International Journal of Accounting and Economics Studies, 12 (4) (2025) 473-482

International Journal of Accounting and Economics Studies

Website: www.sciencepubco.com/index.php/IJAES
https://doi.org/10.14419/zgx4p645
Research paper

Do Socio-Demographic Characteristics and Social Media Access Affect Alumni Contributions?

Fithriyyah Shalihati [1] *, Ujang Sumarwan [1], Hartoyo Hartoyo [1], Lilik Noor Yuliati [2]

[1] School of Business, IPB University, Bogor 16128, Indonesia
[2] Department of Family and Consumer Sciences, Faculty of Human Ecology, IPB University, Bogor 16680
**Corresponding author E-mail: oktyshalihati@apps.ipb.ac.id*

Received: August 2, 2025, Accepted: August 12, 2025, Published: August 18 2025

Abstract

This study investigates the relationship between sociodemographic characteristics and alumni contributions to higher-education institutions in Indonesia. A survey of 199 alumni revealed that slightly more than half were female (54.8%) and unmarried (54.3%), with most being in the early stages of their careers. Social media and WhatsApp emerged as the most frequently accessed digital information sources for engaging with alumni. The overall level of alumni contribution was high, with non-financial contributions, willingness to serve as guest lecturers, and mentoring students being the most prominent forms of engagement in the study. Male alumni reported higher contribution levels than female alumni, particularly in terms of material support, guest lecturing, and student guidance. Married alumni were more active contributors than their unmarried counterparts, especially in terms of non-material contributions and academic involvement. Alumni with more work experience and higher income levels exhibit greater engagement across most contribution types. ANOVA results confirmed that work experience significantly influenced contribution patterns, with those having over 20 years of experience demonstrating the highest levels of involvement in research, social initiatives, internships, guest lectures, and student mentoring. These findings underscore the importance of tailoring alumni contribution strategies based on sociodemographic factors, prioritizing interactive digital platforms, offering diverse contribution opportunities, and fostering long-term relationships to maximize alumni participation and institutional support.

Keywords: *Alumni Contribution; Higher Education; Social Media; Sociodemographic; Willingness to Serve*

1. Introduction

1.1 Research background

Higher education institutions (HEIs) increasingly acknowledge the strategic importance of alumni engagement in bolstering institutional sustainability, competitiveness, and reputation. Traditionally, alumni support was perceived primarily as a supplementary financial resource. However, contemporary scholarship and institutional practices indicate that alumni relations encompass more than financial contributions. Alumni actively participate in institutional development through non-financial roles, such as career mentoring, student recruitment, governance participation, and facilitating external partnerships (Snijders et al. 2020; Weerts and Ronca, 2008). These roles enhance institutional reputation and convey legitimacy to prospective students and industry stakeholders alike. For example, a robust alumni network improves employer perceptions and supports graduate employability, which subsequently influences student enrolment decisions (Lacap and Cortez, 2023). Moreover, alumni engagement reflects an institution's success in nurturing lifelong relationships and is increasingly valued as a measure of educational impact and student satisfaction. Financially, alumni donations are a crucial revenue stream, particularly in the context of declining public funding and rising operational costs. Some institutions report that up to 48% of their philanthropic income is derived from alumni contributions (Gottfried and Johnson, 2006). According to recent Council for Advancement and Support of Education (CASE) reports, alumni contributed over US$10 billion annually to American universities between 2020 and 2023, underscoring their critical role in institutional sustainability (CASE, 2024). Research consistently identifies factors influencing donation behavior, including alumni income levels, satisfaction with their academic experience, and engagement with campus life during their studies (Skari, 2014; Sun et al., 2007). Specifically, graduates who participated in extracurricular activities, student leadership roles, or had positive interactions with faculty members tended to exhibit higher loyalty and a greater propensity to donate. This suggests that alumni donations are not merely financial decisions but are deeply rooted in emotional, social, and institutional affiliations that are cultivated over time. The advent of digital marketing and communication technologies has significantly transformed how HEIs manage alumni relations. In the current digital era, institutions utilise various platforms, such as Facebook, Instagram, LinkedIn, YouTube, and Twitter/X, to maintain alumni communication, promote achievements, and foster community engagement (Mazurek et al. 2019; Tezer et al. 2017). These platforms offer real-time communication and personalisation capabilities that traditional engagement channels lack. HEIs have begun integrating social media strategies across key areas, including student engagement, brand development, enrolment management, relationship marketing, and strategic communications (Jayawinangun et al. 2024; Pawar, 2024). Social media is particularly effective in reaching millennial and Gen Z alumni,

Copyright © Authors. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

who are digitally native and expect fast, transparent, and meaningful interactions with the institutions they support (Niraula and Bohora, 2023).

Recent research underscores the critical role of digital platforms in both sustaining alumni relationships and forecasting, as well as influencing philanthropic behaviors. For instance, the implementation of AI-driven engagement tools has enabled institutions to automate donor outreach, analyze behavioral patterns, and craft personalized giving experiences (360alumni, 2025). These tools facilitate the tracking of alumni interactions with institutional content online—such as email open rates, event participation, and social media engagement—and leverage this data to construct predictive models for fundraising. Jack et al (2025 highlight the significance of social influence in alumni engagement, demonstrating that peer involvement, the visibility of other donors, and community sentiment can markedly enhance the probability of individual contributions (Jack et al. 2025; Shanthi dan Rajakumari, 2025). Similarly, Rubejes-Silva et al. (2024) identified digital trust and the perceived authenticity of institutional messaging on social platforms as pivotal factors in maintaining alumni platform use and engagement behavior. This suggests a transition towards relationship-based, socially validated engagement models rather than transactional donation requests. Demographic analysis has gained increasing importance in predicting alumni giving behavior and segmenting donor populations. Research has identified key demographic variables correlated with giving—such as age, gender, income, degree type, and proximity to the institution (Skari, 2014). Older alumni with higher income levels are generally consistent donors, while professional degree holders tend to contribute larger amounts. Recent studies are incorporating psychographic variables and digital engagement patterns into donor profiles. Cagala et al. (2021) employed machine-learning algorithms to develop predictive models that identify high-potential donors through factors like donation history and event attendance. These models enable institutions to efficiently target likely donors rather than relying on broad appeals. Millennials and Gen Z alumni present both challenges and opportunities for advancement offices. Higher Education Institutions (HEIs) must adapt their strategies accordingly, emphasizing social impact and community building through storytelling and interactive content. Institutions utilizing real-time analytics and audience segmentation are more likely to cultivate enduring relationships with these groups (360alumni, 2025; CASE, 2024). Collectively, the literature reveals a growing consensus on the necessity of integrating alumni engagement, demographic analytics, and digital communication into a cohesive strategy for institutional advancement. Alumni giving is not merely a function of wealth or loyalty but reflects a complex interplay of personal experience, identity, and ongoing institutional connection. As competition among HEIs intensifies and traditional revenue sources diminish, fostering long-term relationships with alumni through targeted, data-informed, and digitally enabled strategies becomes a strategic imperative. This study aims to contribute to this evolving discourse by examining how demographic and digital engagement factors influence alumni giving behavior and how institutions can leverage these insights to enhance financial sustainability, institutional competitiveness, and lifelong alumni loyalty.

