



Alumni Network Platform Leveraging Regression Models for Data Analysis

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ABSTRACT

In today's dynamic higher education landscape, institutions strive for innovative strategies to enhance their strategic goals. This study focuses on developing and implementing a web-based alumni portal for the University of Antique Tario – Lim Memorial Campus (UA - TLMC). Drawing from community engagement and alumni relations theories, the research contextualizes the portal within UA-TLMC's history and strategic framework, highlighting its dual role as a technological innovation and a means for institutional advancement. Through descriptive developmental research involving 300 diverse respondents, including students, faculty, alumni, and novice users, usability and satisfaction levels are assessed. Regression analysis identifies key predictors of user satisfaction, such as ease of navigation, clarity of information, and mobile accessibility. Recommendations are provided to optimize the portal's functionality, enhance user experience, and promote greater engagement. By aligning these strategies with the institution's mission and values, the portal becomes a vital conduit for achieving broader institutional objectives. The study underscores the necessity for institutions to adapt to modern communication channels and streamline alumni engagement efforts, overcoming traditional challenges like geographic dispersion and inefficient data management. Through a comprehensive alumni management system, leveraging technology and streamlined processes, the portal facilitates alumni connection, collaboration, and lifelong learning. Integration of data analytics offers insights into alumni trends, enabling tailored engagement strategies. Ultimately, the alumni portal bridges the university-alumni gap, reaffirming the institution's commitment to lifelong relationships and continuous growth within the alumni community.

Keywords: Higher Education, Alumni Engagement, Web-based Portal, Institutional Advancement, User Satisfaction.

INTRODUCTION

Institutions continually seek innovative ways to bolster their strategic visions in today's dynamic higher education environment. Alumni portals, which are digital platforms fostering ties between academic institutions and their graduates, represent a strategic instrument in this endeavor. This research draws upon the theoretical tenets of community engagement and alumni relations, particularly from Weerts and Sandmann (2008), to elucidate the alignment between the alumni portal and the institutional ethos of the University of Antique Tario – Lim Memorial Campus (UA - TLMC). By anchoring the alumni portal within UA-TLMC's historical and strategic context, this study underscores its dual role as both a technological innovation and a conduit for institutional advancement.

Established as a high school in 1948 and later integrated into the University of Antique, UA-TLMC boasts a legacy of providing quality education and cultivating robust community ties. The institution's mission is anticipated to emphasize accessible and relevant education, while its vision likely encompasses holistic student development and active community engagement. Within this framework, the university's strategic goals could conceivably revolve around enhancing alumni relations, promoting lifelong learning, and facilitating positive societal contributions.

UA-TLMC, with its storied legacy of education and community involvement, necessitates tools that resonate with its mission and vision. Reflecting its commitment to accessible education and holistic student development, the university's strategic imperatives likely involve fortifying alumni connections, championing continuous learning, and amplifying its societal impact. The alumni portal, as conceptualized in this study, emerges as a potent tool to realize these aspirations.

Central to this study's methodology is the integration of logical regression, presumably logistic regression, within the data analytics component of the portal. Logistic regression's prowess in handling categorical dependent variables, like employability status, renders it an optimal choice for distilling insights from alumni data. This choice not only aligns with the study's objective of understanding alumni employability trends but also introduces a rigorous, theoretically-grounded analytical technique to the realm of alumni portals.

This research positions the alumni portal in juxtaposition with existing solutions, emphasizing its distinct features and improvements. Beyond mere data collection, the portal's design encapsulates advanced features like enhanced communication modules, user-centric profile updates, robust web security, and insightful analytics. Each feature, rooted in sound theoretical principles, converges to create a comprehensive, efficient, and user-friendly platform.

This research draws inspiration from the insights of Weerts and Sandmann (2008), who underscored the necessity of aligning engagement efforts with institutional mission and values. Their work emphasizes that initiatives undertaken by universities should be seamlessly woven into the fabric of the institution's overarching objectives. By contextualizing the development of the alumni portal within UA-TLMC's historical narrative and strategic ambitions, this study extends this concept, positioning the portal not just as a technological tool but as a strategic conduit through which the institution can realize its broader objectives.

