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Marketing Strategies and User Engagement in Information Centers: The Mediating Role of Service Delivery and the Moderating Effect of Institutional Capacity

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Abstract

This study examines the marketing strategies adopted by various information centers and evaluates their impact on service delivery and user engagement. It comparatively analyzes academic libraries, public libraries, archives, museums, and documentation centers to identify variations in marketing practices and assess their relative effectiveness in enhancing institutional performance. The study was based on the SERVQUAL theory, which highlights how service quality dimensions influence user satisfaction and engagement. A mixed-methods approach, employing a convergent parallel design, was used. Quantitative data were gathered from 250 respondents across 25 selected information centers using structured questionnaires, while qualitative data were collected through interviews with 20 key informants. Data were analyzed through descriptive and inferential statistics, along with thematic analysis of qualitative responses. The findings show that marketing strategies positively affect both service delivery and user engagement, with effect sizes varying across institutional types. Academic libraries and documentation centers perform better, driven by higher digital adoption, strategic orientation, and institutional capacity. In contrast, archives show weaker outcomes, reflecting structural constraints such as limited ICT infrastructure and inadequate marketing integration. The comparative analysis confirms that service delivery partially mediates the relationship between marketing strategies and user engagement, while institutional capacity moderates these relationships. The results underscore that digital-enabled marketing and resource capacity are critical determinants of service effectiveness and sustained user engagement. The study highlights the need for national and institutional policies that prioritize digital transformation, structured marketing frameworks, and equitable resource allocation across information centers. Policymakers should strengthen ICT infrastructure, invest in staff capacity building, and develop integrated marketing strategies to enhance service delivery and promote inclusive user engagement across Ghana's information sector.

Background

Information centers in Ghana, comprising academic and public libraries, archives, museums, documentation centers, and digital repositories, represent critical pillars of the national knowledge infrastructure. These institutions support education, research, governance, cultural preservation, and socio-economic development through the systematic organization, preservation, and dissemination of information resources (Ahenkorah-Marfo, 2012; Bilson & Markwei, 2019).

In Ghana, libraries are increasingly integrating digital technologies such as Online Public Access Catalogs (OPACs), institutional repositories, and social media platforms to enhance access to information resources and improve service delivery (Anane & Lartey, 2022). Archives are similarly under pressure to digitize records to improve accessibility and long-term preservation, while museums are evolving toward more interactive and experience-driven engagement models to attract diverse audiences (Fuseini, 2023; Mensah, 2022).

Within this dynamic and competitive information environment, marketing has emerged as a strategic function for information centers. Marketing in this context extends beyond commercial promotion to include user needs assessment, service awareness creation, user education, and relationship management (Kotler et al., 2019; Narteh, 2018). Information centers in Ghana employ a combination of traditional and digital marketing strategies. Traditional approaches include user orientation programs, exhibitions, outreach initiatives, and print media, while digital strategies involve websites, social media engagement, email communication, and mobile-based platforms such as WhatsApp (Anane & Lartey, 2022; Boateng & Liu, 2020).

Despite these efforts, the adoption and effectiveness of marketing strategies vary considerably across different categories of information centers. Marketing strategies in this context is defined as digital campaigns, traditional marketing, branding, and visibility

Academic libraries tend to exhibit relatively higher levels of digital engagement due to their integration within technologically advanced university environments (Anane & Lartey, 2022). In contrast, public libraries often rely heavily on community-based outreach initiatives due to limited technological infrastructure and funding constraints (Ghana Library Authority, 2024). Museums frequently depend on exhibitions and educational programming to attract visitors, while archives remain less visible due to the specialized nature of their collections and limited public engagement strategies (Mensah, 2022; Fuseini, 2023). These variations highlight disparities in institutional capacity, resource allocation, technological readiness, and strategic orientation.

Notwithstanding ongoing modernization efforts, many information centers in Ghana continue to face persistent structural and operational challenges that undermine their visibility and effectiveness. Evidence indicates that Ghana has a limited number of public libraries relative to its population, with approximately 139 libraries serving over 30 million people, reflecting significant gaps in access and outreach (Ghana Sentinel, 2025). Additionally, several institutions struggle with inadequate funding, obsolete infrastructure, limited ICT capacity, and declining patronage, all of which negatively impact service delivery and user engagement (The Chronicle, 2026; Bilson & Markwei, 2019). Archives face additional constraints related to digitization and accessibility, while museums encounter challenges in audience engagement and modernization (Fuseini, 2023; Mensah, 2022).

A critical dimension of these challenges lies in the weak or inconsistent application of marketing practices across many information centers. In several instances, institutions lack structured marketing frameworks, skilled personnel, and integrated communication strategies necessary for effective service promotion (Narteh, 2018). Consequently, there exists a disconnect between the availability of valuable information resources and the awareness levels among potential users. This disconnect contributes to underutilization of services and suboptimal user engagement, thereby limiting the developmental impact of these institutions.

Furthermore, a notable gap exists in the empirical literature regarding comparative analyses of marketing strategies across different types of information centers in Ghana. Existing studies tend to

focus on individual sectors, particularly academic libraries, without providing cross-institutional insights that could inform more comprehensive and contextually relevant strategies (Anane & Lartey, 2022; Bilson & Markwei, 2019). The absence of such comparative perspectives limits the identification of best practices, constrains policy formulation, and reduces opportunities for institutional learning and innovation.

In response to these gaps, this study undertakes a comparative analysis of marketing strategies adopted by information centers in Ghana, with a specific focus on libraries, archives, museums, and related institutions. The study will examine the nature, implementation, and effectiveness of these strategies in enhancing service delivery and user engagement. By identifying similarities and differences across institutional categories, the study aims to generate evidence-based recommendations to strengthen marketing practices and improve the overall performance and societal impact of information centers in Ghana.

