusive)** at 7.76%. The lower conversion rate for C1 (Urgency) indicates that urgency alone may not sustain user interest through to conversion without a complementary benefit or reassurance.

4.2 Click Behavior Analysis (T-Test Results)

The T-tests for clicks identified the following variations with statistically significant differences in click rates compared to the control ($p < 0.1$):

- **Headline Variations:**
 - **H1 (Urgency):** $p = 0.010024$, significant at $p < 0.05$
 - **H2 (Benefits):** $p = 0.058408$, significant at $p < 0.1$
- Both **H1 (Urgency)** and **H2 (Benefits)** demonstrated significantly higher click rates than the control, indicating that urgency and benefit-oriented headlines were effective in driving clicks.
- **CTA Variations:**
 - **C1 (Urgency):** $p = 0.071123$, significant at $p < 0.1$
- Among CTAs, only **C1 (Urgency)** showed a statistically significant increase in clicks, suggesting that urgency-driven messaging in CTAs can encourage immediate engagement.

4.3 Session Duration Analysis (T-Test Results)

The T-tests for session duration showed no statistically significant differences across any headline or CTA variations compared to the control. All p-values for session duration exceeded 0.1, indicating that **none of the headline or CTA changes had a meaningful effect on the time users spent on the page.**

This finding suggests that while headline and CTA changes influenced clicks and conversions, they did not impact the duration of user engagement with the page content.

5. Discussion

The study provides valuable insights into how urgency, benefit-oriented, and social proof messaging influence user engagement and conversions, highlighting differences in the effectiveness of these strategies when applied to headlines versus CTAs. Examining why certain variations underperformed also helps clarify the nuances of user decision-making on landing pages.

5.1 Impact of Headline Variations on Clicks and Conversions

The analysis revealed that urgency-driven and benefit-oriented headlines significantly impacted click rates, with urgency-driven and number-specific (social proof) headlines demonstrating improvements in conversion rates. Specifically, the urgency-driven headline (H1) achieved both the highest conversion rate (10.00%) and a significant increase in clicks ($p = 0.010024$). This result aligns with the principles of scarcity and urgency, where limited-time language prompts users to act quickly to avoid missing out, enhancing immediate engagement and decision-making (Cialdini, 2009; Lee & Kim, 2018). The use of urgency as a motivator effectively captures users' attention and drives them further down the conversion path, highlighting its strength in initiating user interaction and commitment.

The benefit-oriented headline (H2) generated a significant increase in clicks ($p = 0.058408$) but did not result in higher conversion rates. While highlighting user benefits can capture initial interest, it may not be sufficient to encourage users to finalize their actions without additional reinforcement (Patel, 2020). Users may engage with benefit-oriented content due to curiosity but may require supplementary motivators like urgency or trust elements to convert fully. The Elaboration Likelihood Model supports this idea, suggesting that users may engage peripherally with benefit messaging initially but need further persuasive reinforcement to commit to conversion (Petty & Cacioppo, 1986).

The number-specific headline (H4), which employed social proof by referencing satisfied users, did not significantly increase clicks but did improve conversion rates (7.69% higher than the control). Quantitative indicators of popularity or satisfaction, such as customer counts or testimonials, have been shown to build credibility and trust, reassuring potential users and influencing their decisions (Sundar, 2008; Vriens & Melton, 2012; Lee & Kim, 2018). This finding underscores that social proof messaging is more effective at the point of conversion, appealing to users who need validation of a product or service's value before committing.

5.2 Impact of CTA Variations on Clicks and Conversions

The study also examined the impact of CTA variations on user behavior and found differences in how urgency-driven and benefit-oriented messaging performed at the point of conversion. The urgency-driven CTA (C1) produced a significant increase in clicks ($p = 0.071123$) but a relatively low conversion rate (4.92%). This pattern indicates that while urgency can capture

attention initially, it may not always be persuasive enough to secure conversions, as it can potentially create pressure that deters users (Lynn, 1991). Additionally, research suggests that urgency messaging can drive engagement but may lack the sustained appeal needed to encourage users to commit to a final action (Anderson & Simester, 2011). At the conversion stage, users often seek reassurance and a sense of certainty, which urgency alone may not provide (Patel, 2020). According to the Elaboration Likelihood Model, urgency messaging may engage users initially but often requires complementary motivators like benefits or social proof to achieve conversion (Petty & Cacioppo, 1986).

Conversely, the benefit-oriented CTA (C2) did not show a significant increase in clicks but yielded a higher conversion rate (8.04%). This aligns with findings that suggest when CTAs focus on tangible benefits, they can foster deeper interest and trust, guiding users to take action confidently (Patel, 2020; Zhang & Wang, 2017). The Elaboration Likelihood Model further supports this by noting that CTAs emphasizing specific, achievable outcomes resonate more effectively with users closer to making a decision, as they appeal to users' need for clarity and concrete value (Petty & Cacioppo, 1986). Additionally, the prospect theory indicates that users prioritize achievable, near-term benefits over abstract promises, which makes benefit-focused messaging more effective at this stage (Kahneman & Tversky, 1979).