1.2 Research aim

This study aims to effectively analyze sociodemographic differences and information exposure through alumni social media towards the contribution of higher education institutions.

1.3 Research objective

RO1: To identify alumni sociodemographics
RO2: To identify the level of exposure to institutional information through digital sources of information
RO3: To assess the level of contribution of alumni to higher education institutions
RO4: To compare alumni contributions based on sociodemographics

2. Literature Review

2.1 The Role of Alumni in University Development and Sustainability

The contributions of students and alumni are integral to the advancement and sustainability of higher-education institutions. These contributions extend beyond financial donations to include non-financial forms of engagement such as mentoring, university promotion, and participation in institutional development. Collaboration between universities and their alumni or current students fosters enduring, mutually beneficial relationships that enhance institutional success on both national and global scales. Alumni financial contributions represent one of the most direct and impactful forms of university support. Francioni et al. (2021) emphasize that alumni loyalty, often rooted in emotional attachment to their alma mater, is a significant factor in the willingness to donate. These financial donations, whether substantial or modest, frequently support essential initiatives, including campus infrastructure improvements, scholarships, and research. Furthermore, Weerts and Ronca (2008) note that alumni who perceive their educational experience as positively influencing their career trajectory are more inclined to contribute financially. Such donations are often motivated by a sense of gratitude and desire to support future generations of students (Weerts and Ronca, 2008). Non-financial contributions, particularly mentoring, are crucial for enhancing the university environment. Mentoring programs involving alumni provide current students with valuable guidance in developing professional skills, understanding industry expectations, and navigating career paths. Snijders et al. (2020) indicated that alumni who participate in mentoring activities tend to maintain a stronger connection with the university. This involvement not only benefits students by offering real-world perspectives but also reinforces alumni's sense of purpose and belonging. Alumni often serve as informal ambassadors, sharing positive experiences and endorsing their alma mater to prospective students, employers, and the wider community. Alumni with extensive professional expertise can offer strategic insights into industry trends, assisting universities in adapting their curricula and programs to meet labour market demands (Nevzat et al. 2016). This intellectual engagement strengthens the university's responsiveness and relevance in the rapidly evolving global landscape. In contrast, in Indonesia, alumni giving—particularly in the form of financial contributions—has not yet become as culturally ingrained or systematically institutionalized (Nelloh et al. 2025). Alumni engagement is more frequently oriented towards non-financial contributions, such as mentoring, guest lecturing, or professional networking (Maulana et al. 2024).

2.2 Demographic Predictors of Alumni Giving

Demographic variables continue to be strong predictors of alumni philanthropy. Age, income level, gender, and educational attainment have consistently been shown to influence donation behaviors (Belfield and Beney, 2000). Traditional predictors such as age, income,

gender, and degree type remain relevant, but are now increasingly integrated with digital behavioral data and psychographic profiles to refine donor segmentation (CASE, 2024). Advanced techniques, such as causal machine learning and sentiment analysis, have been employed to anticipate giving patterns and guide targeted outreach (Cagala et al. 2021). For instance, alumni with advanced degrees or those who enjoyed significant career advancement post-graduation are more likely to donate and in larger amounts (Skari, 2014). More recent research found that older alumni and those in higher income brackets were significantly more likely to give regularly and at higher donation levels (Newman and Petrosko, 2011). In addition to static demographic traits, alumni life stage and giving capacity—shaped by employment status, family size, and financial stability—have emerged as dynamic predictors (Stolzenberg et al. 2020). These data-informed approaches enable HEIs to develop personalized, efficient fundraising strategies aligned with donor values and engagement preferences. However, many institutions continue to rely on broad, non-targeted appeals, missing opportunities to cultivate high-potential donors through strategic communication and digital channels.

2.3 Digital Engagement and Social Media Influence

The emergence of social media has significantly altered the framework of alumni engagement in higher education. Platforms such as LinkedIn, Facebook, and Instagram have become vital, cost-efficient channels for cultivating institutional relationships, facilitating storytelling, and fostering a sense of community among graduates (Mazurek et al. 2019). Empirical research suggests that alumni who actively engage with their alma mater on social media platforms exhibit increased emotional loyalty and a greater likelihood of making financial contributions (Eldegwy et al. 2018). Institutions are increasingly employing digital campaigns that feature personalised content, alumni spotlights, and interactive virtual events to maintain ongoing connections and reinforce alumni identities (Alnawas and Aburayya, 2021). The integration of customer relationship management (CRM) systems further augments these efforts by enabling advancement offices to track online engagement behaviours and deliver customised communications, thereby enhancing the relevance and efficacy of donation appeals (Watson and Beck, 2022). The broader digital transformation of alumni relations has redefined how institutions cultivate and sustain these connections. Social media platforms, including Facebook, Instagram, LinkedIn, and YouTube, have become indispensable tools for continuous engagement, brand communication, and fundraising initiatives (Mazurek et al. 2019; Nevzat et al. 2016; Tezer et al. 2017). Recent studies highlight the significant impact of digital engagement factors, such as peer interaction, community sentiment, and content authenticity, on alumni behaviours, particularly concerning their intention to give (Rubejes-Silva, 2024). Based on the literature described earlier, it is known that Western institutions increasingly use data-driven alumni portals, AI-powered engagement tools, and LinkedIn integrations to cultivate relationships and track engagement. In contrast, Indonesian institutions rely more heavily on WhatsApp groups, informal social media channels, and direct peer-to-peer outreach (Maulana et al. 2024). This presents a mismatch between global trends in digital alumni relations and the technological realities or preferences in the Indonesian context. In line with broader digital transformation trends, AI-driven engagement tools and integrated CRM platforms offer new avenues for predictive analytics, donor segmentation, and personalized outreach. For example, AI can identify high-propensity contributors by analyzing interaction histories, while CRM systems centralize alumni data, track engagement across multiple channels, and automate communication workflows. Such systems not only enhance operational efficiency but also enable tailored strategies that align with the engagement preferences of different alumni segments.

3. Methodology

3.1 Research Design

This study employs a quantitative, survey-based methodology to investigate the relationship between the primary variables, specifically, sociodemographics and alumni contributions. This methodological approach was selected to address the research focus, which not only explored the relationships between variables but also categorised alumni contributions. Socio-demographic characteristics were collected through a structured questionnaire including gender (male/female), marital status, length of service (measured in years), income level (categorized into income brackets), and social media access patterns. These variables were selected based on previous research indicating their potential influence on alumni engagement and contribution behaviors (Clotfelter, 2003; Weerts and Ronca, 2008). Graduates' contributions were assessed using a multidimensional scale measuring ten distinct contribution domains: donations, promotion, research collaboration, project involvement, internship facilitation, material support, non-material support, teaching activities, and mentoring (Bonaminio et al. 2020; Sun et al. 2007; Weerts and Ronca, 2008). Each domain was measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating greater levels of contribution.

