

University Social Responsibility and the Activation of Alumni Networks: The Mediating Effect of Student Engagement

Rania El Najjar*, Mazen Massoud, Bassam Hijazi

Faculty of Business Administration, Jinan University, Tripoli, Lebanon. *Corresponding Author's Email: Ranianajjar1@gmail.com

Abstract

Social responsibility positions universities as key economic, social, and cultural actors, helping develop a more engaging institutional identity for graduates. Lebanese universities lag behind international schools in alumni networking due to budget constraints. Additionally, the lack of effective governance mechanisms hinders universities' ability to connect with their alumni effectively. These challenges emphasize the need to redesign the university experience to reinforce alumni relationships. This study examines the role of university social responsibility (USR) in activating alumni networks, with a focus on the mediating effect of student engagement in universities in northern Lebanon. To validate the proposed theoretical model, a rigorous quantitative methodology was adopted, involving a series of multilevel statistical tests. Exploratory factor analysis refined the dimensions studied by eliminating weak items, thereby strengthening the internal consistency of the scales (Cronbach's alpha > 0.80 for most dimensions). Convergent validity tests, correlations, and variance inflation factor (VIF) confirmed the strength of the relationships between variables, with no evidence of multicollinearity. Second-order structural equation modeling revealed a satisfactory model fit, supporting the fitness of the conceptual structure. Among the most notable results, the cultural dimension has the strongest impact, both directly and indirectly, on the activation of alumni networks, followed by the social dimension. Student engagement plays a central role as a mediator, confirming that an engaged student is more likely to remain connected to their university after graduation. Hence, a proactive and inclusive approach to managing university social responsibility fosters a strong relational ecosystem among the university, its students, and its graduates.

Keywords: Alumni Networks, Proactive, Social Responsibility, Student Engagement, Universities.

Introduction

University Social Responsibility (USR) extends the university's scope beyond its educational mandate to encompass the three fundamental pillars of higher education: teaching, research, and community service (1). USR is regarded as a vital pathway for fostering and advancing social responsibility, encompassing both corporate social responsibility (CSR) and organizational social responsibility (OSR), as outlined in the ISO 26000 standards (2). This standard provides a framework for university social responsibility, advising universities to define their social responsibilities, identify key stakeholders, assess the impacts of these responsibilities, report on the results of these assessments, and engage in dialogue about expectations. Consequently, it is essential to reinforce the foundations of USR to enable the transition from conceptual frameworks to practical implementations aligned with the university's fundamental functions, its role in promoting citizenship, and the critical measures

required to engage graduates in activating alumni networks (3). The alumni network represents a valuable strategic resource for these institutions (4). To the best of the researchers' knowledge, the strategic implications of alumni networks have not been thoroughly studied; there is a notable lack of research on how to effectively activate networks by leveraging USR and student engagement. Nevertheless, the absence of a theoretical consensus concerning University Social Responsibility (USR) presents fundamental conceptual challenges (5). Existing literature reveals a notable gap between commitments to sustainable progress and the tangible practices of academic institutions. This theoretical disengagement between intention and implementation raises essential questions regarding the mechanisms through which USR can effectively influence behaviors. Specifically, the literature highlights a deficiency in theoretical frameworks that delineate how USR can catalyze

This is an Open Access article distributed under the terms of the Creative Commons Attribution CC BY license (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted reuse, distribution, and reproduction in any medium, provided the original work is properly cited.

(Received 24th July 2025; Accepted 23rd September 2025; Published 28th October 2025)

alumni activation and engagement. Universities face significant challenges in implementing University Social Responsibility (USR) initiatives, often lagging behind industries in social responsibility. The main barriers include limited resources, a lack of institutional frameworks, and governance issues. USR implementation requires considerable time, funding, and labor; however, tight budgets often restrict resource allocation (6). Few institutions have dedicated USR departments, complicating integration with alumni engagement efforts. Achieving USR goals relies on strategic planning and committees; however, their absence has a negative impact on alumni engagement and interaction (7). Additionally, universities lack the proper tools to assess the impact of USR on alumni engagement, which affects the implementation of targeted strategies. These conceptual and operational issues converge upon a central research question: To what extent does student engagement mediate the relationship between university social responsibility and the activation of alumni networks?

Hence, this article aims to investigate the influence of a university's social responsibility on the activation of alumni networks in Lebanese universities, examining the mediating effect of graduates' engagement. This study's primary focus is to measure the mediating role of student engagement and participation in the relationship between USR and alumni networks.