Conceptual Model

Marketing strategy, service delivery, and user engagement are interrelated components essential for improving user satisfaction and corporate performance across diverse sectors. In university libraries, user-focused marketing techniques are strongly associated with user satisfaction, highlighting the significance of staff availability, communication proficiency, and assistance in employing new technology to enhance user-centric services (Lubega et al., 2024). Likewise, effective marketing in libraries, encompassing both traditional and digital tools, outreach services, and feedback mechanisms, improves visibility and aligns services with user expectations; yet, obstacles such as constrained finances and inadequate ICT infrastructure remain (Makintami, 2025). The framework begins with the notion that marketing strategies influence library-user relations. In the past, libraries assumed that quality collections and trained personnel would attract and maintain patrons. Literature strongly opposes this view.

Makintami (2025) and others show that libraries are using social media, branding, and community outreach to increase their reach and relevance. The COVID-19 pandemic forced institutions that had neglected digital marketing to communicate with people who could no longer visit their physical locations (Digital Marketing Strategies for Promoting Library Services, 2025; Ellis, 2024). Thus, marketing strategies, including digital, traditional, and branding and visibility, are the independent variable in this study, setting off the complete chain of consequences. Libraries raise awareness, set user expectations, and demonstrate their value via focused marketing. Without this initial push, even the most resource-rich organization risks being lost in a congested information world. User engagement is not directly caused by marketing strategies.

Service delivery quality mediates their impact on users. A library may market itself well, but user engagement will suffer if its services don't deliver. Marketing that creates awareness and service delivery that meet or exceed user expectations lead to continuous engagement.

Makintami (2025) extends the SERVQUAL framework to libraries, showing that user satisfaction is intrinsically linked to the gap between expected and perceived service quality. Users are more likely to return, consume resources, and be satisfied when marketing strategies set realistic, compelling expectations and service delivery meets those expectations. Increased institutional visibility through marketing directly improves user perception of service quality, which, when validated by experience, leads to deeper and more consistent engagement (Library Services Marketing: An Overview, 2023; "Marketing of Library Information Services," 2025). Thus, service delivery is the technique by which marketing affects users.

Importantly, marketing strategies and service delivery vary within each institution; therefore, the institutional capacity would moderate the relationship between them. A library's ability to fulfill its marketing promises is contingent upon its institutional capacity, which is delineated in the framework by budget and personnel, ICT infrastructure, and collection size. A well-funded institution with experienced staff, solid digital infrastructure, and a rich collection can better translate excellent marketing into outstanding service delivery than one with chronic budget constraints, undertrained staff, and antiquated technologies (Iwuchukwu, 2025). Many libraries want substantial marketing programs but lack the human and financial means to sustain them (Makintami, 2025; "Marketing of Library Information Services," 2025). Marketing training for staff is a recurring issue that hinders the execution of marketing strategies and service delivery ("Digital Marketing Strategies for Promoting Library Services," 2025).

The framework makes an important theoretical claim by treating institutional capacity as a moderator rather than an independent variable: institutional capacity does not drive user engagement, but it profoundly affects whether marketing strategies improve service delivery. A library with high institutional capacity will observe a stronger, more consistent link between marketing and service quality, whereas one with limited capacity may find that even the finest marketing techniques fail to enhance service quality. This moderation relationship makes the framework realistic and explanatory. User engagement, as measured by visit frequency, resource utilization, and user happiness, is the ultimate outcome the framework aims to explain. The literature has established these three characteristics as meaningful and visible markers of a library's true purpose (Library Services Marketing: An Overview, 2023; "Marketing of Library Information Services," 2025). They go beyond simple footfall counts to measure the depth and quality of the institution-user relationship, how often individuals come, how meaningfully they use what is provided, and how satisfied they are.

User engagement feeds back into marketing initiatives, which are crucial to the framework. Effective library marketing is iterative and responsive, using data on user behavior and satisfaction to promote services, target audiences, and modify messaging (Negas & Negas, 2012). The literature recommends demand-driven, feedback-oriented library marketing (Makintami, 2025; Library Services Marketing: An Overview, 2023). This loop fits that model.

Hypotheses Development

H1: Marketing Strategies and Service Delivery

Effective marketing strategies enable information centers to align their services with user needs, thereby improving service delivery outcomes. Marketing practices such as user needs assessment, targeted promotion, and feedback mechanisms enhance accessibility, responsiveness, and relevance of services (Kotler et al., 2019; Narteh, 2018). In the context of information centers, proactive communication and awareness-raising ensure that users are informed about available resources, thereby increasing service utilization and efficiency (Anane & Lartey, 2022). Therefore, the strategic application of marketing is expected to significantly improve service delivery in Ghanaian information centers.

H1: Marketing strategies have a positive effect on service delivery in information centers.

H2: Marketing Strategies and User Engagement

Marketing strategies play a critical role in fostering user engagement by enhancing visibility, accessibility, and interaction with information services. Digital marketing tools such as social media platforms, websites, and mobile communication channels have been shown to increase user participation and engagement in library and information services (Boateng & Liu, 2020). Additionally, relationship marketing approaches help build trust and sustained interaction between users and institutions (Kotler et al., 2019). In Ghana, where awareness gaps persist, effective marketing is expected to significantly improve user engagement across information centers.

H2: Marketing strategies have a positive effect on user engagement in information centers.

H3: Service Delivery and User Engagement

Improved service delivery enhances user satisfaction, which in turn drives higher levels of user engagement. When information centers provide timely, accessible, and user-centered services, users are more likely to interact frequently, utilize resources, and participate in institutional activities (Narteh, 2018). In the information services context, service quality dimensions such as reliability, responsiveness, and accessibility directly influence user perceptions and engagement behaviors (Bilson & Markwei, 2019). Therefore, enhanced service delivery is expected to positively influence user engagement in Ghanaian information centers.

H3: Service delivery has a positive effect on user engagement in information centers.

H4: Institutional Type as a Moderating Variable

The effectiveness of marketing strategies may vary across information centers due to differences in institutional mandates, resource availability, and user characteristics. Academic libraries, for instance, often possess greater technological infrastructure compared to public libraries, archives, and museums,

which influences their ability to implement advanced marketing strategies (Anane & Lartey, 2022; Mensah, 2022). These structural differences suggest that the relationship between marketing strategies and outcomes such as service delivery and user engagement is contingent upon institutional type.

