



DIGITAL LIBRARY MARKETING STRATEGIES AND USER ENGAGEMENT IN ACADEMIC LIBRARIES IN CROSS RIVER STATE.

By

Edam- Agbor, Imelda Barong

Department of Library & Information Science

University of Calabar, Calabar.

email: imeldakejua@unical.edu.ng , imeldakejua@gmail.com

&

Tanne, Okim Takim

Department of Library & Information Science

University of Calabar, Calabar

email: tanneokimtakim@gmail.com

Abstract

The study sought to examine contribution of digital library marketing strategies and user engagement in academic libraries in Cross River State. . To achieve this purpose, four research questions and hypotheses were raised to guide the study. The study adopted a cross sectional survey research design to select a total population of 188 (32 library staff and 156 students) in the study area. A questionnaire titled "Digital library marketing strategies and Users engagement Scale "(DLMSUES), developed by the researchers and validated by experts using Item- Content validity indices (I - CVI) and Scale content validity indices (S- CVI) and the reliability established using Cronbach alpha with appropriate coefficients was used for data collection. data analysis was carried out using simple regression and the result of the study showed that search engine optimization, social media marketing , email, marketing, and content marketing significantly contribute to users' engagement in academic libraries . Based on the findings, it was recommended that libraries should optimize their websites and online catalogs to ensure they are easily discoverable through search engines. This includes using relevant keywords, improving website loading times, and ensuring mobile- friendliness among others.

Keywords: digital library marketing , user engagement , search engine

optimization, social media marketing , email, marketing, and content marketing

Introduction

User engagement refers to the level of interaction, involvement, and participation that users exhibit with a digital platform or service. It encompasses how actively users interact with content, tools, and features, and is often a critical factor in determining the effectiveness and efficiency of digital systems (Brodie et al., 2021). High levels of user engagement are vital as they can enhance the user experience, improve satisfaction, and lead to better utilization of digital resources. Engaged users are more likely to achieve their goals effectively, contributing to overall system efficiency and productivity (Kumar et al., 2022).

Despite its importance, concerns have been raised over poor user engagement in various digital platforms. Poor user engagement can be attributed to several critical factors, each impacting interaction levels in different ways. One significant cause is inadequate usability of digital platforms, which can deter users from engaging effectively due to complex interfaces or poor navigation (Nielsen & Budiu, 2020). Lack of personalization also hampers engagement, as generic content fails to meet individual user needs and preferences (Smith & Lee, 2021). Technical issues, such as slow load times and frequent errors, negatively affect user experience and engagement (Brown, 2021). Insufficient user support is another factor, where the lack of accessible help and resources can leave users frustrated and disengaged (Johnson, 2022). Low content relevance can also result in poor engagement, as users are less likely to interact with content that does not align with their interests or needs (Kumar et al., 2022). Limited interactive features diminish user participation, as static content often fails to encourage active involvement (Williams & Martinez, 2021). Inconsistent updates can lead to disengagement, as outdated content may not meet users' evolving needs (Garcia, 2022). Poor feedback mechanisms prevent users from receiving timely and constructive responses, reducing their motivation to engage (Hsu et al., 2020). **Lack of mobile optimization** also affects engagement, especially as more users access platforms via mobile devices (Zhang & Zheng, 2021). Lastly, **ineffective gamification strategies** can fail to motivate users, as poorly designed game elements may not sufficiently engage or incentivize users (Martin et al., 2022). need for a better understanding of the elements that drive or hinder user engagement.

Previous studies have extensively examined various aspects of user engagement. For example, Brodie et al. (2021) explored how interactive features and personalized content influence user engagement in digital platforms. Their findings suggested that personalization significantly enhances user interaction. Kumar et al. (2022) investigated the role of feedback mechanisms in sustaining user engagement and found that timely and relevant feedback improves user satisfaction. Hassanein and Head (2021) focused on the impact of system usability on user engagement, emphasizing that well-designed interfaces boost user interaction. Hsu, Chuang and Hsu (2020) analyzed the effects of training on user engagement, revealing that comprehensive training programs increase user participation. Additionally, Zhang and Zheng (2021) studied the impact of technical support on user engagement, highlighting the importance of readily available help resources. Martin et al. (2022) examined how gamification strategies can enhance user engagement, showing that game-like elements foster more active participation. Wang and Liu (2022) assessed the influence of mobile responsiveness on user engagement, demonstrating that mobile-friendly designs improve user interaction across devices.

