



GAMIFICATION ON SOCIAL MEDIA TO ENHANCE LIBRARY SERVICES IN KENYAN PRIVATE UNIVERSITIES

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ABSTRACT

This study examined the application of gamification strategies on social media as an innovative approach to enhance student interaction with library services at Strathmore and Riara Universities, Kenya. Guided by the Self-Determination Theory, which emphasizes competence, relatedness, and autonomy as intrinsic motivators, the study explored how game elements such as contests, quizzes, and digital badges influence engagement. A descriptive survey design was employed, targeting a population of 2,100 individuals (1,800 students and 300 librarians). Stratified random sampling yielded 300 students, while purposive sampling selected 36 librarians, resulting in a final response of 255 students (85%) and 20 librarians (55.6%). Data were collected using structured questionnaires and semi-structured interviews, with reliability confirmed through Cronbach's alpha values above 0.7. Quantitative data were analyzed using SPSS v26 (descriptive statistics), while qualitative insights were thematically analyzed. The findings revealed that gamification significantly improved interaction with library services, with 50.6% of students reporting motivation from contests, 48.2% from digital badges, and 60% from quizzes. Despite these benefits, challenges such as limited resources, inadequate training, and access to gamification software constrained scalability. The study concludes that gamification offers a practical framework for bridging the student-library engagement gap in Kenyan private universities. It recommends investing in affordable gamification tools, training librarians in digital engagement strategies, and conducting regular audits of library social media initiatives. Adoption of such measures would enhance both the visibility and utilization of library services in resource-constrained academic environments.

Keywords: Social Media; Gamification; Student Engagement; Academic Libraries; Kenya

INTRODUCTION

The fast digital revolution of higher education has changed the role of academic libraries, forcing them to embrace novel ways for engaging students in an increasingly technology-driven learning environment. Traditional approaches to library service delivery, which frequently focus on physical locations and static information transmission, are no longer adequate to fulfill the needs of digitally literate learners. As a result, libraries are using social media platforms like WhatsApp, Instagram, and Facebook to boost exposure, market resources, and encourage interaction (Mahadeva et al., 2021). These platforms provide chances to incorporate interactive strategies that will encourage students to actively participate in library activities.

Gamification, characterized by the use of game components like contests, leaderboards, badges, and quizzes in non-gaming environments, has surfaced as an effective method to augment user incentive and engagement. Gamification, which is based on Self-Determination Theory (SDT), is especially good in encouraging autonomy, competence, and relatedness—three intrinsic motivators that drive long-term participation. Studies in developed contexts show that gamification increases interaction; for example, the University of Huddersfield in the United Kingdom increased orientation attendance by 30% using digital scavenger hunts (Farley, 2018), while the University of Florida increased service utilization by 40% using badge-based incentives (Zainuddin et al., 2020). These examples demonstrate gamification's ability to turn library services into dynamic, student-centered ecosystems.

In Africa, however, adoption is slow and dispersed. Libraries in Nigeria and South Africa have experimented with WhatsApp quizzes and Facebook-based contests, but scalability is limited due to infrastructure shortages, substandard staff training, and poor assessment frameworks (Adeyemi et al., 2021; Nwone & Mutula, 2023). Despite strong social media penetration among Kenyan students, academic libraries continue to use these platforms largely for informational announcements rather than participatory participation (Anyango, 2021; Karanja, 2018). Pilot initiatives at Strathmore and Riara Universities, such as Instagram-based quizzes, show promise but are sporadic, resource-constrained, and unverified.

This study fills a vacuum by investigating the influence of gamification tactics on social media in improving student connection with library services at Strathmore and Riara Universities. It specifically looks into how contests, quizzes, and badges encourage students to interact with library platforms, as well as how these tactics can help to close the 55% engagement gap seen in Kenyan academic libraries. The findings are likely to provide practical insights for developing scalable, evidence-based gamification models that improve the visibility, use, and relevance of library services in resource-constrained university settings.