H4: Institutional type moderates the relationship between marketing strategies and service delivery/user engagement in information centers.

Theoretical Framework: Service Quality (SERVQUAL) Theory

The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1988), is one of the most widely used frameworks for measuring service quality across service-oriented sectors. The model conceptualizes service quality as the gap between customers' expectations and their perceptions of actual service performance. It identifies five core dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. These dimensions collectively shape users' evaluation of service effectiveness and influence satisfaction, loyalty, and engagement (Parasuraman et al., 1988; Zeithaml et al., 2018).

Tangibles refer to the physical facilities, equipment, and technological infrastructure that support service delivery. In the context of information centers in Ghana, this includes library spaces, ICT facilities, digital repositories, and museum exhibition environments. Reliability reflects the ability of institutions to deliver promised services accurately and consistently, such as providing access to relevant information resources or maintaining updated catalogs. Responsiveness refers to staff's willingness to assist users promptly, while assurance encompasses staff competence, credibility, and the ability to instill confidence in users. Empathy refers to the provision of personalized and user-centered services, including understanding diverse user needs and ensuring inclusive access (Parasuraman et al., 1988).

In this study, SERVQUAL provides a robust theoretical lens for examining how marketing strategies influence service delivery and user engagement in Ghanaian information centers. Marketing strategies, particularly those focused on user needs assessment, communication, and relationship building, can directly enhance SERVQUAL dimensions. For example, digital marketing initiatives can improve responsiveness by enabling real-time communication with users, while awareness campaigns can strengthen assurance by educating users about available services and resources. Similarly, user-centered marketing approaches can enhance empathy by tailoring services to specific user groups such as students, researchers, or community members.

Furthermore, the SERVQUAL framework helps to explain the link between service delivery and user engagement. High-quality service delivery, reflected in strong performance across the SERVQUAL dimensions, leads to increased user satisfaction, which in turn fosters greater engagement, utilization, and loyalty (Narteh, 2018). In Ghanaian information centers, where challenges such as limited

infrastructure and low awareness persist, improving service quality through effective marketing strategies is essential for bridging the gap between service provision and user expectations.

By integrating SERVQUAL into this study, it becomes possible to systematically assess how different marketing strategies contribute to service quality outcomes across libraries, archives, and museums. This provides a structured basis for comparative analysis and supports the development of evidence-based recommendations for enhancing service delivery and user engagement in Ghana's information sector.

Methodology

The study adopted a comparative cross-sectional research design to examine the marketing strategies employed by different categories of information centers across Ghana and to assess their influence on service delivery and user engagement. A comparative design was considered appropriate because it enabled the identification of similarities and differences across institutional types, including academic libraries, public libraries, archives, museums, and documentation centers. To achieve a comprehensive understanding of the phenomenon, the study utilized a mixed-methods approach, specifically a convergent parallel design, in which quantitative and qualitative data were collected concurrently, analyzed independently, and integrated during interpretation. This approach was consistent with recommendations for studies seeking both measurable outcomes and contextual insights, thereby enhancing the validity and depth of findings (Creswell & Plano Clark, 2018).

The study was conducted across selected regions in Ghana to ensure national representation and capture geographical variations in infrastructure, access to information resources, and user engagement patterns. The institutional population comprised recognized information centres operating within Ghana, including approximately 76 academic libraries (public and private universities), 139 public libraries under the Ghana Library Authority, 21 archival units and repositories under the Public Records and Archives Administration Department (PRAAD), and 30 museums and heritage sites managed by the Ghana Museums and Monuments Board, in addition to a number of documentation and information centers within government agencies, research institutions, and non-governmental organizations (Ghana Library Authority, 2024; Fuseini, 2023; Mensah, 2022).

Given the population's heterogeneity, a multistage sampling procedure was employed. Information centers were first categorized into five groups: academic libraries, public libraries, archives, museums, and documentation centers. A purposive sampling strategy was then used to select institutions from each category based on operational status, accessibility, and regional representation. In total, 25 information centers were selected for the study, comprising 5 academic libraries, 6 public libraries, 4 archival institutions, 5 museums, and 5 documentation centers. This distribution ensured adequate representation and comparability across institutional categories.

Within the selected institutions, respondents were drawn from both staff and users. For the quantitative component, a total sample size of 250 respondents across 25 information centers was targeted and

achieved, distributed proportionately across institutional categories. Specifically, 60 respondents were selected from academic libraries, 70 from public libraries, and 40 each from archives, museums, and documentation centers. Within each institution, respondents included both staff and users, selected using a combination of stratified and simple random sampling techniques to ensure representativeness. This sample size was considered adequate for statistical analysis, including regression and comparative tests, as recommended in social science research (Hair et al., 2019).

For the qualitative part, 20 key management staff members were purposively chosen based on their roles and expertise. This included 5 academic librarians, 4 public library managers, 3 archivists, 4 museum curators, and 4 documentation center managers. The selection of these participants was based on their knowledge of institutional marketing practices and strategic decision-making. The sample size for qualitative research was considered adequate to reach data saturation and gather in-depth insights (Guest et al., 2020).

Data were gathered through multiple instruments to improve triangulation and reliability. A structured questionnaire was given to staff and users to collect information on marketing strategies, service delivery, and user engagement, with responses rated on a five-point Likert scale. Additionally, semi-structured interviews were held with institutional heads and key informants to gain detailed insights into marketing practices, challenges, and institutional strategies. Observational checklists and document analysis were also used to evaluate visible marketing efforts, including social media presence, outreach programs, and promotional materials. Using multiple data sources enhanced the credibility of the results and minimized methodological bias (Yin, 2018).

To ensure validity and reliability, the research instruments were reviewed by experts and pilot tested before collecting the main data. Reliability was measured using Cronbach's alpha, with a coefficient of 0.70 or higher considered acceptable for internal consistency (Tavakol & Dennick, 2011). Ethical considerations were carefully followed, including obtaining informed consent from participants, maintaining confidentiality and anonymity, and ensuring voluntary participation.