3.2 Data collection process

Data were collected through online surveys disseminated via alumni networks and social media platforms. The questionnaire employed in this study was subjected to tests of instrument validity and reliability. Data collection was conducted to meet the minimum requirements for each level. By the conclusion of the data collection period, 199 respondents had been gathered. This technique was selected to examine the relationships between variables within the proposed conceptual framework. The sampling technique employed was stratified random sampling, wherein respondents were randomly selected based on alumni strata to ensure balanced representation across various levels of education (Undergraduate and Graduate Programs) and their study experiences. Participants were provided with informed consent information and assured of confidentiality. The survey required approximately 15-20 minutes to complete. The sampling technique employed was stratified random sampling, wherein respondents were selected randomly based on alumni strata to ensure a balanced representation across various educational levels and their experiences during their studies.

3.3 Data analysis technique

Data analysis was performed utilizing SPSS v.25. Before the primary analysis, the dataset was scrutinized for outliers, missing values, and violations of statistical assumptions. The Shapiro-Wilk test was employed to assess the normality of the distribution, while Levene's test was used to evaluate the homogeneity of variance. To investigate differences in mean contribution scores between gender groups, independent samples t-tests were conducted. One-way analyses of variance (ANOVAs) were planned to explore differences across various sociodemographic categories, including marital status, tenure, and income level. Cohen's d was calculated to determine effect sizes, offering

insight into the practical significance of statistically significant results, with values of 0.2, 0.5, and 0.8 representing small, medium, and large effects, respectively (Cohen, 2013). The alpha level for all statistical tests was set at 0.05. For significant ANOVA results, post-hoc analyses using Tukey's HSD were planned to identify specific group differences. Additionally, 95% confidence intervals were calculated for all mean differences to provide further precision in the estimates. This analytical strategy is consistent with established practices in alumni research, where parametric tests are frequently employed to examine demographic predictors of alumni engagement and contribution behavior (Sun et al. 2007). This methodology facilitates comprehensive testing of group differences while providing effect size information to assess practical significance beyond mere statistical significance.

4. Results

Overall, the analyses revealed that alumni contributions were generally high across non-financial and academic engagement activities, with variations influenced by gender, marital status, work experience, and income level. Social media and WhatsApp emerged as dominant engagement channels, and higher career stages correlated with more diverse and intensive contributions. Detailed statistical findings for each sociodemographic factor are presented in the following subsections

4.1 Sociodemographic characteristics of respondents

The sociodemographic characteristics of the respondents indicate that slightly more than half are female (54.8%), and a majority are unmarried (54.3%). Most respondents are in the early stages of their careers, with 33.2% having less than three years of work experience and 31.7% possessing three to ten years of experience. The income distribution reflects this early-career phase, as 46.2% earn less than 10 million Rupiah monthly, while only 17.6% earn more than 30 million. This pattern is consistent with labor economics research in Indonesia, which underscores the influence of work experience on earnings. For example, a study of the manufacturing sector concludes that education and experience significantly impact wages in Indonesia (Shidiqi and Pasiya, 2019). Furthermore, human capital factors such as education, skills, and experience are shown to play a critical role in income potential, even for Indonesian workers abroad. One study notes that an educated workforce can compete internationally and can be classified into independent and professional categories, suggesting that individuals with higher education and more experience are more likely to secure higher-paying roles. Although the data focuses on domestic alumni, the same principle applies to those with more years of work experience are more likely to fall into higher income brackets.

Table 1: Sociodemographic characteristics of respondents

Category	Frequency	Percent
Gender		
Male	90	45.2
Female	109	54.8
Marital status		
Unmarried	108	54.3
Married	91	45.7
Working time		
Not working yet	14	7.0
Less than 3 Years	66	33.2
3 - 10 Years	63	31.7
11 - 20 Years	35	17.6
More than 20 Years	21	10.6
Income per month		
Less than 10 million rupiah	92	46.2
10 - 30 Million rupiah	72	36.2
> 30 - 50 Million rupiah	20	10.1
More than 50 million rupiah	21	7.5
Total	199	100

4.2 Exposure to institutional information through digital sources of information

The analysis assessed the frequency and percentage of respondents who utilised various digital information sources(fig.1). Social media emerged as the most frequently accessed source, with 89 respondents, followed by WhatsApp (83 respondents), websites (62 respondents), and email (60 respondents). A stacked bar chart illustrates the distribution of access frequencies for each source. Social media and WhatsApp both exhibited significant proportions of high-frequency users (>10 times: 31.5% and 29.1%, respectively), indicating that these platforms served as the primary channels for ongoing engagement. This pattern reflects findings in Indonesia and globally, where social media has become the primary platform for news and the latest information. Trust in social media strongly predicts passive and active participation, which in turn influences alumni contributions (Jack et al. 2025). Furthermore, among Indonesian university students, WhatsApp is heavily relied upon for tutorials, grades, and peer support, linking high-frequency use to a strong need for information (Prihandoyo et al. 2020).

Conversely, website access was mainly within the 1-5 times range (81.3%), with only a small percentage of high-frequency users (5.69%), indicating its use was more for occasional information retrieval than for continuous interaction. Email showed a moderate pattern, with 21.7% of respondents accessing it more than 10 times; however, it was the least frequently accessed source overall based on the number of respondents. These patterns highlight that alumni were most actively engaged through social media and WhatsApp in terms of reach and frequency. Institutions seeking to maximize alumni engagement should focus on providing dynamic and interactive content on these platforms while acknowledging that the website primarily serves as a reference point and that email is a supplementary channel. This strategy can help tailor communication efforts to align with alumni preferences and behaviors, ultimately strengthening institutional relationships and engagement.