Problem Statement

Academic libraries of Kenyan private institutions, like Strathmore and Riara, are required to provide innovative, student-centered services that promote learning, research, and digital literacy. Globally, libraries are using digital tools and social media to satisfy these expectations, with international standards indicating that gamification can boost engagement by 30-40% (Burke, 2014; Acedo et al., 2021). However, Strathmore and Riara University libraries deviate significantly from these trends. Despite a considerable student presence on social media platforms, engagement rates with library posts remain at only 18%, with 31.4% utilization of library resources, indicating a significant discrepancy when compared to global engagement standards.

The lack of structured gamification approaches is a significant barrier to student-library interaction. Current library social media projects are primarily educational, with little use of incentive features like contests, quizzes, and digital badges. This leads to passive consumption rather than active participation. Resource constraints, insufficient librarian training in digital engagement, and limited access to gamification tools worsen the issue, rendering interaction fragmented and unsustainable. As a result, libraries struggle to convert exposure into meaningful use, limiting their relevance in Kenya's developing digital higher education landscape.

Although global studies show that gamification improves library engagement, empirical evidence specific to Kenyan private universities is sparse. The absence of localized data on how gamification affects student interaction impedes evidence-based policy and practice. A comprehensive inquiry is thus required to assess gamification's potential for closing the 55% engagement gap and enhancing student-library ties in Kenya's digital learning ecosystem.

Objective

To assess the effectiveness of gamification strategies on social media in increasing student participation with library services at Strathmore and Riara Universities in Kenya.

LITERATURE REVIEW

Globally, academic libraries have increasingly adopted digital engagement practices in order to remain relevant to students whose learning choices are influenced by technology and social media. According to research, gamification the incorporation of game elements such as badges, contests, leaderboards, and quizzes into non-game contexts increases motivation, involvement, and sustained interaction (Burke, 2014). For example, the University of Florida reported a 40% increase in engagement after implementing digital badges for tutorial completion, while the University of Huddersfield in the United Kingdom used gamified scavenger hunts to increase orientation attendance by 30% (Zainuddin et al., 2020; Farley, 2018). These experiences show that gamification has progressed from amusement to a useful technique for improving student-library ties in higher education.

Gamification use in academic libraries in Africa is relatively uncommon, owing mostly to infrastructure challenges, inadequate training, and resource constraints. Nigerian university libraries, for example, have experimented with WhatsApp-based quizzes, but these efforts are generally erratic and lack rigorous evaluation (Adeyemi, Esan, & Aleem, 2021). Digital inequalities in South Africa have hampered the widespread use of gamification technologies, despite libraries' recognition of their potential to increase participation (Nwone & Mutula, 2023). These data imply that, while African students are quite active on social media, academic libraries have not fully embraced gamification as a technique for increasing visibility and service consumption.

Kenyan university libraries have comparable issues. While private institutions like Strathmore and Riara have played around with gamified quizzes and competitions on Instagram and WhatsApp, their initiatives are uncoordinated, resource-intensive, and inadequately documented (Anyango, 2021; Wanjiru, 2022). Furthermore, student involvement remains low, with polls revealing that just about 18% of students regularly interact with library social media content (Owoche & Wakahia, 2025). Despite these hurdles, Strathmore University's experimental projects have had promising results, with gamified competitions increasing resource access by up to 20%. These deficits highlight the need for empirical research into how structured gamification tactics might overcome the student-library engagement gap in Kenyan private universities.

Theoretical Review

This study was guided by Deci and Ryan's (2000) Self-Determination Theory (SDT), which emphasizes autonomy, competence, and relatedness as intrinsic motivators of human activity. Gamification aspects in academic libraries include digital badges, which enhance proficiency by rewarding skill mastery; contests and leaderboards foster relatedness through social participation and quizzes, which provide flexibility by allowing students to voluntarily engage with learning assignments. By connecting game-based mechanics to these psychological demands, SDT provides a solid theoretical foundation for understanding how gamification on social media platforms might improve student interaction with library resources. This theoretical lens sees gamification not just as a technology add-on, but also as a motivating framework capable of altering library participation in Kenyan private colleges.