Quantitative data were coded and analyzed using statistical software such as SPSS. Descriptive statistics, including frequencies, percentages, means, and standard deviations, summarized the data, while inferential techniques such as chi-square tests and multiple regression were used to examine relationships and differences across categories of information centers. These methods were suitable for comparative studies and hypothesis testing (Field, 2018). Qualitative interview data were transcribed and analyzed thematically to identify recurring patterns and contextual explanations. Combining quantitative and qualitative findings provided a comprehensive understanding of how marketing strategies influenced service delivery and user engagement across different institutional contexts in Ghana.

Presentation of Findings

H1: Marketing strategies have a positive effect on service delivery in information centers.

The findings for Hypothesis 1 are presented using both quantitative results (mean and standard deviation) and qualitative insights from key informants, allowing for a triangulated interpretation.

Table 1
Marketing strategies and service delivery

Marketing Strategy Dimension)	Academic Libraries-Mean (SD)	Public Libraries Mean (SD)	Archives Mean (SD)	Museums Mean (SD)	Document Centers Mean (SD)	Overall Mean (SD)
Q1: User Needs Assessment	4.20 (0.66)	3.60 (0.82)	3.30 (0.80)	3.55 (0.74)	3.80 (0.70)	3.69 (0.74)
Q2: Promotion of Services	4.15 (0.70)	3.55 (0.85)	3.25 (0.82)	3.50 (0.76)	3.75 (0.72)	3.64 (0.77)
Q3: Awareness Creation	4.10 (0.72)	3.48 (0.79)	3.15 (0.78)	3.45 (0.72)	3.70 (0.68)	3.58 (0.74)
Q4: Feedback Mechanisms	4.05 (0.69)	3.50 (0.83)	3.10 (0.81)	3.40 (0.75)	3.72 (0.71)	3.55 (0.76)
Q5: Communication Effectiveness	4.18 (0.65)	3.52 (0.80)	3.18 (0.76)	3.48 (0.70)	3.78 (0.69)	3.63 (0.72)
Q6: Service Accessibility	4.25 (0.64)	3.60 (0.78)	3.28 (0.74)	3.50 (0.71)	3.82 (0.67)	3.69 (0.71)

The quantitative findings indicated that marketing strategies positively influenced service delivery across all information center categories, with noticeable variations in magnitude. Academic libraries consistently recorded the highest mean scores across all six dimensions, suggesting a well-structured and strategic application of marketing practices. This trend was strongly supported by qualitative evidence, where a university librarian noted that *"we deliberately assess user needs each semester and use social media and orientation programs to ensure students are aware of available services."* This reflects a deliberate integration of marketing into institutional operations.

Documentation centers also demonstrated relatively strong performance, particularly in service accessibility (M = 3.82) and communication effectiveness (M = 3.78). Interview responses indicated that these centers were more flexible and responsive, with one respondent stating that *"our smaller structure allows us to directly engage users through email and WhatsApp, making our services more visible and accessible."*

Public libraries and museums recorded moderate mean scores across most dimensions, indicating partial adoption of marketing strategies. Qualitative findings revealed that while outreach programs such as reading campaigns and exhibitions were common, they were often constrained by limited funding and logistics. A public library manager explained that *"we rely heavily on community outreach, but we lack the*

digital tools to reach a wider audience." Similarly, a museum curator noted that *"exhibitions attract visitors, but we need a stronger online presence to sustain engagement."*

Archives recorded the lowest mean scores across all dimensions, particularly in feedback mechanisms (M = 3.10) and awareness creation (M = 3.15), highlighting significant gaps in marketing practices. Qualitative responses reinforced this finding, as an archivist indicated that *"our services are not well known to the public, and we do not have structured marketing strategies to promote access to our records."* This suggests a disconnect between resource availability and user awareness.

Across all institutional categories, user needs assessment and service accessibility recorded the highest overall means (M = 3.69 each), indicating that institutions were making efforts to align services with user expectations. However, lower scores for feedback mechanisms (M = 3.55) indicated limited systems for capturing user input and improving services. This was echoed in interviews, where several respondents acknowledged the absence of formal feedback systems and instead relied on informal interactions.

H2: Marketing strategies have a positive effect on user engagement in information centers.

Table 2
Marketing strategies and user engagement

User Engagement Dimension	Academic Libraries-Mean (SD)	Public Libraries Mean (SD)	Archives Mean (SD)	Museums Mean (SD)	Document Centers Mean (SD)	Overall Mean (SD)
Q1: Social Media Engagement	4.18 (0.70)	3.50 (0.84)	2.95 (0.88)	3.60 (0.76)	3.85 (0.71)	3.62 (0.78)
Q2: Website Usage	4.10 (0.72)	3.45 (0.80)	3.00 (0.85)	3.55 (0.77)	3.80 (0.73)	3.58 (0.77)
Q3: Outreach Programs	3.95 (0.74)	3.75 (0.78)	3.20 (0.81)	3.70 (0.75)	3.78 (0.72)	3.68 (0.76)
Q4: User Participation	4.02 (0.71)	3.60 (0.79)	3.10 (0.83)	3.65 (0.74)	3.82 (0.70)	3.64 (0.75)
Q5: Communication Frequency	4.08 (0.69)	3.55 (0.81)	3.05 (0.84)	3.60 (0.76)	3.85 (0.71)	3.63 (0.76)
Q6: User Awareness Levels	4.00 (0.73)	3.50 (0.82)	3.15 (0.80)	3.60 (0.75)	3.82 (0.72)	3.61 (0.76)

The quantitative results indicated that marketing strategies positively affected user engagement across all information center categories, although the degree of engagement varied significantly. Academic libraries consistently recorded the highest mean scores across all six dimensions, particularly in social media engagement (M = 4.18) and communication frequency (M = 4.08). This suggests a strong, consistent use of digital platforms for interacting with users. Qualitative findings reinforced this trend, as

one academic librarian noted that *"we use WhatsApp, emails, and social media platforms regularly to update students and encourage participation in our services."*