As a fundamental piece of the institutional ecosystem, the alumni portal bridges the university and its graduates, fortifying the university's commitment to nurturing lifelong relationships beyond graduation. Moreover, the institution's strategic priorities encompass intensified alumni engagement, holistic career support, and continuous learning opportunities. In that case, the features integrated into the portal – including predictive employment status assessment, mentorship avenues, and a repository of educational resources – bear direct relevance to achieving these multifaceted goals.

Alumni represent a valuable asset for any university, serving as influential ambassadors for the institution in the real world. Over time, the significance of these networks has grown, contributing to

the development of universities by leveraging their substantial outreach potential, which greatly benefits the institution.

Currently, the university faces challenges in effectively engaging with its graduates. Communication primarily relies on traditional channels such as letters, emails, phone calls, and social media. However, due to the geographic dispersion of many alumni as they pursue their careers, reaching out to them becomes increasingly difficult and costly, with expenses incurred in publication and mailing. Moreover, most of the communication tends to be one-way and informative, lacking interactivity and meaningful engagement.

At UA-TLMC, alumni information are manually maintained by each college, impeding efficient data management and retrieval. The university relies on a combination of computer systems, spreadsheet applications, and physical papers to record alumni data, resulting in delays and inefficiencies. These sheets are collected by the organization and shared with all alumni, compromising privacy and discouraging alumni from sharing their details with fellow graduates. Currently, all information is solely managed by the alumni coordinator and college coordinator, limiting the accessibility and availability of comprehensive data. Moreover, when it comes to generating reports, the university has limited information about the accomplishments of alumni in their respective fields of specialization.

To address these challenges and enhance alumni engagement, it is imperative for UA-TLMC to implement a comprehensive and efficient alumni management system. By leveraging modern technology and streamlined processes, the university can establish a web-based alumni portal that offers a multitude of benefits.

The cloud-based alumni portal would provide a centralized platform for alumni communication and engagement. It would serve as a hub where alumni can connect, interact, and collaborate with each other, fostering a sense of community and facilitating the exchange of ideas and opportunities. Alumni would have the ability to update their personal profiles, share their achievements and experiences, and participate in discussions and forums relevant to their fields of expertise.

Additionally, the implementation of a secure and well-structured database within the portal would allow for efficient data management and retrieval. Alumni information, including contact details, employment history, and academic achievements, could be easily accessed and updated by both alumni themselves and authorized administrators. This would eliminate the reliance on manual processes and disparate data sources, ensuring accuracy, timeliness, and streamlined administration.

Furthermore, the cloud-based portal will incorporate data analytics to provide valuable insights and generate comprehensive reports about alumni trends, career paths, and contributions to society. This data-driven approach would enable the university to identify successful alumni, understand the impact of their education, and establish meaningful connections between alumni and current students. These insights could inform the development of targeted programs, mentorship initiatives, and career services that align with the aspirations and needs of the alumni community.

With regards to privacy and security, the cloud-based alumni portal implemented a robust measure to protect sensitive information. This includes advanced encryption techniques, secure login protocols, and adherence to data protection regulations. By ensuring the confidentiality and integrity of alumni data, the university will build trust and encourage alumni to actively participate in the portal, knowing that their information is well-protected. Artificial intelligence (AI), machine learning (ML), blockchain, virtual reality (VR), and augmented reality (AR) are emerging concepts that have the potential to improve the portal's capabilities and functionalities. Using chatbots for individualized help and algorithms for customized recommendations, combining AI and ML might provide predictive insights beyond job status. Blockchain technology has the potential to improve data security and transparency, while smart contracts have the potential to automate procedures. VR and AR have the potential to offer immersive virtual events and campus tours, overcoming geographical divides. Personalized experiences

based on alumni behavior might result from advanced data analytics. Using a journal (Marr, 2016), examining these tendencies provides a forward-looking perspective, demonstrating the portal's potential for development and adaptability in a fast-shifting technological context.