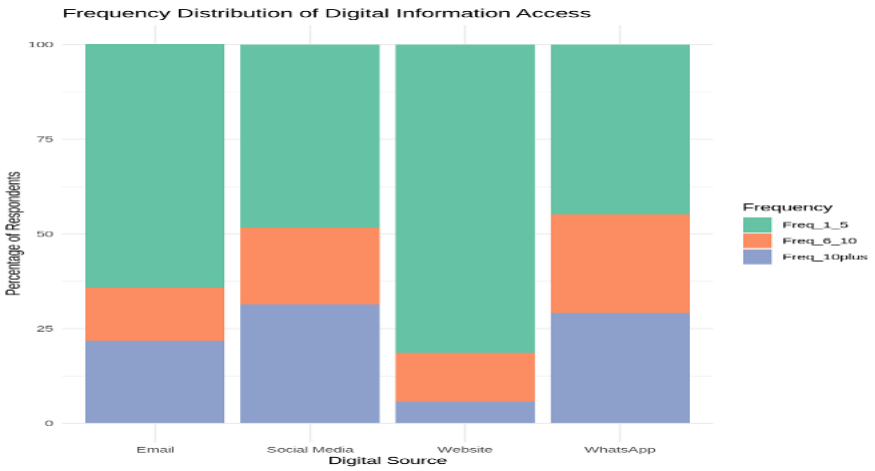


Fig. 1: Frequency of Access to Institutional Digital Information by Alumni

4.3 Level of contribution of alumni

The data analysis results (Table 2) show that alumni contributions to higher institutions are predominantly high, with an average score of 3.75 and a standard deviation of 0.78. The highest scores were for non-financial contributions (M = 4.03), guest lecturing (M = 4.00), student mentoring (M = 3.91), and social and community activities (M = 3.92). These findings demonstrate alumni's active engagement in academic and social activities beyond financial support. This aligns with research showing that alumni typically provide support through expertise, networks, and campus participation (Ning, 2020; Tosida et al., 2024). Several indicators showed moderate scores, including donations (M = 3.44), institutional promotion (M = 3.60), and internship opportunities (M = 2.95). The low internship score may reflect partner institutions' capacity limitations or a lack of structured collaboration schemes. Kurian and Nair (2023) indicate that alumni mentoring programs foster intergenerational connections, although they require personalised approaches and coordination (Kurian and Kumaran, 2023). This suggests that while engagement exists, not all forms of contribution are optimally realised. Higher education institutions should develop inclusive strategies to facilitate alumni and partner contributions through thematic collaboration, digital channels, and sustainable communication (Sun et al. 2007). This would enable more effective mobilisation of stakeholder contributions.

Table 2: Descriptive analysis of alumni contributions

Indicator	Mean	St.dev	Description
Donate	3.44	.94	Moderate
Support promotions	3.60	1.09	Moderate
Collaborate on research	3.85	1.04	High
Collaborate on community/social projects	3.92	.93	High
Provide internship opportunities	2.95	1.29	Moderate
Material contribution	3.91	.90	High
Non-financial contributions	4.03	.87	High
Willingness to guide students	3.91	1.25	High
Become a guest lecturer	4.00	1.14	High
Level of Contributions	3.75	.78	High

The analysis of contribution levels by gender shows that male respondents reported higher average scores across most indicators than female respondents. Males demonstrated greater engagement in material contributions (M = 4.01), non-material support (M = 4.19), guest lecturing (M = 4.29), and student guidance (M = 4.22), indicating stronger formal academic involvement. These findings align with studies showing men are more inclined to assume visible leadership roles within institutions. While female respondents had lower averages in these areas, they recorded a slightly higher mean for social project participation (M = 3.95 vs. M = 3.89), suggesting a preference for collaborative activities. This pattern aligns with gender-based socialisation, where women gravitate towards relational contributions. A significant disparity exists in internship opportunities, where males average higher (M = 3.23) than females (M = 2.73), potentially reflecting broader access to leadership roles. Overall, the mean contribution was higher among male respondents (M = 3.89) than female respondents (M = 3.65), suggesting gender influences both the type and intensity of alumni contributions. These insights highlight the need for gender-sensitive engagement strategies that recognize differing motivations in institutional partnerships.

An analysis of alumni contributions to higher education institutions, categorised by marital status, revealed that married alumni are generally more active contributors than their unmarried counterparts. This is evidenced by the higher mean contribution score of married individuals (M = 3.88) compared with unmarried individuals (M = 3.66). Married alumni reported higher average contributions across nearly all forms of support, particularly non-material contributions (M = 4.11), guest lectures (M = 4.21), and student mentoring (M = 4.05). Conversely, unmarried respondents demonstrated relatively strong participation in collaborative social projects (M = 3.90) and in-kind contributions (M = 3.96), indicating their willingness to contribute, particularly in terms of time- or skill-based formats. The lowest mean scores for both groups were observed for the provision of internships (Unmarried: M = 2.87; Married: M = 3.07), likely due to limited access to organizational authority or workplace flexibility, especially among younger or early career alumni.

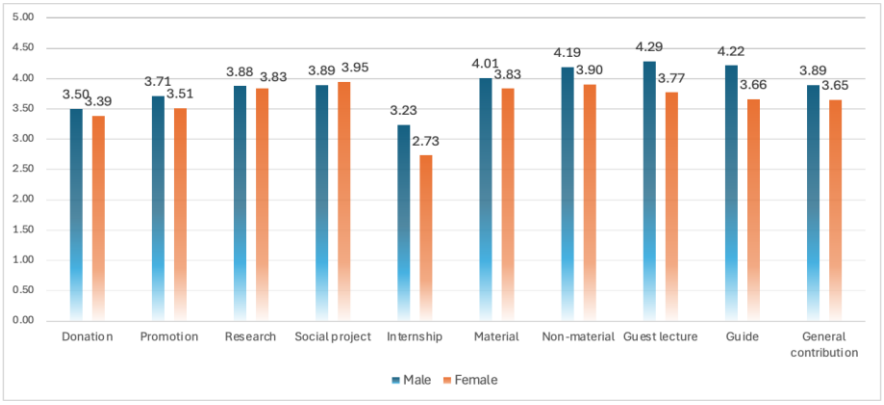


Fig 2: Mean score alumni contribution based on gender

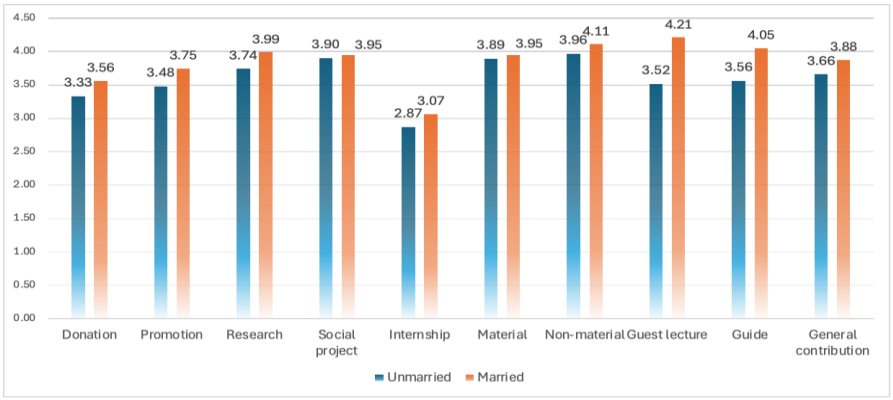


Fig 3: Mean score alumni contribution based on marital status

The data reveal that alumni with greater work experience tend to exhibit higher contributions across forms of support to higher-education institutions (Fig. 4). Those with over 20 years of experience reported the highest averages for research contributions (M = 4.24), social projects (M = 4.48), non-material support (M = 4.48), guest lecturing (M = 4.67), and student guidance (M = 4.71). Individuals not yet in professional work showed the lowest contribution scores, particularly for internship opportunities (M = 2.21), guest lectures (M = 2.50), and guidance (M = 2.33), reflecting limited professional resources. This pattern corroborates studies emphasising the role of career maturity in alumni engagement. Alumni with 3–10 years of experience showed substantial research contributions (M = 4.06) and non-material support (M = 4.10). These findings align with life cycle engagement concepts, showing how alumni support evolves with career stages. Higher-education institutions should tailor alumni relations strategies based on professional stages.