Documentation centers also demonstrated relatively high engagement levels, with strong performance in communication frequency (M = 3.85) and social media engagement (M = 3.85). Interview responses indicated that these centers leveraged direct and personalized communication channels. A respondent explained that *"our engagement is mostly direct; we maintain close contact with our users through emails and targeted messages."*

Public libraries and museums exhibited moderate levels of user engagement across all items. Public libraries showed relatively strong performance in outreach programs (M = 3.75), reflecting their reliance on community-based engagement strategies. However, lower scores in digital engagement suggested limited technological capacity. A public library manager remarked that *"we engage users through reading programs and school visits, but our online engagement is still very limited."* Similarly, museums performed moderately across all indicators, with qualitative evidence suggesting that physical exhibitions remain their primary engagement strategy. A museum curator stated that *"most of our engagement happens when visitors come for exhibitions, but we are gradually improving our online presence."*

Archives recorded the lowest mean scores across all engagement dimensions, particularly in social media engagement (M = 2.95) and communication frequency (M = 3.05). This indicates limited interaction with users and low visibility of services. Qualitative responses supported this finding, with one archivist noting that *"many people are not even aware of what we do, and we do not have strong platforms to engage them regularly."* This highlights structural and strategic limitations in marketing and user engagement within archival institutions.

Across all institutional categories, outreach programs recorded the highest overall mean (M = 3.68), suggesting that traditional engagement methods remain relevant, particularly for public libraries and museums. However, relatively lower scores in website usage (M = 3.58) indicate that digital platforms are not yet fully optimized across all institutions.

H3: Service delivery has a positive effect on user engagement in information Centers.

Table 3
Service delivery and user engagement

Service Delivery Dimension	Academic Libraries-Mean (SD)	Public Libraries Mean (SD)	Archives Mean (SD)	Museums Mean (SD)	Document Centers Mean (SD)	Overall Mean (SD)
Q1: Timeliness of Service	4.25 (0.64)	3.70 (0.76)	3.30 (0.80)	3.60 (0.73)	3.95 (0.69)	3.76 (0.72)
Q2: Accessibility of Resources	4.20 (0.66)	3.75 (0.74)	3.35 (0.79)	3.65 (0.72)	3.90 (0.70)	3.77 (0.72)
Q3: Quality of Services	4.15 (0.68)	3.70 (0.75)	3.25 (0.78)	3.60 (0.73)	3.88 (0.71)	3.72 (0.73)
Q4: User Satisfaction	4.22 (0.65)	3.72 (0.74)	3.28 (0.80)	3.62 (0.72)	3.90 (0.69)	3.75 (0.72)
Q5: Repeat Usage	4.18 (0.67)	3.68 (0.76)	3.20 (0.82)	3.58 (0.74)	3.85 (0.70)	3.70 (0.74)
Q6: Recommendation Likelihood	4.10 (0.70)	3.65 (0.77)	3.35 (0.78)	3.60 (0.73)	3.85 (0.71)	3.71 (0.74)

The quantitative findings revealed that service delivery had a strong positive influence on user engagement across all information center categories, with overall means ranging from 3.70 to 3.77 across the six dimensions. Academic libraries consistently recorded the highest mean scores across all indicators, particularly in timeliness of service (M = 4.25) and user satisfaction (M = 4.22). This suggests that efficient and high-quality service delivery significantly enhances user engagement. Qualitative responses supported this, as one academic librarian stated that *"when services are fast, reliable, and easily accessible, students are more likely to return and recommend the library to others."*

Documentation centers also demonstrated relatively high performance across all service delivery indicators, particularly in accessibility (M = 3.90) and user satisfaction (M = 3.90). Interview findings indicated that their ability to provide targeted and responsive services contributed to increased engagement. A respondent noted that *"our users keep coming back because they know they will get exactly what they need without delays."*

Public libraries and museums recorded moderate scores across all dimensions, indicating that while service delivery supports user engagement, the impact is somewhat constrained by infrastructural and operational limitations. Public libraries performed relatively well in accessibility (M = 3.75), reflecting their community-oriented services. However, qualitative findings revealed challenges, including resource constraints and overcrowding. A public library officer explained that *"we try to serve many users, but sometimes delays affect how often they come back."* Similarly, museums showed moderate engagement levels, with a curator noting that *"visitor satisfaction is high during exhibitions, but engagement is not always sustained after visits."*

Archives recorded the lowest mean scores across most service delivery indicators, particularly in repeat usage (M = 3.20) and quality of services (M = 3.25). This suggests that limitations in service delivery reduce user engagement. Qualitative responses reinforced this observation, with an archivist stating that *"users often struggle with access procedures, and this discourages frequent use of our services."* This highlights structural and operational barriers that weaken the relationship between service delivery and engagement in archival institutions.

Across all institutional categories, accessibility of resources (M = 3.77) and timeliness of service (M = 3.76) recorded the highest overall means, indicating that these are critical drivers of user engagement. However, slightly lower scores in repeat usage (M = 3.70) suggest that sustained engagement depends on consistent service quality over time.

H4: Institutional type moderates the relationship between marketing strategies and service delivery/user engagement in information centers.

Table 4
Institutional type, marketing strategies, service delivery, and user engagement

Moderating Dimension	Academic Libraries-Mean (SD)	Public Libraries Mean (SD)	Archives Mean (SD)	Museums Mean (SD)	Document Centers Mean (SD)	Overall Mean (SD)
Q1: ICT Infrastructure	4.20 (0.64)	3.45 (0.82)	3.00 (0.88)	3.35 (0.77)	3.75 (0.72)	3.55 (0.77)
Q2: Staff Marketing Capacity	4.10 (0.67)	3.40 (0.84)	3.05 (0.86)	3.30 (0.78)	3.65 (0.74)	3.50 (0.78)
Q3: Funding for Marketing	4.05 (0.69)	3.30 (0.86)	2.95 (0.90)	3.20 (0.80)	3.60 (0.76)	3.42 (0.80)
Q4: Policy Support	4.08 (0.66)	3.35 (0.83)	3.00 (0.87)	3.25 (0.79)	3.70 (0.73)	3.48 (0.78)
Q5: Strategic Orientation	4.15 (0.65)	3.50 (0.81)	3.10 (0.84)	3.40 (0.76)	3.75 (0.72)	3.58 (0.76)
Q6: Resource Availability	4.05 (0.68)	3.30 (0.85)	3.00 (0.88)	3.30 (0.79)	3.65 (0.74)	3.46 (0.79)