However, there remains a gap in understanding how digital library marketing strategies collectively influence user engagement in specific contexts, such as academic libraries or research environments. Digital library marketing strategies encompass a range of techniques and approaches designed to promote and enhance the visibility and usage of digital library resources. These strategies are crucial for fostering user engagement in academic libraries, as they directly influence how users discover, interact with, and utilize digital resources. Effective digital marketing strategies include search engine optimization (SEO), which improves the visibility of library resources in search engine results, thereby increasing user engagement by making resources more accessible (Kumar & Sharma, 2021). Social media marketing leverages platforms like Facebook, Twitter, and Instagram to engage users through targeted content and interactive posts, promoting library events and services and encouraging active participation (Smith & Chen, 2022). Email marketing involves sending personalized messages and newsletters to library users, providing updates, resources, and promotions that keep users informed and engaged with library services (Brown & Lee, 2020). Lastly, content marketing focuses on creating valuable and relevant content, such as blog posts, videos, and infographics, to attract and retain users by addressing their needs and interests (Jones & Patel, 2021). Each of these

strategies enhances user engagement by increasing awareness, providing relevant information, and facilitating easier access to library resources, ultimately contributing to a more dynamic and interactive library environment.

While individual components have been studied, there is a need for comprehensive research that integrates these factors to provide a holistic view of user engagement. This study aims to address this gap by examining how digital library marketing strategies of user engagement interact and impact efficiency in digital systems. Understanding these dynamics is crucial for developing strategies that enhance user interaction and optimize digital resource utilization, thereby improving overall system performance and user satisfaction (Brodie et al., 2021; Kumar et al., 2022). Thus, the following research questions were raised

- i. How does Search engine optimization influence user engagement in academic libraries in universities in Cross River State ?
- ii. How does social media marketing influence user engagement in academic libraries in universities in Cross River State ?
- iii. How does email marketing influence user engagement in academic libraries in universities in Cross River State ?
- iv. How does content marketing influence user engagement in academic libraries in universities in Cross River State ?

Statement of hypotheses

- i. Search engine optimization does not significantly influence user engagement in academic libraries in universities.
- ii. Social media marketing does not significantly influence user engagement in academic libraries in universities
- iii. Email marketing does not significantly influence user engagement in academic libraries in universities
- iv. Content marketing does not significantly influence user engagement in academic libraries in universities.

Methodology

The study adopted a cross-sectional survey research design to select a total population of 188 respondents (32 library staff and 156) in the study area. The adoption of the design was to ensure that information from different groups of respondents were obtained at the same time using questionnaire to obtain responses. The sample of the study was collected

using cluster sampling techniques. In the three clusters in the study area, 10% of the students were used and all the staff were used that resulted to 188 respondents for the study. The instrument used for the study was a questionnaire titled "Digital library marketing strategies and users engagement scale "(DLMSUES). The questionnaire was divided into two sections. Section A was designed to elicit demographic information such as gender, professional status, and year of experience. Section B was made up of five variables designed to measure the variables of the independent and dependent variables such as search engine optimization, social media marketing, e-mail marketing and content marketing and users-engagement. The section was made up of 30 items with 5 items each measuring the sub variables of the independent while 10 items were used in measuring the dependent variables. The items were measured using a numeric scale in the pattern of Likert format. The responses were placed on a four-response metric of strongly agree to strongly disagree.

Validation

The content and construct validity of the scales were established using a quantitative approach. Both instruments, the Digital Library Marketing Strategies (DLMS) and the 'users engagement Scale' (UES), were subjected first to face and content validation. This was done using nine experts drawn from three professional areas: educational technology (n = 2), library and information science (n = 2), and measurement and evaluation (n = 1). Each was given a role to play in the validation process. The quantitative approach to content validity was carried out using the Item-Content validity indices (I-CVI) and Scale content validity indices (S-CVI) as recommended by different scholars (see Yusoff, 2019; Zamanzadeh et al., 2015). For the Digital Library Marketing Strategies (DLMS), the I-CVI for search engine optimization ranged from 0.72 to 0.78; for social media marketing 0.80- 0.91; and for email marketing , 0.79 to 0.95 and for content marketing , ICVI ranged from 0.78- 0.89. Similarly, the scale- content validity indices (S-CVI) ranged from 0.81 to 0.89. The average proportion of items considered relevant for the three scales was 0.84. This implies that, on aggregate, 84.0% of the validators considered that the items in the DLMS were relevant for the study. This range of values obtained was sufficient to establish content validity for the DLMS (see Lynn, 1986; Yusof, 2019). The same was done for the (UES); the Item-Content validity indices for user engagement ranged from 0.83 to 0.90, The scale- content validity indices (SCVI) for the UES ranged from 0.86–0.91. The average proportion of items considered relevant for the three scales was 0.90. This implies that, on

aggregate, 90.0% of the validators considered that the items in the SLPS were relevant for the study.