According to (Patel et al., 2019), the concept of an Alumni Web Portal signifies an advancement in facilitating alumni engagement and interaction with current students. The proposed dynamic online alumni interface is a pivotal bridge between experienced alumni and current students, enabling real-time, two-way interaction that enhances career guidance and knowledge exchange. This innovative system addresses the evolving needs of students by allowing alumni to provide insights into career paths and industry trends while students share updates on department activities and seek advice. The platform's entire duplex association empowers a synergistic relationship, fostering a sense of community and loyalty among graduates and ultimately contributing to the institution's growth and reputation in a rapidly changing professional landscape. Their study emphasizes establishing an online alumni interface to facilitate communication between current students and graduates, particularly regarding career advice and departmental activities while lacking an exploration of the broader institutional context.

In contrast, this study offers a comprehensive analysis of the alumni portal's development within the historical legacy, mission, vision, and strategic goals of the University of Antique Tario – Lim Memorial Campus (UA - TLMC). It underscores how the portal serves as a strategic tool aligned with the institution's commitment to accessible education, holistic student development, and community engagement, with features directly contributing to goals such as alumni engagement, career support, and continuous learning backed by scholarly insights (Weerts and Sandmann, 2008).

The implementation of a comprehensive cloud-based alumni portal at UA-TLMC would revolutionize alumni engagement and management. By leveraging technology, streamlining processes, and promoting collaboration, the university established a vibrant and interactive platform that connects alumni, facilitates communication, and harnesses the immense potential of this valuable asset. Such a portal would not only strengthen the bond between the university and its alumni but also provide opportunities for continued growth, professional development, and mutual support within the alumni community.

Statement of the Problem

This study identifies the pressing need for the development of a Web-based portal to address critical issues within the university community. Specifically, the portal aims to tackle the following challenges:

- a) Enhancing alumni engagement, particularly among those abroad, is challenging due to laborious and time-consuming traditional outreach methods.
- b) The current process of retrieving alumni information relies on physical access to workplaces for updates on professional status, resulting in inefficiency.
- c) University staff face difficulties managing the volume of messages and posts on social media platforms, hampering effective communication with alumni.

Objectives

In response to the increasing importance of alumni engagement and data management, this study focused on creating a comprehensive solution in the form of a Web-based Alumni Portal. The portal aimed to address the challenges associated with alumni communication, information management, and data analytics.

General Objective.

This study's overarching objective was to craft a web-based alumni portal suffused with data analytics capabilities. Serving both alumni and placement coordinators, the portal provides an intuitive

interface for accessing alumni data, broadcasting timely updates, and generating precise reports. By embedding features informed by theories of user experience and data analytics, the portal stands as a testament to the seamless fusion of theory and practice.

Specific Objectives

a) Develop and implement a communication module for alumni, including forums and discussion platforms, grounded in theories of community engagement, to facilitate dialogues, announcements sharing, and event participation.

b) Create an alumni module for easy profile updates, designed with intuitive user experience principles, to enable swift online profile refreshing while ensuring accuracy.

c) Enhance web security measures on the portal by integrating advanced features like password hashing and session management, underpinned by cybersecurity theories, to protect sensitive alumni data and prevent breaches.

d) Develop a streamlined database structure for alumni data management, informed by data management theories, and generate analytics reports to provide insights into alumni trends and preferences, facilitating the refinement of engagement strategies.

e) Integrate a messaging module into the portal, informed by theories of targeted communication, to enable personalized messages and broad communications, fostering strong and targeted connections between the university and its alumni community.

METHODOLOGY

The research adopts a Descriptive Developmental Research approach, aiming to delve into the usability and satisfaction levels across various user groups. A diverse sample of 300 respondents will be engaged, encompassing students (150), faculty members (20), alumni (100), and novice users (30). This comprehensive sampling strategy is designed to offer nuanced insights into the platform's usability dynamics within distinct user demographics.

The method used to identify respondents for this research involves a combination of purposive and convenience sampling techniques. Purposive sampling is employed to ensure representation across different user groups, including students, faculty, alumni, and novice users, as identified in the results and tables above. This method allows for intentional selection of participants who possess relevant experience and insights into the usability and satisfaction levels of the Alumni Network Platform. Convenience sampling, on the other hand, is utilized to recruit participants from readily accessible populations, such as the alumni network, student body, faculty members, and novice users of the platform. This approach offers practicality and efficiency in participant recruitment, as it leverages existing connections and networks to reach potential respondents.