The analysis shows a positive correlation between income and alumni contributions, particularly among those earning 10-50 million rupiah monthly (fig. 5). The 30–50 million income bracket showed the highest mean scores across contributions, including material (M = 4.50), non-material (M = 4.45), guest lecturing (M = 4.72), and student guidance (M = 4.67). Those earning above 50 million rupiah did not consistently surpass this group, possibly because of time constraints (Agost 2023). Alumni earning below 10 million rupiah had lower scores for internships (M = 2.84) and guest lectures (M = 3.46). These findings align with studies linking financial capacity to philanthropic engagement (Hartanto et al. 2021; Mael and Ashforth, 1992), suggesting that income influences both the ability and quality of institutional engagement. Universities should develop tiered engagement strategies based on their varying economic capacities.

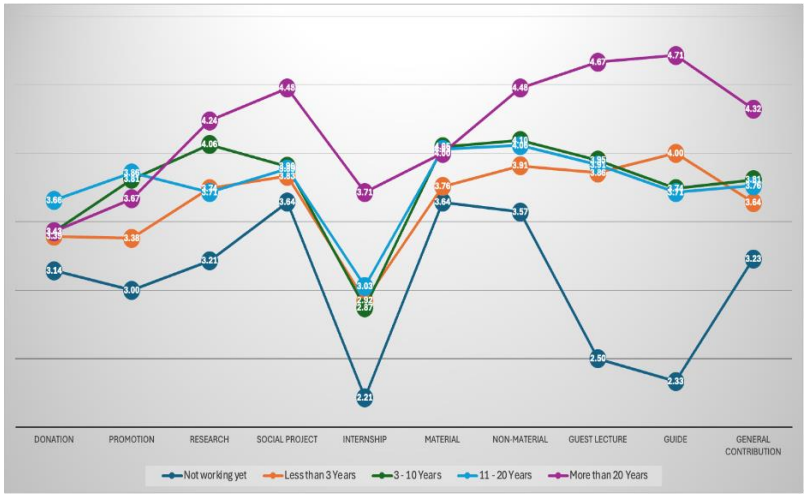


Fig 4: Mean score of alumni contribution based on work experience

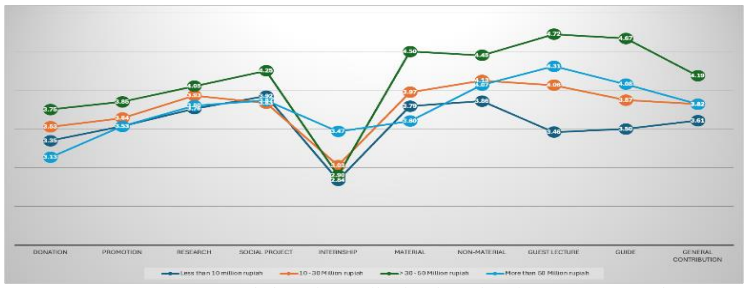


Fig 5: Mean score of alumni contribution based on income per month

4.4 Comparison between alumni sociodemographics and alumni contribution

Gender emerges as a critical factor, with male alumni showing statistically significant higher participation in mentoring and professional activities, including guidance roles (mean difference +0.56, p=.016), guest lectures (+0.518, p=.016), and internship support (+0.499, p=.006), while no significant differences exist in collaborative activities like research and social projects. These patterns align with established theoretical frameworks, including Ibarra's (1993) professional network theory, which explains male preference for instrumental networking (Ibarra, 1993). Furthermore, these results corroborate Stephenson and Bell's (2014) research in the International Journal of Educational Advancement, which identified gender-based differences in alumni participation patterns (Stephenson and Bell, 2014), while women focus on relationship-building activities. Additional factors influencing participation include peer influence and community sentiment on social platforms (Politis et al. 2024), and the accessibility and user-friendliness of engagement channels. The convergence of these factors suggests that successful alumni engagement strategies must accommodate diverse networking preferences, prioritize interactive digital platforms, implement gender-inclusive programming that values both instrumental and collaborative contributions, and leverage personalized, peer-influenced content to maximize participation across all alumni demographics. These findings also align with social exchange theory, which posits that individuals assess the costs and benefits of their engagement and are more likely to contribute when the perceived reciprocal value is high. In this context, male alumni may perceive greater instrumental returns from visible contributions such as mentoring and guest lecturing, while female alumni's engagement patterns may reflect the relational and community-oriented aspects emphasized in professional network theory.

Table 3: Results of a comparison of contributions by gender

Item	Direction (M Vs F)	Levene's test		t-value	Sig. (2-tailed)	Mean Difference	Significant?
		F	Sig.				
Donation	M > F	1.556	0.214	0.856	0.393	0.115	No
Promotion	M > F	0.149	0.7	1.267	0.207	0.197	No
Research	M > F	0.359	0.55	0.287	0.774	0.043	No
Social project	M < F	0.115	0.735	-0.423	0.673	-0.056	No
Internship	M > F	0.009	0.926	2.762	0.006	0.499	**Yes**
Material	M > F	0.992	0.32	1.373	0.171	0.176	No
Non-material	M > F	0.018	0.892	2.366	0.019	0.29	**Yes**
Guest lecture	M > F	3.172	0.078	2.448	0.016	0.518	**Yes**
Guide	M > F	5.831	0.017	2.456	0.016	0.56	**Yes**
Contribution	M > F	0.639	0.425	2.173	0.031	0.241	**Yes**

M = Male; F = Female

The comparative analysis of marital status revealed significant disparities in alumni contribution patterns, with notable differences in guest lecture participation (t = -3.049, p = 0.003) and overall contribution behaviour (t = -1.974, p = 0.049). These findings align with Weerts and Ronca (2007), who showed that alumni engagement varies based on institutional connections and demographics. The negative mean differences across the measured items indicate higher engagement levels in the unmarried group than in the married group, suggesting factors such as generational differences and communication preferences that warrant further investigation. The substantial effect size in guest lecture participation (-0.69735 mean difference) highlights direct academic involvement as a key differentiating factor in the learning experience. Although engagement categories, including donation behaviour (p = 0.090), promotion activities (p = 0.088), and research collaboration (p = 0.096), approached statistical significance, these differences may have been influenced by sample size limitations. The violation of equal variance in the guest lecture and guide categories (Levene's test $p < 0.05$) indicates heteroscedasticity, reflecting population differences. These patterns align with the alumni engagement literature, emphasising the multifaceted nature of institutional relationships and supporting Weerts and Ronca's (2007) framework that alumni engagement is influenced by individual and institutional factors, requiring targeted approaches across diverse alumni groups (Weerts and Ronca, 2008).