Society's increasing concern regarding social responsibility is particularly evident among social agents. As key agents of socialization, universities demonstrate their commitment to social responsibility in accordance with their institutional mission (8). They advance these principles through University Social Responsibility initiatives, which embody their fundamental institutional objectives. University Social Responsibility (USR) is an evolving concept that transcends the traditional scope of university teaching and research missions to encompass a broader societal perspective (9). This responsibility entails adopting a transparent and ethical code of conduct, rejecting all unethical practices (including corruption, discrimination, and exclusion), and committing to quality and transparency. Better still, it would guarantee improving the quality of campus life, support, success, well-being, and student mobility (10).

They aim to contribute to local development, make access to knowledge a reality for all, defend universal values, and promote a culture of respect for the environment, while encouraging solidarity among the university community, students, and staff in civic actions that benefit local communities (11). At the same time, it advocates openness to stakeholders, particularly through the adoption of partnership-based governance that not only meets the needs of students, researchers, staff, and civil society through various educational, scientific, cultural, social, and environmental activities but also creates channels for internal and external information, expression, and communication (12). Social responsibility is intricately connected to the dedication and involvement of stakeholders in accomplishing the objectives.

University Social Responsibility

The university's social responsibility (USR) is where its mission, vision, and values align with its actions, outcomes, and society's expectations of both external and internal stakeholders (9). USR emphasizes a university's duty to serve the public by engaging with the community and promoting sustainability. This civic duty is demonstrated through educational programs, outreach initiatives, and community partnerships, highlighting that higher education serves as a means to foster social awareness and solidarity. Recently, universities have advanced by adopting governance models that reflect their values of social responsibility. The USR aims to mitigate the negative environmental and social impacts of the university's activities and promote a positive influence (6, 7).

USR is defined as the university's ability to promote principles and values through its management, teaching, research, and community engagement, thereby serving its community (13). Universities offer education and knowledge transfer, guided by ethics related to governance, the environment, social commitment, and civic values (14). USR is defined as the integration by universities of cultural, socioeconomic, and environmental concerns into their activities and their relationships with the world of work, local authorities, and other societal components (15). Social responsibility (SR) is delineated as a university policy that emphasizes ethical performance by the community, including students, faculty, and staff, through the responsible

management of educational, social, cognitive, and environmental impacts (5, 16). It aims to promote sustainable human development through open and inclusive societal dialogue (17). The principles of social responsibility are grounded in the concepts of a "social contract" between the university and society, the university's civic role, and the promotion of an ethical culture within the institution. Universities that promote their commitment to social responsibility seek to implement eco-friendly management practices, emphasizing principles of equity, diversity, health and well-being at work, skills development, and environmental conservation (5). According to these structuring principles, the university should integrate all cultural, social, economic, and environmental concerns into its strategic actions, both in its internal operations and in its relationships with the world of work, local authorities, and other societal components (18, 19). Universities adopt socially responsible practices along four axes: preparing students for responsible citizenship in the context of sustainability; ensuring social responsibility in scientific and technical work; promoting mutual learning; and fostering socially and ecologically responsible university life (19, 20). University Social Responsibility (USR) involves incorporating environmental, social, and cultural factors into the institution's activities and partnerships, going beyond its traditional roles of teaching and research. It includes four key dimensions: social, economic, ecological, and cultural.

First, the social dimension is characterized by a set of mechanisms that aim to ensure equal opportunities and social cohesion, leading the greatest number of students to the best possible level and the full development of their potential, regardless of their social, cultural, or economic background (21). This dimension also encompasses promoting community engagement among students and the university community. This dimension is viewed as fundamental to "promoting and recognizing the social commitment of students and, more broadly, the university community (22, 23)." Initiatives in this area include promoting student engagement by awarding credits and creating personalized support programs for students in situations of social vulnerability (24). The social dimension fosters a sense of institutional belonging rooted in

shared values of solidarity and equity. Alumni who have benefited from or engaged in social initiatives during their studies typically develop a profound emotional connection to their university, thereby enhancing their subsequent engagement in alumni networks (25). The university serves as a hub for collective change through social innovation. Utilizing its research resources and partnerships, it works to reduce inequalities, promote inclusion, and foster stronger ties with local communities. Civic duty reinforces this mission by cultivating critical and supportive citizens who are capable of engaging in public interest (21, 22).