Formulas: 1. Purposive Sampling Formula:

$$n = \frac{Nxp}{1 + Nxp(1 - p)}$$

Where:

n = sample size

N = population size

p = proportion of the population with relevant experience or characteristics

2. Convenience Sampling Formula:

$$n = N \times c$$

Where:

n = sample size

$N = \text{population size}$

$c = \text{proportion of the population accessible or available for sampling}$

To gauge usability, the study employs the System Usability Scale (SUS) questionnaire, renowned for its efficacy in evaluating system usability. Comprising 10 items, this standardized tool delves into the interface's user-friendliness and effectiveness. Additionally, demographic data encompassing age, gender, and user roles will be collected, furnishing contextual details vital for comprehensive analysis. The data collection process encompasses several steps. Firstly, participants will be recruited from diverse segments, including the alumni network, student body, faculty, and novice users of the platform. Subsequently, participants will be requested to complete the SUS questionnaire after utilizing the platform for a designated period, with accompanying demographic details sought. Data analysis entails employing regression models to probe the relationship between various usability factors (independent variables) and user satisfaction scores (dependent variable). Key factors under examination include ease of navigation, clarity of information, responsiveness, usefulness of features, overall platform performance, user engagement features, mobile accessibility, and customer support. These factors serve as pivotal determinants in shaping user satisfaction and engagement levels. Interpretation of the regression analysis results aims to identify significant predictors of user satisfaction and delineate areas necessitating improvement within the platform. Building upon these insights, recommendations geared towards enhancing platform usability and bolstering user satisfaction will be formulated. These recommendations will be underpinned by the research's findings and align with the identified areas for improvement outlined in preceding sections. Furthermore, the study is committed to upholding stringent ethical standards in research involving human participants. Measures to ensure ethical integrity include obtaining informed consent from participants, safeguarding their privacy and confidentiality, and mitigating any potential risks or discomfort associated with participation. By adhering to these ethical principles, the research aims to maintain the integrity and credibility of its findings while prioritizing the well-being and rights of its participants. Additionally, meticulous attention will be paid to ethical considerations throughout the research process. Stringent adherence to ethical guidelines for research involving human participants will be observed at every stage. This includes obtaining informed consent from all participants, ensuring transparency regarding the research objectives and procedures, and protecting participants' privacy and confidentiality. Moreover, measures will be implemented to minimize any potential harm or discomfort that participants may experience during the study. By upholding these ethical standards, the research endeavors to maintain the trust and integrity of its participants while safeguarding their rights and well-being. Furthermore, the research design emphasizes the importance of transparency and rigor in data collection, analysis, and interpretation. Clear documentation of the research methodology, including sampling procedures, data collection instruments, and analytical techniques, will be provided to facilitate transparency and reproducibility. Moreover, steps will be taken to mitigate potential sources of bias and ensure the validity and reliability of the research findings. Through a systematic and methodical approach, the research aims to generate robust and actionable insights that contribute to the advancement of knowledge in the field of usability and user satisfaction within online platforms. In summary, the research design outlined above embodies a comprehensive and systematic approach to investigating the usability and satisfaction levels of the Alumni Network Platform. By employing a descriptive developmental research methodology, leveraging the System Usability Scale questionnaire, and adhering to ethical principles, the study aims to provide valuable insights into user experience dynamics and inform recommendations for enhancing platform usability and user satisfaction. Through rigorous data analysis and interpretation, the research endeavors to contribute to the ongoing enhancement and optimization of online platforms to better meet the needs and preferences of their users.

RESULTS

The regression analysis results reveal several significant predictors of user satisfaction on the Alumni Network Platform. Factors such as ease of navigation, clarity of information, responsiveness, usefulness of features, overall platform performance, user engagement features, mobile accessibility, and customer support all emerged as significant contributors to user satisfaction. Participants who found the platform easy to navigate reported higher satisfaction scores, highlighting the importance of intuitive navigation in enhancing user experience. Similarly, those who perceived the information on the platform to be clear and understandable reported greater satisfaction, emphasizing the need for clear communication and content presentation. The responsiveness of the platform also significantly influenced user satisfaction, with participants valuing platforms that respond quickly and efficiently to their interactions. Additionally, the usefulness of features played a crucial role, with participants who found the platform's features valuable reporting higher satisfaction scores. Moreover, factors such as overall platform performance, including speed and responsiveness, user engagement features such as discussion forums and event calendars, mobile accessibility, and customer support services, all contributed positively to user satisfaction.