Table 4: Results of a comparison of contributions by marital status

Item	Direction (M Vs U)	Levene's test		t-value	Sig. (2-tailed)	Mean Difference	Significant?
		F	Sig.				
Donation	M > U	0.322	0.571	-1.706	0.090	-0.22711	**Yes**
Promotion	M > U	1.786	0.183	-1.713	0.088	-0.26577	No
Research	M > U	3.553	0.061	-1.675	0.096	-0.24827	No
Social project	M > U	0.106	0.745	-0.354	0.724	-0.04691	No
Internship	M > U	0.021	0.884	-1.065	0.288	-0.19556	**Yes**
Material	M > U	0.024	0.877	-0.436	0.663	-0.05617	No
Non-material	M > U	0.238	0.626	-1.188	0.236	-0.14693	**Yes**
Guest lecture	M > U	25.233	0	-3.049	0.003	-0.69735	**Yes**
Guide	M > U	8.558	0.004	-1.877	0.063	-0.4875	No
Contribution	M > U	1.023	0.313	-1.974	0.049	-0.21952	**Yes**

M = Married; F = Unmarried

According to ANOVA (Table 5), the work experience of alumni significantly influences the extent and nature of their contributions to higher education institutions, particularly in non-financial and developmental capacities. Alumni with over 20 years of experience (Group E) consistently demonstrated the highest average contributions in key areas such as research ($F = 3.119$, $p = 0.016$), social initiatives ($F = 2.423$, $p = 0.050$), internship offerings ($F = 3.209$, $p = 0.014$), non-material assistance ($F = 2.875$, $p = 0.024$), guest lecturing ($F = 4.001$, $p = 0.005$), student guidance ($F = 4.162$, $p = 0.004$), and overall contribution ($F = 5.114$, $p = 0.001$). These findings suggest that as alumni acquire more professional experience, their capacity and willingness to provide valuable expertise and mentorship increase, highlighting the developmental aspects of alumni involvement. Notably, financial donations ($F = 0.856$, $p = 0.491$) and material contributions ($F = 1.353$, $p = 0.252$) were not significantly influenced by experience length, indicating that financial contributions may be more affected by personal values, emotional ties, or loyalty to the institution than by career duration (Mael and Ashforth, 2020). These trends underscore the importance of engaging alumni with extensive careers in strategic, non-monetary roles such as mentors, guest lecturers, and industry collaborators. Institutions should provide opportunities for younger alumni or those at the beginning of their careers to become involved, fostering connections and gradually encouraging deeper engagement over time.

Table 5: Results of a comparison of contributions by work experience

Item	Direction (A, B, C, D)	F value	p value	Significant?
Donation	D > C > E > B > A	0.856	0.491	No
Promotion	D > C > E > B > A	2.908	0.023	**Yes**
Research	E > C > B > D > A	3.119	0.016	**Yes**
Social project	E > C > B > D > A	2.423	0.05	**Yes**
Internship	E > D > B > C > A	3.209	0.014	**Yes**
Material	C > D > E > B > A	1.353	0.252	No
Non-material	E > C > B > D > A	2.875	0.024	**Yes**
Guest lecture	E > C > B > D > A	4.001	0.005	**Yes**
Guide	E > B > C > D > A	4.162	0.004	**Yes**
Contribution	E > C > B > D > A	5.114	0.001	**Yes**

A = Not working yet; B = Less than 3 Years; C = 3 - 10 Years; D = 11 - 20 Years; E = More than 20 Years

The one-way ANOVA analysis examining alumni engagement patterns across different work experience groups reveals significant variations in seven of ten dimensions (Table 6), providing compelling evidence for the differential impact of career progression on institutional loyalty behaviors. The most pronounced differences emerged in contribution behaviors ($F = 5.114$, $p = 0.001$), guide activities ($F = 4.162$, $p = 0.004$), and guest lecture participation ($F = 4.001$, $p = 0.005$), suggesting that career maturity substantially influences alumni willingness to engage in mentorship and knowledge-sharing activities. These findings are consistent with previous studies, suggesting that professional maturity, institutional identity, and perceived impact are more influential motivators than income alone in driving alumni involvement (Mael and Ashforth, 1992). Universities should recognise that the >30–50 million income group represents a strategic target for high-impact engagement, particularly in terms of intellectual and social capital contributions, and should offer them meaningful roles to sustain their involvement.

Table 6: Results of a comparison of contributions by income per month

Item	Direction (A, B, C, D)	F value	p value	Significant?
Donation	C > B > A > D	0.856	0.491	No
Promotion	C > B > D > A	2.908	0.023	**Yes**
Research	C > B > D > A	3.119	0.016	**Yes**
Social project	C > A > D > B	2.423	0.049	**Yes**
Internship	D > B > C > A	3.209	0.014	**Yes**
Material	C > B > A > D	1.353	0.252	No
Non-material	C > B > D > A	2.875	0.024	**Yes**
Guest lecture	C > D > B > A	4.001	0.005	**Yes**
Guide	C > D > B > A	4.162	0.004	**Yes**
Contribution	C > D > B > A	5.114	0.001	**Yes**

A = Less than 10 million rupiah; B = 10 - 30 million rupiah; C = > 30 - 50 million rupiah; D = More than 50 million rupiah

The findings of this study suggest that demographic and professional factors—such as gender, marital status, career stage, and income level—exert a significant influence on the type and extent of alumni contributions to their alma mater. Gender appears to shape engagement styles: male alumni are more inclined to participate in high-visibility roles, such as mentoring and research collaboration, whereas female alumni often gravitate toward relational and socially oriented support (Kwiek and Roszka, 2021). These trends are likely influenced by differences in confidence, perceived expertise, and access to academic or professional networks. Marital status and career longevity also emerge as important predictors; married alumni and those with more than 20 years of work experience consistently report higher participation in non-material activities such as research, guest lecturing, and internships. Institutional data confirm this: alumni in the longest career category (More than 20 Years) exhibited the highest average scores for research ($M = 4.24$), guest lecturing ($M = 4.67$), and student mentoring ($M = 4.71$), with ANOVA results indicating strong significance ($F = 4.001–5.114$, $p < .05$). These findings align with social exchange theory, which posits that individuals with greater life and career stability often perceive a stronger moral or professional obligation to give back. Income level, while also a factor, does not always correlate linearly with financial donations. Mid-career, middle- to high-income alumni often contribute more materially and non-materially, though emotional connection and institutional trust also influence giving behavior. In addition to demographic factors, social media access and digital communication strategies play a pivotal role in facilitating alumni engagement. Alumni who are consistently active on university-affiliated platforms such as WhatsApp, LinkedIn, Instagram, and Facebook tend to demonstrate higher levels of connectedness and are more likely to contribute. Studies from Indonesia highlight "alumni connectedness"—defined by shared experience, emotional ties, and institutional dependency—as a key predictor of contribution behavior (Maulana et al. 2024). Likewise, Darmadi et al. (2021) emphasize how digital brand engagement increases alumni loyalty and willingness to support institutional programs. Universities that invest in dynamic and personalized digital communication—through newsletters, faculty updates, and alumni spotlights—tend to foster stronger alumni networks. These efforts not only increase participation in tangible activities such as promotions and guest lectures but also build long-term trust and affective commitment. Such engagement mechanisms align with global research showing that digital media fosters social capital, which is essential for mobilizing alumni from passive recipients of information to active institutional contributors (Agung et al. 2024).