The quantitative findings demonstrated clear variations across institutional categories, confirming that institutional type significantly influences the effectiveness of marketing strategies in driving service delivery and user engagement. Academic libraries consistently recorded the highest mean scores across all moderating dimensions, particularly in ICT infrastructure (M = 4.20) and strategic orientation (M = 4.15). This suggests that academic institutions possess stronger enabling environments for implementing effective marketing strategies. Qualitative evidence supported this, with one respondent noting that *"our university supports digital systems and marketing initiatives, which makes it easier to reach and engage users effectively."*

Documentation centers also showed relatively strong performance across most indicators, particularly in strategic orientation (M = 3.75) and policy support (M = 3.70). Interviews revealed that these centers benefit from flexible management structures and targeted service delivery approaches. A respondent explained that *"we are able to adapt quickly and align our strategies with user needs because decision-making is less bureaucratic."*

Public libraries and museums recorded moderate scores across all dimensions, indicating partial institutional support for marketing activities. Public libraries showed relatively stronger performance in strategic orientation (M = 3.50), reflecting ongoing efforts to improve service delivery despite resource constraints. However, funding for marketing (M = 3.30) remained a challenge. A public library manager stated, "We *have plans for marketing, but limited funding restricts what we can actually implement."* Similarly, museums exhibited moderate institutional capacity, with a curator noting that *"we depend heavily on government support, which affects how much we can invest in marketing and digital engagement."*

Archives recorded the lowest mean scores across all moderating factors, particularly in funding for marketing (M = 2.95) and ICT infrastructure (M = 3.00), indicating significant structural limitations. Qualitative findings reinforced this pattern, as an archivist explained that *"we lack both the technological tools and financial resources needed to promote our services effectively."* This highlights the constraints that hinder the translation of marketing strategies into improved service delivery and engagement outcomes within archival institutions.

Across all institutional categories, strategic orientation recorded the highest overall mean (M = 3.58), suggesting that institutional vision and planning play a crucial role in shaping marketing effectiveness. In contrast, funding for marketing recorded the lowest overall mean (M = 3.42), indicating that financial constraints remain a key barrier across the sector.

Discussion of Findings

Hypothesis 1: Marketing Strategies and Service Delivery

The findings of this study revealed that marketing strategies have a significant positive effect on service delivery across information centers in Ghana, with notable variations across institutional categories. Academic libraries demonstrated the strongest performance, while archives lagged behind. These findings corroborate existing empirical studies, which emphasize that structured marketing practices such as user needs assessment, promotion, and communication enhance service accessibility, responsiveness, and efficiency (Anane & Lartey, 2022; Narteh, 2018). Similarly, Boateng and Liu (2020) found that integrating digital tools in Ghanaian academic libraries improved service delivery outcomes, particularly in accessibility and timeliness.

The findings are also strongly aligned with the SERVQUAL theory, particularly the dimensions of reliability, responsiveness, and tangibles (Parasuraman et al., 1988). Institutions that actively applied

marketing strategies were better able to deliver reliable and timely services, supported by improved infrastructure and communication systems. For instance, academic libraries' high scores reflect strong tangible resources (ICT systems), responsiveness (prompt service), and reliability (consistent service delivery). In contrast, archives that recorded lower scores exhibited limitations in these SERVQUAL dimensions, particularly in responsiveness and accessibility.

However, the findings partially contradict studies that suggest public libraries can achieve high service delivery through community engagement alone (Ahenkorah-Marfo, 2012). While outreach activities were present, this study showed that without integrated marketing strategies and digital support, service delivery remains moderate. Additionally, the relatively low scores in feedback mechanisms suggest a gap in the empathy dimension of SERVQUAL, indicating limited user-centered service improvement processes.

The findings extend the empirical literature by demonstrating that, while marketing strategies significantly enhance service delivery, their effectiveness is contingent on institutional capacity and technological readiness. This reinforces SERVQUAL's proposition that service quality is multidimensional and dependent on both organizational resources and user-focused practices.

Hypothesis 2: Marketing Strategies and User Engagement

The findings indicated that marketing strategies significantly influence user engagement across information centers, with academic libraries and documentation centers recording higher engagement levels compared to public libraries, museums, and archives. This aligns with empirical studies highlighting that digital marketing tools, particularly social media, websites, and mobile platforms, enhance user interaction, participation, and awareness (Boateng & Liu, 2020; Anane & Lartey, 2022). The findings further support Kotler et al. (2019), who argue that relationship marketing and consistent communication are critical drivers of customer engagement in service-oriented institutions.

From a SERVQUAL perspective, these findings are closely linked to the dimensions of responsiveness, assurance, and empathy (Parasuraman et al., 1988). Institutions that effectively utilized marketing strategies, especially digital platforms, were better able to communicate promptly (responsiveness), build trust through consistent information sharing (assurance), and tailor services to user needs (empathy). This explains the higher engagement levels observed in academic libraries, where structured communication systems and digital tools are more prevalent.

However, the findings partially contradict earlier assumptions that traditional outreach methods alone are sufficient to drive user engagement in public information services. While outreach programs recorded relatively high scores, they were less effective than digital engagement strategies at sustaining continuous interaction. This suggests that reliance on traditional methods without digital integration limits engagement potential.

Additionally, the consistently low scores recorded by archives reinforce Fuseini's (2023) findings, which highlight the limited visibility and accessibility of archival services in Ghana. The lack of digital marketing

adoption in archives undermines their ability to engage users effectively.

These findings corroborate existing empirical evidence that marketing strategies significantly enhance user engagement, and they extend the literature by demonstrating that digital marketing adoption is a critical determinant of sustained engagement. The findings further validate SERVQUAL by showing that improved communication, trust, and user-centered approaches are essential for enhancing engagement outcomes.