Second, the economic aspect concentrates on the role of universities in regional development and innovation. This encompasses enhancing the area's attractiveness and development, as well as fostering partnerships with local economic stakeholders (26). It also involves supporting student entrepreneurship, university-industry collaborations, and facilitating the entry of graduates into the workforce. Universities are progressively incorporating this aspect into their strategic frameworks, emphasizing the university's contribution to the region's economic attractiveness, professional integration, and student transition to employment, innovation, and international outreach (27). The economic component of the USR encourages alumni participation by offering opportunities for professional collaboration and business development. Graduates serve as "catalysts for growth, development, and progress" by endorsing innovation and entrepreneurship initiatives spearheaded by their respective universities (28). Economically, USR supports social entrepreneurship and inclusive innovation, promoting initiatives that blend profit with societal benefits. Civic duty encourages students and researchers to view their careers as serving the public good, rather than just pursuing wealth (26, 27).

Third, the ecological dimension constitutes "a territorial development issue" that translates into a proactive approach to sustainable development. It involves considering environmental issues in daily practices (waste management, eco-responsible purchasing, energy consumption), architecture and construction, and campus planning (29). Universities are gradually developing "sustainable campuses" that integrate

environmental concerns into their operations (30). This dimension is reflected in the adoption of multi-year environmental and sustainable development plans based on the Green Plan framework (21). The ecological dimension mobilizes alumni around contemporary societal issues (8). The example of creating an "Ecological and Social Club" within its alumni association illustrates how environmental concerns can unite alumni around concrete projects. The ecological aspect highlights the university's role in the transition through pedagogical choices, promoting social innovation, such as sustainable campuses and climate research. Civic responsibility involves raising awareness of the ecological emergency and encouraging responsible behaviors. Knowledge transfer is crucial for sharing solutions related to resource management, pollution, and ecosystem conservation (29, 30).

Fourth, the cultural dimension is manifested through the promotion of the "civic role of the university" and the training of "responsible citizens." It encompasses the transmission of a democratic culture, the development of critical thinking, and the promotion of civic values. This dimension also encompasses the university's cultural openness to its local area and the provision of cultural expertise to the university community (31). ORSU defines this dimension as aiming to "promote the role of universities as an educational resource at all stages of life." It is embodied through cultural outreach initiatives, popular education programs, and cultural democratization activities. The cultural dimension reinforces the institutional identity and the shared values between the university and its graduates. It fosters the development of a "community of ambassadors" who promote the values and cultural mission of their home institution (1). The cultural dimension is a key element of knowledge transfer frameworks, enabling dialogue between academic and traditional knowledge. This enhances cognitive justice by recognizing cultural diversity and intangible heritage (31).

Student Engagement

Two types of engagement were distinguished (32). First, academic engagement is linked to learning, and second, institutional engagement is linked to university and social life. Student engagement promotes the acquisition of skills and knowledge that contribute to student growth and better

integration. Engagement is the interrelationship between the importance students place on their studies and extracurricular or extra-academic life, that is, the effort made to acquire knowledge and the connections formed with one's environment (33). Engagement, therefore, has an attribute of active participation. Higher education institutions have developed various programs to promote student engagement and participation in all their extracurricular activities (34).

The USR allows universities to promote students' community engagement and, by extension, their future graduates. University Social Responsibility was created to "promote and recognize the community engagement of students and, more broadly, the university community (35)." The mission is to "make the university an educational resource for its region" and to "make the university a player in regional influence," creating multiple opportunities for alumni engagement (36). This recognition of engagement creates a virtuous circle: students who engage during their studies are proportionally more likely to succeed than others and are also more likely to maintain ties with their university after graduation (37).

Student engagement serves as a mediating factor, explained through a three-part model consisting of behavioral engagement (active participation in activities), emotional engagement (developing a sense of belonging), and cognitive engagement (internalizing values and acquiring skills). This multidimensional approach helps us grasp the richness and complexity of the student engagement experience (36, 37).

Alumni Networks

The alumni network is a criterion consistently used to establish the rankings of the various schools. The alumni network is a school's greatest treasure. Its reputation is built on this, with graduates being the first influencers. Thus the larger the active network, the stronger the school's reputation among recruiters. Universities may need to call on a former student to gather information about a company to secure an internship or even to be co-opted. Co-optation is very common in certain sectors, such as management consulting. Organizations sponsor trusted candidates through grants and ultimately hire them after graduation (38).