While this study offers valuable insights into the sociodemographic characteristics and contributions of alumni in Indonesia, it has limitations. The relatively small sample size of 199 respondents may constrain the generalizability of the findings, as it may not adequately represent the diversity of alumni in Indonesian higher-education institutions, such as Indrahadi and Wardana (2020), who used a larger sample (N = 1,421) to examine academic achievement patterns, a larger and more representative sample could enhance external validity and precision (Indrahadi and Wardana, 2020). Future research should employ larger samples to enhance the robustness of the results. The study's reliance on self-reported data introduces the possibility of response bias, as participants may have inaccurately reported their contributions to the study. Future investigations could benefit from incorporating institutional records or direct observations to validate self-reported behaviour. The cross-sectional design of this study limits its ability to draw causal inferences and observe temporal changes in alumni engagement. Longitudinal research would provide more comprehensive insights into how engagement evolves across different stages of life. Although this study examined key sociodemographic variables, it did not account for other potential factors, such as emotional attachment, academic performance, or participation in student organisations. Future research should integrate these dimensions to achieve a more comprehensive understanding. The study's focus on digital platforms may not fully capture the range of communication tools used for alumni engagement. Future studies should explore both digital and non-digital platforms to identify the most effective channels for alumni relations. The findings are specific to Indonesia, where contextual factors may differ from those in other countries. Comparative studies across different regions will help assess the broader applicability of these findings.

5. Conclusion

The study analyzed the sociodemographic characteristics and contribution levels of alumni to their higher education institutions. Most respondents were female (54.8%), unmarried (54.3%), and in the early stages of their careers with less than 10 years of work experience (64.9%). Social media and WhatsApp were the most frequently accessed digital information sources by alumni. The overall level of alumni contribution was high (M=3.75), with non-financial contributions, willingness to serve as guest lecturers, and mentoring students being the most prominent. Male alumni reported higher contribution levels than females, particularly in material contributions, non-material support, guest lecturing, and student guidance. Married alumni were generally more active contributors than unmarried alumni. Alumni contribution levels positively correlated with years of work experience and income, with those having over 20 years of experience and earning between 30-50 million rupiah per month exhibiting the highest engagement. Gender, marital status, work experience, and income significantly influenced alumni contribution patterns, highlighting the need for targeted engagement strategies based on alumni demographics and career stages.

Acknowledgement

The author gratefully acknowledges the guidance and constructive input provided by Prof. Dr. Ir. Ujang Sumarwan, M.Sc, Prof. Dr. Ir. Hartoyo, M.Sc., and Prof. Dr. Ir. Lilik Noor Yuliati, MFSA throughout the development of this study. Appreciation is also extended to the alumni of the School of Business IPB University who participated in the survey and generously shared their insights and experiences.

References

[1] Snijders I, Wijnia L, Rikers RMJP, Loyens SMM. (2020) Building bridges in higher education: Student-faculty relationship quality, student engagement, and student loyalty. International Journal of Educational Research;100:101538. https://doi.org/10.1016/j.ijer.101538.
[2] Weerts DJ, Ronca JM. (2008) Characteristics of Alumni Donors Who Volunteer at their Alma Mater. Res High Educ; 49:274–92. https://doi.org/10.1007/s11162-007-9077-0.
[3] Lacap JPG, Cortez JV. (2023) Does Reputation Lead to Student Loyalty? The Case of a Private Higher Education Institution, a State University, and a Local College. SEAM;17:26–49. https://doi.org/10.21002/seam.v17i2.1343.
[4] Gottfried MA, Johnson EL. (2006) Solicitation and Donation: An Econometric Evaluation of Alumni Generosity in Higher Education. Int J Educ Adv;6:268–81. https://doi.org/10.1057/palgrave.ijea.2150034.
[5] CASE (2024). CASE insights Alumni Engagement Key Findings 2023. Council for Advancement and Support of Education (CASE); 2024.
[6] Skari LA. (2014) Community College Alumni: Predicting Who Gives. Community College Review;42:23–40. https://doi.org/10.1177/0091552113510172.
[7] Sun X, Hoffman SC, Grady ML. (2007) A Multivariate Causal Model of Alumni Giving: Implications for Alumni Fundraisers. Int J Educ Adv;7:307–32. https://doi.org/10.1057/palgrave.ijea.2150073.
[8] Mazurek G, Korzyński P, Górska A. (2019) social media in the Marketing of Higher Education Institutions in Poland: Preliminary Empirical Studies. EBER;7:117–33. https://doi.org/10.15678/eber.2019.070107.
[9] Tezer M, Taşpolat A, Sami K, Fatih S. (2017) The impact of using social media on academic achievement and attitudes of prospective. IJCRSEE;5:75–81. https://doi.org/10.5937/ijcrsee1702075t.
[10] Jayawinangun R, Tosida ET, Nugraha YA, Aunnie DP, Ardiansyah D, Sambas A, et al. (2024) Investigating the communication network for batik village tourism stakeholders to support smart economy in Bogor regency, Indonesia. 105267/jIjdns;8:381–92. https://doi.org/10.5267/j.ijdns.2023.9.016.
[11] Pawar SK. (2024) Social media in higher education marketing: a systematic literature review and research agenda. Cogent Business & Manage-ment 2024;11:1–23. https://doi.org/10.1080/23311975.2423059.
[12] Niraula KB, Bohora P. (2023) College Students' Utilization of Social Networking Sites. IJTES;7:274–89. https://doi.org/10.46328/ijtes.472.
[13] 360alumni. Alumni Engagement Review: 2024 Trends and 2025 Expectations 2024. https://www.360alumni.com/blog/2024-alumni-engagement-review (accessed August 1, 2025).
[14] Jack S, Bujang A, Kasuma Ali J, Andrew L. (2025) The Role of Social Influence in Alumni Engagement: Examining Behavioural Intention and Digital Platform Usage. IJRISS;IX:1340–9. https://doi.org/10.47772/ijriss.2025.90300106.
[15] Shanthi R, Rajakumari DrD. (2025) Influence of Social Media Marketing on Consumer Engagement Towards Tourism Decision Making in Tamilnadu. IJAES;12:457–63. https://doi.org/10.14419/k0yhc836.
[16] Rubejes-Silva SM. (2024) Bridging the Gap Between Universities and Alumni: A User-Centered Evaluation of a Digital Alumni Engagement Platform. JITC;6:49–58. https://doi.org/10.69478/jitc2024v6n002a05.
[17] Cagala T, Glogowsky U, Rincke J, Strittmatter A. (2021) Optimal Targeting in Fundraising: A Causal Machine-Learning Approach. https://doi.org/10.48550/ARXIV.2103.10251.
[18] Francioni B, Curina I, Dennis C, Papagiannidis S, Alamanos E, Bourlakis M, et al. (2021) Does trust play a role when it comes to donations? A comparison of Italian and US higher education institutions. High Educ;82:85–105. https://doi.org/10.1007/s10734-020-00623-1.