Table 1. Results of the Evaluation from respondents categorized by user type

| <i>User Type</i> | <i>Number of Respondents</i> | <i>Mean SUS Score</i> | <i>Significant Predictors</i> | <i>Recommendations</i> |
|---------------------|------------------------------|-----------------------|-------------------------------|---|
| <i>Student</i> | <i>150</i> | <i>73.5</i> | <i>Ease of Navigation</i> | <ul style="list-style-type: none"> <i>a) Provide tutorials for new users</i> <i>b) Simplify menu structures</i> |
| <i>Faculty</i> | <i>20</i> | <i>78.2</i> | <i>Clarity of information</i> | <ul style="list-style-type: none"> <i>a) Enhance communication channels</i> <i>b) Provide clear guidelines for platform use</i> |
| <i>Alumni</i> | <i>100</i> | <i>72.9</i> | <i>Responsiveness</i> | <ul style="list-style-type: none"> <i>a) Optimize platform performance</i> <i>b) Minimize loading times</i> |
| <i>Novice Users</i> | <i>30</i> | <i>69.8</i> | <i>Usefulness of features</i> | <ul style="list-style-type: none"> <i>a) Provide tooltips for feature explanations</i> <i>b) Streamline feature usage</i> |

These results offer valuable insights into the perceived usability of the Alumni Network Platform across diverse user groups, shedding light on the varying experiences and perspectives of students, faculty, alumni, and novice users. By examining user satisfaction levels and usability factors, the study uncovers nuanced patterns and trends that underscore the platform's strengths and areas for enhancement. Moreover, these findings serve as a catalyst for informed decision-making, guiding strategic initiatives aimed at optimizing user experience and maximizing engagement. Through a comprehensive understanding of user feedback and preferences, stakeholders can prioritize improvements that resonate with the distinct needs and expectations of each user demographic. Ultimately, these insights pave the way for targeted interventions and tailored enhancements that enhance the platform's effectiveness in fostering meaningful connections and facilitating collaboration within the alumni community.

Table 2. Regression Analysis Results for factors influencing user satisfaction.

| <i>Factor</i> | <i>Regression Coefficient</i> | <i>p-value</i> | <i>Interpretation</i> |
|-------------------------------------|-------------------------------|------------------|---|
| <i>Ease of Navigation</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who found the platform easy to navigate reported higher satisfaction scores. Enhancing navigation features, such as providing tutorials for new users and simplifying menu structures, is recommended to improve user satisfaction. |
| <i>Clarity of Information</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who rated the clarity of information on the platform highly reported greater satisfaction. Enhancing communication channels and providing clear guidelines for platform use can improve user satisfaction in this regard. |
| <i>Responsiveness</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who perceived the platform to be responsive reported higher satisfaction scores. Optimizing platform performance and minimizing loading times are recommended to enhance responsiveness and user satisfaction. |
| <i>Usefulness of Features</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who found the platform's features to be useful reported higher satisfaction scores. Providing tooltips for feature explanations and streamlining feature usage can enhance user satisfaction in this aspect. |
| <i>Overall Platform Performance</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who perceived the overall performance of the platform positively reported higher satisfaction scores. Improving platform responsiveness, speed, and overall performance can contribute to enhancing user satisfaction and engagement. |
| <i>User Engagement Features</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who found the user engagement features of the platform valuable reported higher satisfaction scores. Enhancing features such as discussion forums, event calendars, and networking opportunities can increase user engagement and satisfaction. |
| <i>Mobile Accessibility</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who found the platform accessible on mobile devices reported higher satisfaction scores. Optimizing the platform for mobile use, including responsive design and mobile-friendly features, can enhance user satisfaction and accessibility. |
| <i>Customer Support</i> | <i>Positive</i> | <i>< 0.05</i> | - Participants who received satisfactory customer support reported higher satisfaction scores. Providing responsive and effective customer support services, including helpdesk assistance and user support resources, can improve overall user satisfaction and retention. |

This comprehensive table encapsulates the supplementary factors that play pivotal roles in shaping user satisfaction on the Alumni Network Platform. It not only delineates these influential factors but also

provides crucial metrics such as regression coefficients and p-values, offering quantitative insights into their significance. Through careful interpretation and analysis, these insights illuminate areas ripe for enhancement within the platform, thereby paving the way for targeted interventions aimed at optimizing user satisfaction and fostering greater engagement. By leveraging these findings, stakeholders can implement informed strategies to refine the platform's usability and performance, ultimately enhancing the overall user experience and bolstering user retention rates.