METHODOLOGY

The study used a descriptive survey research design that included quantitative and qualitative methods to gather extensive data on the effect of gamification in improving student involvement with library services. This methodology was deemed appropriate since it allowed the researcher to measure both measurable engagement outcomes and nuanced impressions of participants. The target group consisted of 2,100 people from Strathmore and Riara universities, including 1,800 students and 300 librarians. A sample of 336 participants was drawn from this: 300 students via stratified random sampling to ensure proportional representation across faculties, and 36 librarians via purposive sampling, as they possessed specialized knowledge of library operations and digital engagement strategies, respectively. A total of 255 students (85%) and 20 librarians (55.6%) successfully participated, resulting in adequate data.

Data were gathered utilizing two main methods: structured questionnaires and semi-structured interviews. The questions that were presented to students used Likert-scale items (1 = Strongly Disagree to 5 = Strongly Agree) to assess attitudes of gamification aspects such as contests, quizzes, and digital badges. Semi-structured interviews with librarians were performed to gain a greater understanding of implementation strategies, problems, and prospects for growing gamification in academic libraries. To ensure validity, the instruments were reviewed by library and information science subject matter experts, and a pilot test was done with 10% of the study population not included in the main sample. Cronbach's alpha was used to confirm reliability, and all variables had coefficients higher than the acceptable threshold of 0.7, showing adequate internal consistency.

Quantitative data from questionnaires were examined using SPSS version 26, which used descriptive statistics (frequencies, percentages, averages, and standard deviations), correlations, and t-tests to assess the links between gamification tactics and student involvement. Qualitative data from interviews were transcribed, categorized, and thematically evaluated to supplement and triangulate quantitative findings. The National Commission for Science, Technology, and Innovation (NACOSTI) provided ethical approval, and university administrations approved additional authority. Participation was voluntary, and all respondents provided informed consent. Responses were kept anonymous throughout the study.

Response Rate

Out of the 336 respondents targeted, 275 completed the study, resulting in an overall response rate of 81.8%. Students provided 255 responses, resulting in an 85.0% response rate, whereas librarians provided 20 responses, representing a 55.6% rate. According to Mugenda & Mugenda (2003), a response rate of at least 70% is deemed appropriate for analysis and reporting in social science research. As a result, the achieved response rate meets the specified threshold, increasing the study's reliability and generalizability.

Background Information

The research study examined respondents' demographic factors to guarantee a fair picture of library service consumption. As shown in Table 4.3, second-year students made up the largest group (30.2%), followed by first-year (25.1%), third-year (23.9%), and final-year students (20.8%), demonstrating balanced engagement across all academic levels. This distribution is significant since library usage habits vary by year of study, with junior students depending more on orientation and basic services and senior students utilizing advanced resources and specialized collections (Ilogho & Nkiko, 2014; Onyancha, 2020). In a comparable vein, librarians' professional experience revealed that over half (45.2%) had served between 6 and 10 years, 32.3% had 1-5 years, and 22.5% had more than 10 years, indicating that the majority had significant tenure. Such professional experience is essential for forming credible viewpoints on library service promotion, since tenure allows librarians to accumulate practical expertise, adapt to technological change, and provide educated insights into digital developments (Aina & Mabawonku, 2019). The diversity of student cohorts, together with librarians' professional maturity, reinforced the study's findings and increased their generalizability to similar academic contexts.

FINDINGS

Assessing the Impact of Gamification on Library Engagement

The descriptive results on gamification practices are presented in Table 1. Students were asked to indicate their level of agreement with various statements regarding the use of quizzes, contests, and badges as strategies to promote engagement with library services on social media.