[19] Nevzat R, Amca Y, Tanova C, Amca H. (2016) Role of social media community in strengthening trust and loyalty for a university. Computers in Human Behavior;65:550–9. https://doi.org/10.1016/j.chb.2016.09.018.
[20] Nelloh LAM, Hartoyo H, Sumarwan U, Wirakartakusumah A. (2025) The loyalty journey of BBA and MBA alumni in Indonesia: a strategic alumni marketing perspective. Front Commun;10:1606217. https://doi.org/10.3389/fcomm.2025.1606217.
[21] Maulana AE, Patterson PG, Satria A, Pradipta IA. (2023) Alumni connectedness and its role in intention to contribute to higher education institutions. Journal of Marketing for Higher Education:1–22. https://doi.org/10.1080/08841241.2023.2186560.
[22] Belfield CR, Beney AP. (2000) What Determines Alumni Generosity? Evidence for the UK. Education Economics;8:65–80. https://doi.org/10.1080/096452900110300.
[23] Newman MD, Petrosko JM. (2011) Predictors of Alumni Association Membership. Res High Educ;52:738–59. https://doi.org/10.1007/s11162-011-9213-8.
[24] Stolzenberg EB, Aragon MC, Romo E, Couch V, Mclennan D, Eagan MK, et al. (2020) The American Freshman: National Norms Fall 2019. Los Angeles: Higher Education Research Institute, UCLA.
[25] Eldegwy A, Elsharnouby TH, Kortam W. (2018) How sociable is your university brand? An empirical investigation of university social aug-menters' brand equity. IJEM;32:912–30. https://doi.org/10.1108/ijem-12-2017-0346.
[26] Clotfelter CT. (2003) Alumni giving to elite private colleges and universities. Economics of Education Review;22:109–20. https://doi.org/10.1016/s0272-7757(02)00028-6.
[27] Bonaminio GA, Walling A, Beacham TD, Murphy WR, Huyett KM, Simari RD. (2020) Impacts of an Alumni Association-Institutional Partnership to Invest in Educational Innovation. MedSciEduc;30:505–11. https://doi.org/10.1007/s40670-019-00842-x.
[28] Cohen J. (1988) Statistical power analysis for the behavioral sciences. 2nd ed. Hillsdale, N.J.: L. Erlbaum Associates.
[29] Shidiqi KA, Pasiya A. (2019) The Effect of Educational Attainment and Work Experiences on Earnings in Indonesian Manufacturing Sectors. Jesp; 20. https://doi.org/10.18196/jesp.20.2.5021.
[30] Prihandoyo WB, Sudarwo R, Suryani N. (2020) Pola Penggunaan Media Sosial Whatsapp Dalam Pemenuhan Informasi Mahasiswa Universitas Terbuka Mataram. CIVICUS : Pendidikan-Penelitian-Pengabdian Pendidikan Pancasila dan Kewarganegaraan;8:68–74. https://doi.org/10.31764/civicus.v8i2.2867.
[31] Ning X. (2020) How Universities Use Alumni Resources to Help Students' Growth: China Perspective. WJER;7:p33. https://doi.org/10.22158/wjer.v7n2p33.
[32] Tosida ET, Mulyati M, Jayawinangun R, Pratiwi AP, Sambas A, Saputra J. (2024) Investigating the spatial basis clustering of smart tourism potential using fuzzy c-means. 105267/jDsl;13:1027–42. https://doi.org/10.5267/j.dsl.2024.6.001.
[33] Kurian PS, Kumaran Nair SS. (2023) Alumni mentoring: An approach to build community of learners. SHS Web Conf;156:08003. https://doi.org/10.1051/shsconf/202315608003.
[34] Mael F, Ashforth BE. (1992) Alumni and their alma mater: A partial test of the reformulated model of organizational identification. J Organ Behavior;13:103–23. https://doi.org/10.1002/job.4030130202.
[35] Hartanto B, Sari SR, Haryanti A, Jayawinangun R. (2021) ELIS Behaviour for Students Using Internet and Social Networking Sites. 2021 3rd International Symposium on Material and Electrical Engineering Conference (ISMEE), Bandung, Indonesia: IEEE; p. 110–4. https://doi.org/10.1109/ISMEE54273.2021.9774076.
[36] Ibarra H. (1993) Personal Networks of Women and Minorities in Management: A Conceptual Framework. The Academy of Management Review;18:56. https://doi.org/10.2307/258823.
[37] Stephenson AL, Bell N. (2014) Motivation for alumni donations: a social identity perspective on the role of branding in higher education. J of Philanthropy and Mktg;19:176–86. https://doi.org/10.1002/nvsm.1495.
[38] Politis D, Aaboen L, Eide AE, Haneberg DH. (2024) Re-viewing entrepreneurial universities through alumni engagement. Small Bus Econ;63:655–71. https://doi.org/10.1007/s11187-023-00863-2.
[39] Kwiek M, Roszka W. (2021) Gender Disparities in International Research Collaboration: A Study of 25,000 University Professors. Journal of Economic Surveys;35:1344–80. https://doi.org/10.1111/joes.12395.
[40] Darmadi R, Silitonga P, Kristiadi AA. (2021) Pengaruh Citra Merek Terhadap Loyalitas Perguruan Tinggi Melalui Social Media Customer Engagement dan Kepuasan Pelanggan. Jimn;11:11. https://doi.org/10.32502/jimn.v11i1.3430.
[41] Agung AK, Afiff AZ, Gayatri G, Hijrah Hati SR. (2024) Elevating low-effort engagement to cultivate stronger community commitment: A study of social capital within Instagram's brand community. IC;20:236. https://doi.org/10.3926/ic.2443.
[42] Indrahadi D, Wardana A. (2020) The impact of sociodemographic factors on academic achievements among high school students in Indonesia. IJERE;9:1114. https://doi.org/10.11591/ijere.v9i4.20572.