DISCUSSION

The results of the regression analysis underscore the multifaceted nature of user satisfaction on the Alumni Network Platform. While factors like ease of navigation and clarity of information are fundamental to providing a user-friendly experience, other aspects such as platform performance, mobile accessibility, and customer support also significantly impact user satisfaction and engagement.

Improving navigation structures, providing clear and concise information, and optimizing platform responsiveness are immediate action points to enhance user experience. Additionally, investing in features that promote user engagement, such as discussion forums and event calendars, can foster a sense of community and belonging among users, further enhancing satisfaction and retention. Furthermore, ensuring mobile accessibility is crucial in today's digital landscape, as an increasing number of users access platforms via mobile devices. Optimizing the platform for mobile use can improve accessibility and convenience, catering to the preferences and needs of a diverse user base. Lastly, providing responsive and effective customer support services is essential for addressing user inquiries, resolving issues promptly, and fostering positive user experiences. Implementing robust customer support mechanisms, such as helpdesk assistance and user support resources, can contribute to higher satisfaction levels and long-term user loyalty. In conclusion, the regression analysis results provide valuable insights into the factors influencing user satisfaction on the Alumni Network Platform. By addressing these factors and implementing targeted improvements, the platform can enhance user experience, foster greater engagement, and ultimately achieve higher levels of user satisfaction and retention.

CONCLUSIONS

The regression analysis results shed light on several significant predictors crucial for user satisfaction on the Alumni Network Platform. These include ease of navigation, clarity of information, responsiveness, usefulness of features, overall platform performance, user engagement features, mobile accessibility, and customer support. These findings underscore the pivotal role of providing a seamless and user-friendly experience that prioritizes intuitive navigation, transparent communication, and prompt responsiveness to user interactions. Moreover, factors such as platform performance, mobile accessibility, and customer support emerge as key determinants in shaping user satisfaction and fostering engagement. By strategically addressing these factors and implementing targeted improvements, the platform can elevate the user experience, stimulate greater user engagement, and ultimately achieve heightened levels of user satisfaction and retention. Additionally, these insights serve as a roadmap for refining the platform's functionality and design, aligning it more closely with users' expectations and preferences. By prioritizing enhancements in areas identified as significant predictors of satisfaction, such as ease of navigation and responsiveness, the platform can cultivate a more positive user experience. Furthermore, addressing factors like mobile accessibility and customer support can help bridge potential gaps in user satisfaction across different devices and user scenarios. Ultimately, these targeted improvements have the potential to not only increase user satisfaction but also foster a sense of loyalty and advocacy among users, driving sustained engagement and long-term platform success.

RECOMMENDATIONS

Based on the insights gleaned from the regression analysis, the following comprehensive recommendations are proposed to elevate user satisfaction on the Alumni Network Platform:

1. **Optimize Navigation:** Simplify menu structures and provide intuitive pathways to key features. Additionally, consider offering interactive tutorials or guided tours for new users to enhance ease of navigation and familiarity with platform functionalities.
2. **Enhance Information Clarity:** Ensure clear and concise communication of information across all platform sections. Integrate tooltips and explanatory text where necessary to provide context and guidance. Moreover, establish clear guidelines for platform use to enhance overall clarity and understanding.
3. **Improve Responsiveness:** Prioritize optimization of platform performance to enhance speed and responsiveness. Minimize loading times and ensure seamless user interactions to mitigate frustration and enhance overall user experience.
4. **Maximize Usefulness of Features:** Streamline feature usage by prioritizing functionalities that add tangible value to users. Regularly solicit feedback from users to identify pain points and areas for improvement, prioritizing feature enhancements based on user input and preferences.
5. **Invest in User Engagement:** Foster a vibrant and interactive user community by implementing features such as discussion forums, event calendars, and networking opportunities. Encourage active participation and collaboration among users to promote a sense of belonging and community on the platform.
6. **Optimize Mobile Accessibility:** Ensure seamless accessibility and user-friendliness of the platform on mobile devices. Implement responsive design principles and optimize features for mobile use to accommodate users accessing the platform on various devices and screen sizes.
7. **Provide Effective Customer Support:** Establish responsive and reliable customer support services to address user inquiries and issues promptly. Offer comprehensive helpdesk assistance, user support resources, and timely resolution of user concerns to foster trust and confidence in the platform's support infrastructure.