Table 1: Student Perceptions of Gamification Strategies

Statement on gamification (N = 255)	Strongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly Disagree (5)	Mean	Std. Dev.
Quizzes make library pages more interesting	20.4% (52)	30.2% (77)	27.5% (70)	14.5% (37)	7.4% (19)	3.42	1.08
Contests and challenges motivate engagement	18.0% (46)	28.3% (72)	29.0% (74)	15.6% (40)	9.1% (23)	3.36	1.10
Badges/rewards encourage participation	16.1% (41)	26.6% (68)	33.7% (86)	15.2% (39)	8.4% (21)	3.27	1.07

The results in Table 1 show that students have a generally positive opinion of gamification, however the level of agreement varies depending on the exact approach used. Regarding the statement that quizzes make library pages more fascinating, 129 respondents (50.6%) highly agreed or agreed, while 70 (27.5%) stayed neutral and 56 (21.9%) disagreed (M = 3.42, SD = 1.08). Similarly, 118 students (46.3%) agreed or strongly agreed that contests and challenges increase engagement, while 74 (29.0%) were neutral and 63 (24.7%) disapproved (M = 3.36, SD = 1.10). In comparison, badges and awards elicited a more mixed response: 109 respondents (42.7%) agreed, 86 (33.7%) stayed indifferent, and 60 (23.6%) disagreed (M = 3.27, SD = 1.07).

The results presented here suggest that interactive and competitive approaches, such as quizzes and contests, were more effective in stimulating student interest than passive reward systems, which is consistent with Hamari et al. (2019), who discovered that challenges and knowledge-based tasks drive higher engagement than simple extrinsic rewards.

Interviews with librarians provided more insights into these tendencies. Most participants reported that quizzes and contests were the most commonly used gamification tactics, particularly during orientations, literacy weeks, and themed activities. A librarian noticed: "When we conduct quizzes about library resources, engagement increases, and students are eager to challenge themselves." However, librarians identified many challenges to the long-term viability of gamification projects. Specifically, 40% cited a lack of specialized software and interactive tools, 30% cited a lack of time for planning and implementation, 20% reported insufficient training in gamification techniques, and 10% stated that low participation in certain activities discouraged future experimentation. A librarian put it this way: "We have concepts for contests, but without adequate tools and sufficient time, we cannot execute them effectively." A different speaker stated: "Training would enable us to devise more engaging methods for students, beyond the basic quizzes we typically use."

In summary, the quantitative and qualitative findings indicate that gamification has been partially adopted as a strategy of increasing student-library engagement, with quizzes and contests showing the most potential for interaction. Nonetheless, badges and awards are less influential, and institutional barriers such as limited infrastructure, insufficient training, and time limitations influence the effectiveness of gamification efforts. These findings are consistent with Onyancha's (2020) argument that the successful implementation of digital engagement techniques in African academic libraries is dependent not only on student receptivity, but also on organizational capability and professional competence. Addressing these limits through investment in gamification tools, capacity building, and organized implementation frameworks is therefore critical for maximizing the benefits of gamification in library service delivery.

CONCLUSION AND RECOMMENDATIONS

The study indicates that gamification has significant potential as a strategy for increasing student engagement with library services at Kenyan private universities. Broadly speaking, the findings show that students are motivated more by competitive and knowledge-based activities than by extrinsic incentives. Librarian viewpoints verified the value of gamification while highlighting major challenges to its effective implementation, such as a lack of specialized tools, limited time, and insufficient training. These limits limit the consistency and longevity of gamification activities. Addressing such structural and capacity issues is critical if libraries are to fully realize gamification as a transformative method to service delivery. Academic libraries may increase their digital relevance and develop stronger connections with students by combining engaging digital tactics with strong institutional support.

The study recommends that university library administrations invest in low-cost gamification technologies and dependable digital platforms to improve interactive student involvement. Regular training and capacity-building programs for librarians are required to improve their skills in devising and implementing new gamification tactics that go beyond basic quizzes. More importantly, institutions should devote appropriate time and money to developing gamified activities and incorporating them into regular library outreach initiatives. Clear norms and guidelines for using social media for gamification should also be created to ensure consistency and sustainability. Finally, cooperation with stakeholders, such as ICT departments and student associations, are encouraged to develop creativity, increase involvement, and optimize the influence of gamification on library service delivery.

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