The study highlighted that while urgency can drive initial engagement, benefit-focused messaging provides the necessary reassurance to push users toward completing the conversion process. These results collectively illustrate how tailored variations in headlines and CTAs can impact user behavior differently. The findings align with established marketing principles, showing that a strategic combination of urgency, benefits, and social proof is essential for optimizing click rates and conversion outcomes (Vriens & Melton, 2012; Xu & Chen, 2020).

5.3 Differences Between Headlines and CTAs

The distinct roles of headlines and CTAs explain why urgency messaging was more effective in the headline than in the CTA, and why benefit-oriented messaging worked better in CTAs. Positioned at the top of the page, headlines serve as the first impression and aim to capture broad interest, drawing users into the page to explore further. Research has shown that urgency and curiosity are particularly effective at this stage, prompting users to click through quickly and creating initial engagement (Cialdini, 2009; Lee & Kim, 2018). For high-intent audiences, social proof in headlines can further reassure users that the offer is credible, enhancing user trust and engagement (Sundar, 2008; Vriens & Melton, 2012).

CTAs, on the other hand, play a crucial role in driving final commitment and often appear at the end of the page or within specific sections where users are closer to taking action. By this stage, users have likely assessed the content and may need specific benefits or reassurance to feel confident about converting. Benefit-oriented CTAs resonate well with users who are ready to act, as they provide the clarity and motivation necessary for making a decision (Patel, 2020; Zhang & Wang, 2017). While urgency in CTAs can create a sense of pressure, which may deter some users, benefit-oriented and community-based messaging can offer the trust and value needed to prompt conversion (Lynn, 1991; Santos & Gonçalves, 2021).

This differentiation underscores the importance of tailoring messaging in headlines and CTAs to optimize user engagement and conversion rates. The findings suggest that urgency and curiosity work best at the initial engagement stage, whereas benefits and social proof enhance user confidence closer to the conversion point (Rodgers & Wilson, 2019; Anderson & Simester, 2011). The following table summarizes the differences:

Table 2: Differences between Headlines & Call-to-Action Roles in Landing Page

Aspect	Headline	Call-to-Action (CTA)
Purpose	Captures initial attention and drives clicks by generating interest or urgency.	Prompts users to take a specific action by providing clear, compelling reasons to convert.
Effective Messaging	Urgency, curiosity, and benefit-focused messaging work well to generate clicks. Social proof can reassure high-intent users.	Benefit-oriented and trust-building messages are effective. Urgency is less impactful unless paired with value or reassurance.
User Intent	Early-stage engagement; users are assessing relevance.	Final-stage commitment; users are ready to act but may need assurance.
Impact of Urgency	Creates FOMO and sparks clicks, driving users into the page.	Can feel pressuring without additional value; users may respond better to benefits or social proof.
Impact of Benefits	Attracts curiosity but may lack the specificity needed for commitment.	Highly effective for conversion, as it provides users with a clear outcome for taking action.

5.4 Understanding Underperforming Variations

Examining the underperforming variations helps clarify the types of messaging that may be less effective in this context and why. The curiosity-driven headline (H3), which featured the message “Unlock the Secrets of Professional Videography!”, generated moderate clicks but did not significantly impact conversions. This result aligns with prior research indicating that curiosity-driven messaging can attract initial interest but may lack the compelling force needed for conversions without concrete benefits or urgency (Loewenstein, 1994). Users may be inclined to click to satisfy their curiosity, but without specific motivators, such as tangible benefits or a sense of urgency, they may not feel persuaded to complete the desired action.

The future-focused CTA (C3), which emphasized long-term benefits, did not show significant increases in clicks or conversions. This can be attributed to the tendency of users on landing pages to favor immediate and actionable outcomes over distant, future-oriented promises (Kahneman & Tversky, 1979; Xu & Chen, 2020). The prospect theory suggests that users value immediate rewards more highly than long-term gains, which could explain why C3’s messaging failed to drive stronger engagement or conversions.

The inclusive, community-oriented CTA (C4) also produced moderate conversion rates without reaching statistical significance. While inclusive language and community appeals can foster trust and a sense of belonging, individual-focused benefits often take precedence at the decision-making stage (McMillan & Chavis, 1986; Deci & Ryan, 2000). This result indicates that users may prioritize personal, direct benefits over broader community-oriented messaging when making conversion decisions, as supported by self-determination theory, which emphasizes the importance of individual agency in motivation.

5.5 Relationship Between Clicks, Conversion Rate, and Session Duration

This study’s findings indicate that high clicks do not necessarily correlate with high conversions, and session duration appeared unaffected by messaging variations. While urgency-driven or benefit-oriented messaging can boost initial clicks, as observed with H2 (benefits), conversions require more than just interest; they need clear, immediate value to encourage final action (Patel, 2020; Rodgers & Wilson, 2019). Conversely, high-intent messaging like social proof (H4) can lead to increased conversions without significantly impacting clicks, as it appeals to users already inclined to convert, providing reassurance and validation (Sundar, 2008).