Hypothesis 3: Service Delivery and User Engagement

The findings demonstrated that service delivery has a significant positive effect on user engagement across all categories of information centers in Ghana. Academic libraries and documentation centers recorded higher performance, while archives showed relatively weaker outcomes. These results corroborate empirical studies that establish that high-quality service delivery, characterized by accessibility, timeliness, and reliability, directly enhances user satisfaction and engagement (Narteh, 2018; Bilson & Markwei, 2019). Similarly, prior studies in library contexts have shown that improved service quality increases repeat usage and user loyalty.

The findings strongly align with the SERVQUAL framework, particularly the dimensions of reliability, responsiveness, and assurance (Parasuraman et al., 1988). Institutions that delivered timely and consistent services were more likely to attract repeat users and recommendations, reflecting reliability and assurance. Academic libraries, for instance, demonstrated high responsiveness through efficient service provision, which translated into higher engagement. Conversely, archives that recorded lower scores exhibited gaps in responsiveness and accessibility, thereby limiting user interaction.

However, the findings partially contradict studies that suggest access alone guarantees engagement. While accessibility recorded high scores, slightly lower ratings for repeat usage indicate that sustained engagement depends not only on access but also on consistent service quality and user experience. This highlights the importance of integrating multiple SERVQUAL dimensions rather than focusing on a single aspect.

This confirms that service delivery is a critical driver of user engagement, reinforcing SERVQUAL's proposition that quality service enhances user satisfaction and behavioral outcomes. It further extends empirical literature by showing that variations in institutional capacity significantly influence the strength of this relationship in the Ghanaian context.

Hypothesis 4: Institutional Type as a Moderating Variable

The findings confirmed that institutional type significantly moderates the relationship between marketing strategies and service delivery/user engagement. Academic libraries and documentation centers exhibited stronger enabling conditions, such as ICT infrastructure, staff capacity, and strategic orientation, while archives and public libraries faced notable constraints. These findings are consistent

with empirical studies indicating that organizational resources and structural capacity significantly influence the effectiveness of service and marketing strategies (Anane & Lartey, 2022; Mensah, 2022).

From a SERVQUAL perspective, institutional capacity directly affects organizations' ability to deliver quality services across all five dimensions. For instance, strong ICT infrastructure enhances tangibles, skilled personnel improve assurance, and adequate funding supports responsiveness and reliability (Parasuraman et al., 1988). Academic libraries' superior performance reflects a balanced strength across these dimensions, while archives' lower scores indicate systemic weaknesses, particularly in tangibles and responsiveness.

The findings also corroborate studies suggesting that institutional support and strategic orientation are critical for effective service delivery. However, they contradict assumptions that uniform policies or national frameworks ensure equal performance across institutions. Instead, the results demonstrate that institutional differences, particularly in funding and technological readiness, create disparities in outcomes.

Furthermore, the relatively low funding scores across all categories highlight a broader systemic challenge, suggesting that even well-structured institutions may face constraints in fully implementing marketing strategies. This extends SERVQUAL by emphasizing that service quality is not only user-driven but also structurally conditioned.

The findings provide strong empirical support for the moderating role of institutional type and reinforce SERVQUAL by demonstrating that service quality outcomes are contingent upon organizational capacity and resource availability.

Implications of the Study

Practical Implications

The findings of this study have important practical implications for improving service delivery and user engagement in information centers across Ghana. First, the demonstrated positive relationship between marketing strategies and both service delivery and user engagement implies that information centers must adopt structured and user-oriented marketing approaches rather than relying on ad hoc or traditional methods. Institutions, particularly public libraries, museums, and archives, should prioritize user needs assessment, awareness creation, and feedback systems to enhance service relevance and utilization. Additionally, the strong role of digital marketing suggests that investing in social media platforms, websites, and mobile communication tools (e.g., WhatsApp) is essential for increasing visibility and engagement. Practitioners should therefore integrate both traditional outreach and digital strategies to maximize reach and effectiveness.

Policy Implications

At the policy level, the study highlights the need for national and institutional policy frameworks that prioritize marketing and digital transformation in information centers. Policymakers, including the Ghana Library Authority, PRAAD, and the Ghana Museums and Monuments Board, should develop comprehensive marketing policies and digital engagement strategies that guide institutions in promoting their services. The observed disparities across institutional types suggest the need for equitable resource allocation, particularly for archives and public libraries, which recorded lower performance levels. Policies should also emphasize capacity building in digital literacy and marketing competencies, ensuring that staff are equipped with the necessary skills to implement modern marketing practices. Furthermore, national information and cultural policies should incorporate digital inclusion strategies to enhance access and engagement across diverse user groups.

Managerial Implications

The findings underscore the critical role of institutional leadership and management in driving effective marketing and service delivery. Managers of information centers should adopt a strategic orientation toward marketing, integrating it into institutional planning and performance evaluation systems. This includes allocating dedicated budgets for marketing activities, establishing marketing units or roles, and embedding data-driven decision-making processes such as user analytics and feedback mechanisms. The moderating role of institutional capacity suggests that managers must prioritize investments in ICT infrastructure, staff training, and resource mobilization to strengthen service quality. In line with SERVQUAL, managers should focus on improving responsiveness, reliability, and empathy in service provision, ensuring that services are timely, consistent, and user-centered.

Conclusion

This study set out to conduct a comparative analysis of marketing strategies adopted by different categories of information centers in Ghana, namely academic libraries, public libraries, archives, museums, and documentation centers, and to examine their effects on service delivery and user engagement. Drawing on both quantitative and qualitative evidence, the study established that marketing strategies are critical drivers of improved service delivery and enhanced user engagement, although their effectiveness varies significantly across institutional types.

The findings revealed that academic libraries and documentation centers demonstrate relatively stronger performance in adopting and integrating marketing strategies, particularly digital marketing tools, which translate into higher service efficiency and greater user interaction. In contrast, public libraries, museums, and especially archives exhibit lower marketing effectiveness, largely due to constraints in funding and ICT infrastructure, as well as limited strategic orientation. These disparities underscore the moderating role of institutional capacity in shaping the outcomes of marketing efforts.