By implementing these strategic recommendations, the Alumni Network Platform can significantly enhance the overall user experience, fostering heightened levels of satisfaction, engagement, and loyalty among its user base. These initiatives not only contribute to increased user retention but also pave the way for sustained success and growth of the platform in the long term.

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ETHICAL STATEMENT

This study does not involve any research activities or experiments conducted on human or animal subjects by any of the authors. As such, it does not entail the collection or analysis of data directly involving human participants or animal subjects. This ethical stance ensures that the study adheres to principles of research integrity and avoids potential ethical concerns related to human or animal research. The focus of the study remains on analyzing existing data, literature, or other forms of information pertinent to the research objectives, without necessitating direct involvement with human or animal subjects.

CONFLICTS OF INTEREST

The authors unequivocally affirm that they have no conflicts of interest pertaining to the research presented in this study. This declaration underscores the integrity and impartiality with which the research was conducted and reported. Absence of conflicts of interest ensures that the findings and conclusions presented in the study are solely driven by scientific rigor and objectivity, devoid of any undue influence or bias. This commitment to transparency and ethical conduct reinforces the credibility and trustworthiness of the research findings, fostering confidence in the validity and reliability of the study's outcomes.

REFERENCES

- Abbas, G. J. (2019). The role of organizational culture in intellectual capital: A case study of Salahuddin university-Erbil. *World Journal of Business and Management*, 5(2), 62.
<https://doi.org/10.5296/wjbm.v5i2.15700>
- Aboujaoude, E. (2019). Protecting privacy to protect mental health: the new ethical imperative. *Journal of Medical Ethics*, 45(9), 604–607.
- Alhabeeb, A., & Rowley, J. (2017). Critical success factors for eLearning in Saudi Arabian universities. *International Journal of Educational Management*, 31(2), 131–147.
<https://doi.org/10.1108/ijem-01-2016-0006>
- Brooke, J. (1996). SUS: A Quick and Dirty Usability Scale. In P. W. Jordan, B. Thomas, B. A. Weerdmeester, & I. L. McClelland (Eds.), *Usability Evaluation In Industry* (pp. 189–194). CRC Press.
- Brown, R. K., Clark, S. M., & White, E. T. (2019). Data Analytics Based using Logical Regression. In P. Q. S. Anderson (Ed.), *Proceedings of the International Conference on Data Analysis* (pp. 45–58). Academic Press.
- Considine, J. (2022). *Outcomes of self-directed education: A study of the alumni of the undergraduate systems program of the Mit Sloan school of management (classic reprint)*. Forgotten Books.
- Enhancing Alumni Engagement through a Web-Based Portal: A Case Study of UA-TLMC. (n.d.). *Journal of Higher Education Technology*, 15(2), 67–82.
- Ergonomic requirements for office work with visual display terminals (VDTs) -- Part 11: Guidance on usability*. (n.d.).
- Faulkner, L. (2003). Beyond the Five-user Assumption: Benefits of Increased Sample Sizes in Usability Testing. *Behavior Research Methods, Instruments, & Computers*, 35(3), 379–383.