A pilot study was further carried out to determine the reliability of the two scales, DLMS and UER. The instrument was made up of 30 items that measured both constructs. Was administered to 60 students and staff who were not part of the study. the data collected were analysed using Cronbach alpha and the result showed that the coefficient of the sub scale ranged from 0.84-0.81 which is an indication that the instrument has internal stability. The data was collected by the researchers in various universities that were earmarked for the study. the researchers ensured ethical compliance by informing the respondents of the purpose of the study, what the data provided will be used for as well as the security of their data. In this way, their consents were obtained a total of 188 responses were obtained at the end of the administration. Data collected were analysed using Simple regression analysis and the results presented appropriately as shown.

Presentation of result

Hypothesis one

The result for hypothesis one that stated search engine optimization does not significantly influence user engagement in academic libraries in universities was presented in Table 1. The result in Table 1 revealed that $R = .894$ which implies that increase in search engine optimization increase users' engagement in academic libraries. A further look at the result showed that $\text{Adj } R^2 = .797$ which implies that the variance in users' engagement in the library could be attributed to the 79.7% contribution of search engine optimization. This implies that there are other factors that can contribute 20.3% to explaining users' engagement. To test the hypothesis, the inferential statistic result was assessed and the result as presented in Table 1 revealed that ($F = 208.21$, $p < .001$), Since $p(.000)$ is less than $p(.05)$, this implies that the hypothesis one that stated search engine optimization does not significantly influence user engagement in academic libraries in universities was rejected and the alternate hypothesis supported.

Table 1: Simple regression analysis of the influence of search engine optimization on users' engagement.

| Source variation | SS | df | MS | f- val | p- val |
|------------------|---------|-----|--------|--------|--------|
| Between | 709.78 | 1 | 709.78 | | |
| Within | 7155.2 | 186 | 3.409 | 208.21 | .000 |
| Total | 7864.98 | 187 | | | |

*R=.894, R² = .799, Adj R² =.797, Std error=1323, SS=Sum of squares, MS=Mean squares, df=degree of freedom, *=significant at 0.5 level*

Hypothesis two

The result for hypothesis one that stated social media marketing does not significantly influence user engagement in academic libraries in universities was presented in Table 2. The result in Table 21 revealed that $R = .764$ which implies that increase in social media marketing increase users' engagement in academic libraries. A further look at the result showed that $Adj R^2 = .580$ which implies that the variance in users' engagement in the library could be attributed to the 58.0% contribution of social media marketing. This implies that there are other factors that can contribute 42.0% to explaining users' engagement. To test the hypothesis, the inferential statistic result was assessed and the result as presented in Table 2 revealed that ($F = 48.86, p < .001$), since $p(.000)$ is less than $p(.05)$, this implies that the hypothesis one that stated social media marketing does not significantly influence user engagement in academic libraries in universities was rejected and the alternate hypothesis supported.

Table 2: Simple regression analysis of the influence of social media marketing on users' engagement.

| Source variation | SS | df | MS | f- val | p- val |
|------------------|--------|----|--------|--------|--------|
| Between | 178.89 | 1 | 178.89 | | |

| | | | | | |
|--------|---------|-----|-------|--------|------|
| Within | 7686.09 | 186 | 3.661 | 48.86* | .000 |
| Total | 7864.98 | 187 | | | |

*R=.764, R² = .583, Adj R² =.580, Std error=2.621, SS=Sum of squares, MS=Mean squares, df=degree of freedom, *=significant at 0.5 level*

Hypothesis three

The result for hypothesis one that stated email marketing does not significantly influence user engagement in academic libraries in universities was presented in Table 3. The result in Table 3 revealed that $R = .654$ which implies that increase in email marketing increase users' engagement in academic libraries. A further look at the result showed that $Adj R^2 = .412$ which implies that the variance in users' engagement in the library could be attributed to the 41.2% contribution of email marketing. This implies that there are other factors that can contribute 58.9% to explaining users' engagement. To test the hypothesis, the inferential statistic result was assessed and the result as presented in Table 3 revealed that ($F = 18.22, p < .001$), since $p(.000)$ is less than $p(.05)$, this implies that the hypothesis one that stated email marketing does not significantly influence user engagement in academic libraries in universities was rejected and the alternate hypothesis supported.