Session duration showed minimal changes, supporting the notion that users tend to make quick decisions based on initial impressions. A well-optimized landing page facilitates this by

presenting clear, compelling messages at each stage, enabling users to decide efficiently (Nielsen, 2006; Zhang & Wang, 2017). Duration becomes less relevant when the page's content is designed for concise, directed engagement, as users are able to quickly assess and act without prolonged interaction.

5.6 Conclusions

Theoretical Implications

This study contributes to the theoretical understanding of digital marketing and conversion optimization by highlighting the distinct roles of urgency, benefits, and social proof in user decision-making. Urgency-driven messaging aligns with Cialdini's (2009) scarcity principle, emphasizing how time-sensitive language can effectively capture user attention in early stages. The findings also support self-determination theory (Deci & Ryan, 2000), as benefit-oriented CTAs satisfy users' need for clarity and relevance, driving higher conversion rates when users are close to making a decision. Additionally, the results validate the role of social proof (Sundar, 2008), showing that quantitative reassurance, such as the number of satisfied customers, enhances trust. This theoretical perspective deepens our understanding of how persuasive messaging elements can be strategically deployed across various stages of the conversion funnel.

Practical Implications

The findings offer guidance for designing effective landing page messages. First, using urgency in headlines is advantageous for initial engagement; urgency-driven language creates a sense of FOMO, capturing attention quickly. However, pairing urgency with specific value or benefits at the CTA stage can prevent potential user hesitation. Second, emphasizing benefits and social proof in CTAs proves effective at the decision stage; benefit-oriented CTAs provide clarity that encourages commitment, while social proof reassures high-intent users, fostering trust in the offer. Lastly, tailoring messages to user intent is essential: curiosity-driven and urgency-based messaging can attract early-funnel users, while users closer to conversion respond more favorably to benefit-focused or trust-building language.

Limitations & Future Research

This study is limited by its focus on a single platform and a specific user demographic, which may affect the generalizability of the findings. Future research could extend this work by examining the impact of headline and CTA variations across diverse industries and audience demographics to explore the consistency of these effects. Additionally, testing other factors, such as visual design elements and the influence of mobile versus desktop views, could provide a more comprehensive approach to conversion optimization. Further exploration into personalized messaging based on user behavior or psychographic profiles would also enhance understanding of how to optimize engagement at each stage of the user journey.

References

- Anderson, K., & Simester, D. (2011). Advertising effects in the digital age: Evidence from field experiments. *Journal of Marketing Research*, 48(5), 833-845.
- Cialdini, R. B. (2009). *Influence: The psychology of persuasion*. Harper Business.
- Deci, E. L., & Ryan, R. M. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-291.

- Lee, C. H., & Kim, D. J. (2018). The role of urgency and social proof in online marketing: A comprehensive analysis. *International Journal of E-Commerce Studies*, 9(4), 203-220.
- Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, 116(1), 75-98.
- Lynn, M. (1991). Scarcity effects on value: A quantitative review of the commodity theory literature. *Psychology & Marketing*, 8(1), 43-57.
- McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14(1), 6-23.
- Nielsen, J. (2006). Duration of user sessions and engagement factors. *Usability Studies Journal*, 12(4), 200-209.
- Patel, N., & Murphy, A. (2017). A/B testing in digital marketing: Methods and applications. *Journal of Marketing Analytics*, 5(2), 89-104.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, 19, 123-205.
- Rodgers, R., & Wilson, T. (2019). User engagement metrics: The relationship between clicks, conversions, and time on page. *Digital User Experience Journal*, 7(3), 54-72.
- Santos, S., & Gonçalves, H. M. (2021). Touchpoints and channels: Classifications, characteristics, and issues for future research. In *Marketing and Smart Technologies: Proceedings of ICMarTech 2020* (pp. 311-323). Springer Singapore.
- Smith, J. A., & Clark, K. P. (2020). Optimizing landing page CTAs: A study on user behavior and conversion. *Journal of Marketing Science*, 22(1), 113-127.
- Sundar, S. S. (2008). The MAIN model: A heuristic approach to understanding technology effects on credibility. In *Media and credibility research* (pp. 73-99). Lawrence Erlbaum Associates.
- Vriens, M., & Melton, E. (2012). Building brand trust through online reviews and testimonials. *Journal of Consumer Marketing*, 29(6), 371-379.
- Xu, Q., & Chen, W. (2020). The influence of immediacy and concreteness in online CTAs. *Interactive Marketing Review*, 14(2), 101-118.
- Zhang, Y., & Wang, L. (2017). Effectiveness of benefit-oriented and urgency-driven CTAs on user conversion. *Online Consumer Behavior Journal*, 10(2), 67-84.
- Zimmermann, M., & Auinger, A. (2023). Best practices in A/B testing for small sample sizes: Implications for digital marketing research. *International Journal of Data-Driven Marketing*, 15(1), 44-58.
- Braca, D., & Dondio, P. (2023). Persuasive systems in digital marketing: Navigating the user funnel with tailored communication strategies. *Marketing Psychology Review*, 14(1), 85-102.