A dynamic alumni network is a valuable asset for a training program and, more broadly, for a

university. Depending on its characteristics, the alumni network can be viewed as a specific asset that provides the actors associated with it with "social capital," a source of all advantages (39). The presence of social capital benefits both the community and its members. The alumni network fits into this framework since it can benefit students, former students, teachers, and the degree as an organizational actor (40). A network can constitute a real strategic resource for an organization (41), whether for-profit or not (42). Indeed, an organization's resources are not only present within its boundaries but can also be located beyond its boundaries, particularly in the relationships it maintains with its various partners (43). Because the relational network that an organization creates is complex and unique, it constitutes a valuable asset for the organization. According to resource-based theory, the network is thus recognized as an inimitable and non-substitutable resource (44). Specific to each organization, it enables fruitful strategic cooperation, promotes access to innovative sources, and provides business opportunities (45).

USR, Alumni Engagement and Networks, an Association

Universities strengthen their alumni network and contribute to the broader development of society. USR extends the university's role beyond its traditional functions (10). This involves considering the expectations of alumni. University social responsibility (USR) encompasses the active involvement of stakeholders, such as alumni, as essential partners in various projects, events, and initiatives aimed at strengthening their affiliation with their alma mater (8). Alumni networks function as platforms for the dissemination of experiences and knowledge, facilitating mentoring, networking, and career development opportunities between alumni and students. USR is essential for activating and fortifying alumni networks. By implementing a USR approach, universities establish robust connections with alumni, fostering continuous, mutually beneficial engagement (11). An actively engaged alumni network enhances the university's reputation on both national and international levels, as alumni endorse the quality of education and the positive influence it has had on their lives (19). The University's social responsibility can encourage alumni to contribute financially to their university

through donations and scholarships. These contributions can support research projects and study programs. As members of society, alumni can contribute to the development of their region by sharing their skills and networks with local businesses, associations, or public institutions (26).

A socially responsible university is part of a dynamic where higher education goes beyond simply transmitting knowledge; it actively engages in the lives of its stakeholders. Stakeholder theory, applied in social responsibility, posits that academic institutions create value by acknowledging the legitimate expectations of their stakeholders and by establishing mechanisms for dialogue and collaboration (13, 14). This approach emphasizes that students are a key stakeholder: when they see that the university is developing credible and participatory social responsibility policies, they build increased trust, a sense of belonging, and willingness to participate. This engagement then becomes a crucial link between social responsibility practices and the future vitality of the alumni network (5).

The mediating effect of student engagement thus acts as a transformation, turning the USR into active and sustainable networks. The university, by implementing socially responsible policies, fosters an environment that encourages participation and the development of strong, mutually beneficial relationships. These relationships, in turn, help activate the alumni network, ensuring continuity between students' experiences and their future roles as alumni (38-40). Therefore, combining stakeholder theory and social capital theory helps us understand that USR does not directly activate the network but instead creates the conditions for student engagement, which becomes the main driver of this relationship.

Conceptual Framework

Lebanese universities are gradually recognizing the potential of university social responsibility (USR) as a strategic tool to strengthen their connections with alumni (46). This approach addresses key issues present in the modern Lebanese higher education landscape (47). Research shows that USR is a promising strategic lever for activating alumni networks through four complementary dimensions. The developed theoretical framework offers a solid foundation for

understanding how universities can engage their graduates around socially responsible goals, transforming the alumni relationship from nostalgic sentiment to one of shared civic involvement (48).

Students who participate in these initiatives build broader and more diverse relational networks while enhancing their attachment to the institution. The socialization process and exposure to RSU practices foster alumni civic awareness and motivate collective action. These experiences generate shared references and memories that create lasting connections among members of the university community. These connections become resources within the alumni network, supporting mentoring, knowledge sharing, event participation, and financial contributions.

From this perspective, student engagement emerges as a central element that explains how University Social Responsibility (USR) practices influence the activation of the alumni network.

The hypotheses proposed open new avenues for empirical research to test these theoretical mechanisms in the context of Lebanese universities in northern Lebanon. The literature review enabled the development of a conceptual framework (Figure 1), which identifies four main hypotheses. This framework also identifies sub-hypotheses according to university social responsibility dimensions. Figure 1 illustrates the conceptual framework.

H1. University social responsibility dimensions have a direct statistical influence on Activating Alumni Networks.

H2. University social responsibility dimensions have a direct statistical influence on student engagement.

H3. Student engagement has a direct statistical influence on Activating Alumni Networks.

H4. Student engagement mediates the relationship between student engagement and Activating Alumni Networks.