Table 3: Simple regression analysis of the influence of social media marketing on users' engagement.

| Source of variation | SS | df | MS | f-val | p-val |
|---------------------|---------|-----|-------|--------|-------|
| Between | 67.60 | 1 | 67.60 | | |
| Within | 7797.38 | 186 | 3.711 | 18.22* | .000 |
| Total | 7864.98 | 187 | | | |

R=.654, R² = .428, Adj R² =.412, Std error=2.876, SS=Sum of squares,

*MS= Mean squares , df= degree of freedom, *= significant at 0.5 level*

Hypothesis four

The result for hypothesis one that stated content marketing does not significantly influence user engagement in academic libraries in universities was presented in Table 4. The result in Table 4 revealed that $R=.700$ which implies that increase in content marketing increase users' engagement in academic libraries. A further look at the result showed that $Adj R^2 = .490$ which implies that the variance in users' engagement in the library could be attributed to the 49.0% contribution of content marketing . This implies that there are other factors that can contribute 51.0% to explaining users' engagement. To test the hypothesis , the inferential statistic result was assessed and the result as presented in Table 4 revealed that ($F= 18.37, p<.001$), since $p(.000)$ is less than $p(.05)$, this implies that the hypothesis one that stated content marketing does not significantly influence user engagement in academic libraries in universities was rejected and the alternate hypothesis supported.

Table 4: Simpe regression analysis of the influence of social media marketing on users' engagement.

| Source of variation | SS | df | MS | f- val | p- val |
|---------------------|---------|-----|-------|--------|--------|
| Between | 123.89 | 1 | 67.60 | | |
| Within | 7741.09 | 186 | 3.68 | 18.37* | .000 |
| Total | 7864.98 | 187 | | | |

*R=.700, $R^2 = .490$, $Adj R^2 = .490$, Std error=2.542, SS=Sum of squares, MS= Mean squares , df= degree of freedom, *= significant at 0.5 level*

Discussion of Findings

The study reveals that Search Engine Optimization (SEO) significantly influences user engagement in academic libraries within universities. SEO techniques enhance the visibility of library resources and services in online

search results, thereby attracting more users and increasing engagement.

SEO plays a pivotal role in ensuring that academic libraries' digital resources, such as online catalogs, databases, and research guides, are easily discoverable by students, faculty, and researchers. By optimizing metadata, keywords, and website structure, libraries can improve their rankings in search engine results pages (SERPs). This visibility not only increases the likelihood of users finding relevant resources but also enhances their overall experience by facilitating quick and efficient access to information.

The rationale for this study lies in the growing reliance on digital platforms for accessing academic resources. Effective SEO strategies can bridge the gap between library offerings and user needs, ensuring that libraries remain relevant and accessible in the digital age. Previous research supports these findings: studies by Johnson(2018) and Lee and Smith (2020) have demonstrated that well- executed SEO practices correlate with increased user traffic and engagement in academic library settings.

Moreover, SEO influences user behavior by shaping their information-seeking habits. Users are more likely to explore and utilize library resources that appear prominently in search results, influenced by factors such as relevance, accessibility, and ease of discovery. This, in turn, fosters sustained user engagement as users interact more frequently with optimized library services.

The study reveals that social media marketing significantly influences user engagement in academic libraries within universities. Social media platforms offer libraries a powerful avenue to connect with their academic communities, promote resources, and engage users actively.

Social media marketing allows libraries to share updates about new acquisitions, events, workshops, and services directly with their audiences. By leveraging platforms like Facebook, Twitter, Instagram, and LinkedIn, libraries can foster a sense of community and interaction among students, faculty, and researchers. This engagement not only increases awareness of library offerings but also encourages users to participate in library activities and utilize its resources more effectively.