Furthermore, the study confirmed that service delivery plays a pivotal role in driving user engagement, with dimensions such as accessibility, timeliness, and service quality emerging as key determinants of user satisfaction and continued usage. The growing importance of digital marketing, particularly mobile-

based engagement, underscores a shifting landscape of information access and the need for institutions to align with evolving user behaviors and expectations.

The study also demonstrated the relevance of the SERVQUAL theory in explaining variations in service delivery and engagement outcomes. Institutions that exhibited stronger performance across the SERVQUAL dimensions, such as responsiveness, reliability, assurance, and empathy, were more effective at attracting and retaining users. However, the findings also showed that service quality is not solely dependent on user-centered practices but is significantly influenced by structural and institutional factors.

In conclusion, the study demonstrates that effective marketing strategies, supported by adequate institutional capacity and digital transformation, are crucial to improving the performance and societal impact of information centers in Ghana. It emphasizes the need for a strategic, coordinated, and context-specific approach to marketing and service delivery, especially in under-resourced institutions. Addressing these issues will not only boost user engagement and service utilization but also enhance the role of information centers as vital contributors to education, cultural preservation, and national development in Ghana.

Declarations

Ethics Approval

This research did not require formal ethical approval under KAAF University, Ghana's policies, because it did not involve sensitive personal data, vulnerable populations, or procedures that posed more than minimal risk. Nevertheless, the study adhered to all relevant ethical guidelines, and informed consent was obtained from all participants.

Consent to Participate

All participants in this study were fully informed of the research objectives, procedures, potential risks, and benefits.

Consent to Publish

All participants gave their consent to publish the outcome of the study.

Consent to Participate

Written informed consent to participate in this study was obtained from all participants prior to data collection. Participants were informed about the purpose of the study, confidentiality of responses, voluntary participation, and their right to withdraw at any stage without penalty.

Availability of data and materials

The data used for the study will be made available upon reasonable request.

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Author Contribution

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Figures

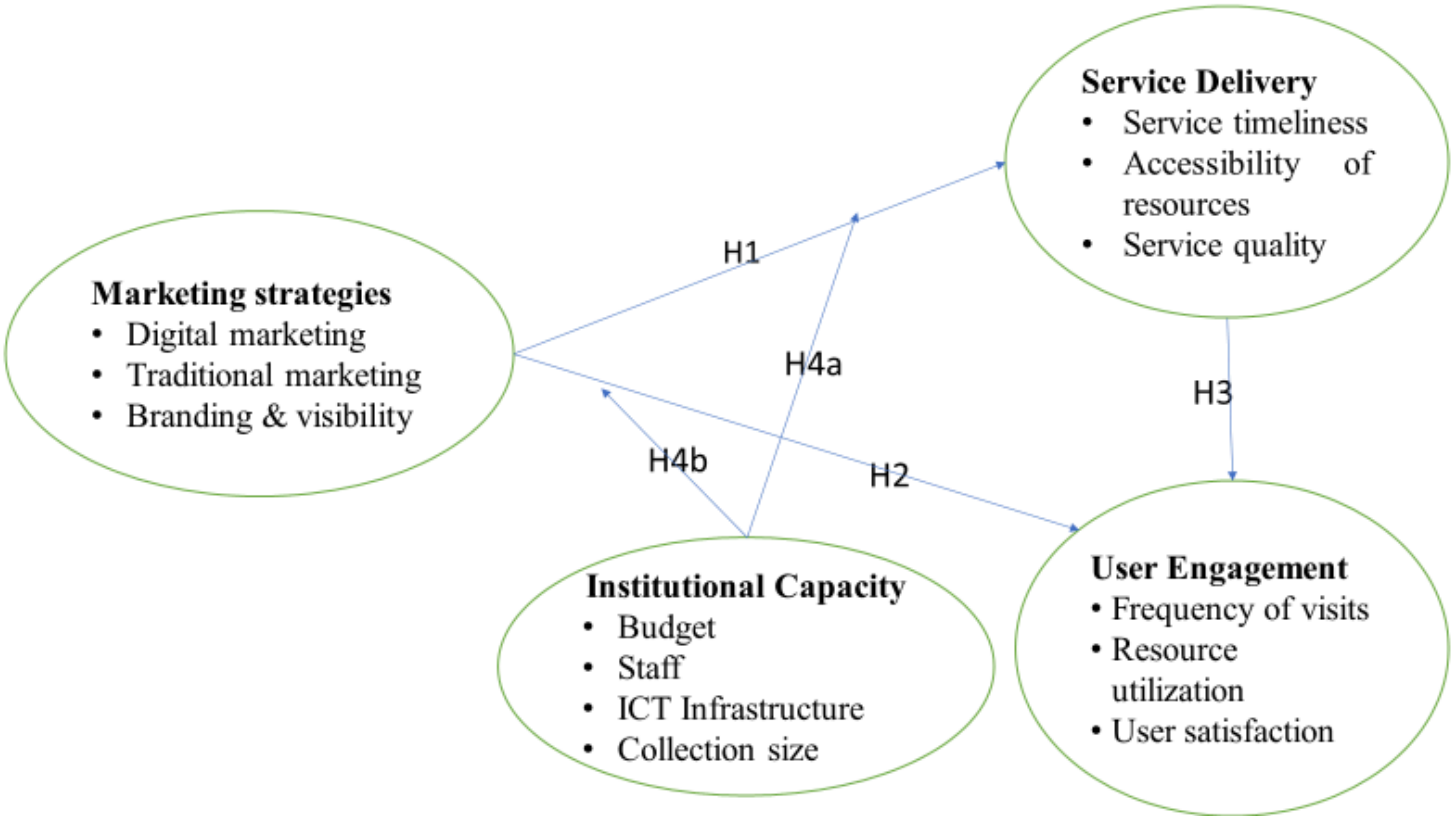


Figure 1

conceptual model