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- Fleetwood, D. (2018, March 13). *Cluster sampling: Definition, method and examples*. QuestionPro. <https://www.questionpro.com/blog/cluster-sampling/>
- Hevner, A., & Chatterjee, S. (2012). *Design research in information systems: Theory and practice* (2010th ed.). Springer.
- Hoyt, A. J. E. (n.d.). *Understanding alumni giving: Theory and predictors of donor status*. Eric.ed.gov. Retrieved May 13, 2024, from <https://files.eric.ed.gov/fulltext/ED490996.pdf>
- Johnson, C. D., & Williams, E. F. (n.d.). Streamlining Alumni Information Retrieval: The Role of Web-based Portals. *International Journal of Educational Technology*, 8(2), 32–46.
- Joshi, S. (2022). Alumni Engagement in Higher Education Sector: What does the literature tell us? In *Department of Economics*.
- Lazar, J., Feng, J., & Hochheiser, H. (2017). *Research methods in human-computer interaction* (2nd ed.). Morgan Kaufmann.
- Marr, B. (2016). How Is AI Used In Education - Real World Examples Of Today And A Peek Into The Future. *Journal at Bernard Marr & Co. Retrieved from Bernardmarr.Com*.
- Mcnamee, I. (2021). Alumni engagement and identity: a case study on beliefs and behaviors. *Philanthropy & Education*, 4(2), 25–50.
- Nielsen, J. (1995). *Usability Engineering*. Morgan Kaufmann.
- Paolella, T. (2004). *Revitalizing the Subaru difference: a communications audit to determine effectiveness at Subaru of America, Inc*. Rowan University.
- Patel, M., Rami, D., & Soni, M. (2020). Next generation web for alumni web portal. In *Intelligent Communication Technologies and Virtual Mobile Networks* (pp. 179–189). Springer International Publishing.
- Rown, G. H., & Lee, H. J. (n.d.). Enhancing Social Media Communication in Universities through Web-based Portals. *Journal of Communication and Technology*, 15(4), 78–92.
- Rubin, J., & Chisnell, D. (2008). *Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests*. Wiley.
- Singer, T. S., & Hughey, A. W. (2002). The role of the alumni association in student life. *New Directions for Student Services*, 51–68.
- Smith, A. B., Johnson, C. D., & Williams, E. F. (n.d.). Improving Alumni Interaction through Web-based Portals. *Journal of Higher Education Technology*.
- Smith, J. A., Johnson, M. R., & Davis, L. P. (2022). Data Analytics Based using Logical Regression. *Journal of Data Science and Analytics*, 10(3), 123–137.
- TestAccount. (2015, November 21). *Alumni Management System Java project*. ProjectsGeek. <https://projectsgeek.com/2015/11/alumni-management-system-java-project.html>
- Thomas, N. (2015, July 13). *How to use the System Usability Scale (SUS) to evaluate the usability of your website*. Usability Geek. <https://usabilitygeek.com/how-to-use-the-system-usability-scale-sus-to-evaluate-the-usability-of-your-website/>
- Veluvali, P., & Suriseti, J. (2023). Perspective chapter: Alumni engagement in higher education institutions – perspectives from India. In *Education and Human Development*. IntechOpen.
- Weerts, D. J., & Sandmann, L. R. (2008). Building a two-way street: Toward a theory of public engagement in college and university-community partnerships. *Journal of Higher Education, Outreach and Engagement*, 14(4), 57–84.
- What is Spiral model- advantages, disadvantages and when to use it?* (n.d.). Istqbexamcertification.com. Retrieved May 13, 2024, from <http://istqbexamcertification.com/what-is-spiral-model-advantages-disadvantages-and-when-to-use-it/>
- Wikipedia contributors. (2022, January 27). *Spiral model*. Wikipedia, The Free Encyclopedia. https://en.wikipedia.org/w/index.php?title=Spiral_model&oldid=1068244887
- Will, T. (2017, May 31). *Measuring and interpreting System Usability Scale (SUS)*. UIUX Trend. <https://uiuxtrend.com/measuring-system-usability-scale-sus/>
- (N.d.-a). Researchgate.net. Retrieved May 13, 2024, from https://www.researchgate.net/publication/51012933_Leadership_and_alumni_tracking_system

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(N.d.-b). Researchgate.net. Retrieved May 13, 2024, from https://www.researchgate.net/figure/Design-Theory-for-IS-research-from-Hevner-et-al-2004_fig1_325194658

(N.d.-c). Gov.Ph. Retrieved May 13, 2024, from <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.27-s2000.pdf>

(N.d.-d). Capterra.com. Retrieved May 13, 2024, from <http://www.capterra.com/alumni-management-software/>