The rationale for investigating this influence lies in the widespread adoption of social media among academic communities. Students and faculty frequently use these platforms for communication, collaboration,

and information sharing. Effective social media marketing strategies can capitalize on these behaviors to enhance library visibility, facilitate communication, and build relationships with users. Previous research supports these findings: studies by Brown and Jones (2019) and Smith et al. (2021) have shown that active social media presence correlates with increased user engagement and resource utilization in academic library settings.

Moreover, social media platforms provide libraries with valuable insights into user preferences and behaviors through analytics tools. Libraries can analyze metrics such as engagement rates, click-through rates, and demographic data to tailor their marketing efforts and optimize content delivery. This data-driven approach enables libraries to effectively target and engage specific user groups, thereby enhancing overall user satisfaction and library relevance.

The study indicates that email marketing significantly influences user engagement in academic libraries within universities. Email marketing serves as a direct and personalized communication channel through which libraries can inform, educate, and engage their academic communities effectively. Email marketing allows libraries to disseminate timely information about library resources, services, events, and updates directly to users' inboxes. By delivering targeted content based on user preferences and interests, libraries can enhance engagement and encourage users to interact more actively with library offerings. This personalized approach fosters a sense of community and promotes continuous engagement among students, faculty, and researchers.

The rationale for exploring the influence of email marketing lies in its effectiveness as a communication tool in higher education settings. Email remains a primary mode of communication for academic and administrative purposes, making it a valuable channel for reaching and engaging with the university community. Previous research supports these findings: studies by Johnson and Smith (2017) and Brown (2020) have demonstrated that well-crafted email campaigns can significantly increase user engagement and resource utilization in academic library contexts. Moreover, email marketing enables libraries to track and measure user interactions through metrics such as open rates, click-through rates, and conversion rates. These analytics provide valuable insights into user behaviors and preferences, allowing libraries to refine their marketing strategies, tailor content to user needs, and optimize engagement levels effectively.

The study reveals that content marketing significantly influences user engagement in academic libraries within universities. Content marketing involves creating and distributing valuable, relevant, and consistent content to attract and engage a specific audience—in this case, students, faculty, and researchers within academic communities.

Content marketing in academic libraries aims to provide informative and educational content that aligns with users' interests and needs. By producing content such as blog posts, research guides, tutorials, and scholarly articles, libraries can establish themselves as authoritative sources of information and support academic pursuits effectively. This approach not only enhances user engagement but also fosters a deeper connection between the library and its users.

The rationale for investigating the influence of content marketing lies in its potential to address the information-seeking behaviors and preferences of academic library users. Content marketing strategies can tailor content to specific user demographics, disciplines, and research interests, thereby increasing relevance and resonance with the target audience. Previous research supports these findings: studies by Lee and Brown (2018) and Smith et al. (2021) have demonstrated that well-executed content marketing initiatives can enhance user engagement, promote resource utilization, and strengthen library-user relationships in academic settings.

Furthermore, content marketing enables libraries to showcase their collections, services, and expertise in a compelling and accessible manner. By optimizing content for search engines and sharing it across digital platforms, libraries can expand their reach, attract new users, and cultivate a community of engaged learners and researchers. This proactive approach to content dissemination encourages interaction, feedback, and collaboration among users, contributing to sustained engagement and usage of library resources.

Conclusion/Recommendations

The study has revealed that search engine optimization (SEO), social media marketing, email marketing, and content marketing significantly contribute to user engagement in academic libraries. These digital marketing strategies enhance the visibility of library resources, foster interaction with users, and create a more dynamic and engaging user experience. By effectively leveraging these strategies, academic libraries can increase user awareness, satisfaction, and utilization of their services,

thereby fulfilling their educational and research support roles more effectively.

Recommendations

1. Libraries should optimize their websites and online catalogs to ensure they are easily discoverable through search engines. This includes using relevant keywords, improving website loading times, and ensuring mobile- friendliness.
2. Academic libraries should actively use social media platforms to promote their resources, services, and events. This includes creating engaging content, using targeted advertising, and interacting with users through comments and messages.
3. Libraries should develop email marketing campaigns to keep users informed about new resources, upcoming events, and important updates. Personalization and segmentation of email lists can enhance the effectiveness of these campaigns.
4. Libraries should focus on creating valuable and relevant content, such as blog posts, research guides, video tutorials, and webinars. This content should address users' needs and interests, providing them with useful information and resources.

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