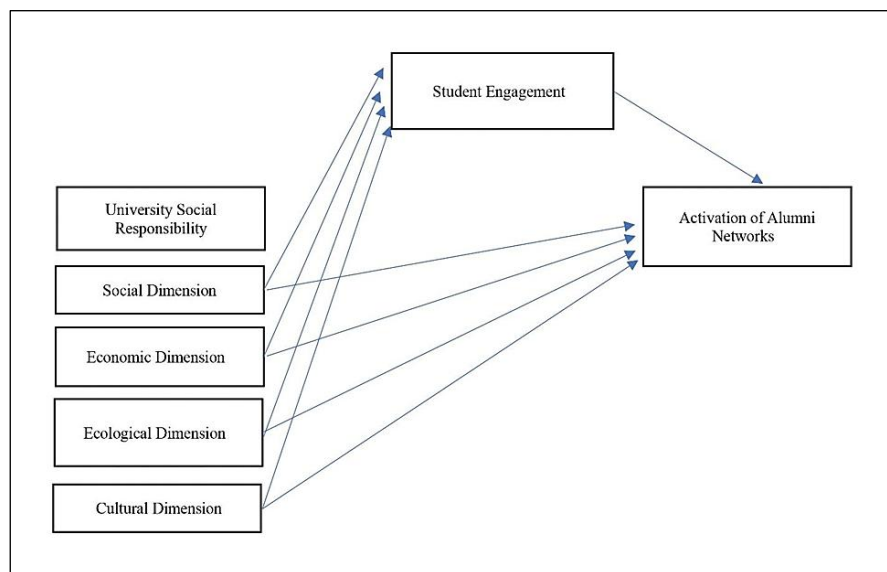


Figure 1: Conceptual Framework

This research is of major theoretical interest for several fundamental reasons. First, it helps fill the gap regarding the links between USR and stakeholder engagement. It enhances understanding of how universities can mobilize alumni around socially responsible goals. Second, it offers a new perspective by viewing USR as a key factor in alumni engagement, beyond traditional nostalgic ties. This refines the understanding of what motivates alumni to stay connected with their university. The research has major practical relevance in terms of resource optimization. This

optimization is essential in budgetary constraints where universities must make informed strategic choices. Universities are capable of identifying the most effective USR practices to enhance student engagement and activate alumni networks, thereby enabling the allocation of limited resources to actions with the greatest impact. This research provides decision-makers within universities with a comprehensive guideline to help them achieve their strategic objectives.

Methodology

This descriptive and quantitative study examines the relationship between university social responsibility and alumni networks, with a focus on the mediating role of student engagement. It targets all graduates from Lebanese universities in northern Lebanon. The quantitative analysis employs a hypothetical-deductive approach. This method involves developing hypotheses based on existing knowledge, theories, and concepts, then testing them against reality to determine their relevance.

This study investigates how graduates' engagement mediates the relationship between university social responsibility (USR) and the activation of alumni networks. USR includes social, economic, ecological, and cultural components. The main premise of this article is that graduates' engagement turns these institutional efforts into ongoing, meaningful participation. Social capital theory emphasizes that the connections, trust, and networks established during the student experience become valuable resources that persist beyond graduation. These resources boost students' sense of belonging and facilitate the activation of alumni networks through mentoring, fundraising, knowledge sharing, and professional collaboration. Therefore, student engagement is the primary mechanism through which USR initiatives encourage graduates to contribute long-term to their university's growth and community involvement.

The questionnaire survey was selected for this research because it is a preferred method for collecting data in quantitative studies. It describes or explains the perceptions and behaviors of Lebanese graduates (27, 47, 48). To analyze this aspect, the ordinal scales of the Likert scale were used. Graduates as participants were asked to indicate their level of agreement or disagreement with a series of propositions (items). This

questionnaire was tested by individuals, including an HR manager, whose roles, specialties, or experiences enable them to provide expert assessments. This face validation aims to gain a deeper understanding of the question posed in its various aspects. The pilot test ensured that the scale items were written unambiguously and well understood by the target sample, a convenience sample of 25 graduates, and pre-tested the survey instrument. Pre-test respondents agreed to answer all survey questions and, during the discussion, shared any issues or concerns they had. The sample of the pilot study was excluded from the study sample.

The survey data were collected through a Google questionnaire posted online between March and May 2025 and distributed via social media and the university administration. This choice seems most appropriate due to the lack of contact information for graduates (including phone and email addresses). The questionnaire is structured into seven sections, comprising 34 closed-ended questions. The initial section (containing three questions) pertains to personal information and academic background. The second section, which encompasses four dimensions, solicits information regarding the university's social responsibility (8, 46, 47). Each dimension is evaluated through five items. The third section, comprising seven items, assesses student engagement (32-34). The fourth section, also comprising seven items, includes the scale employed to measure alumni network activation (43-45). To examine these concepts, the nominal scales of the Likert scale were employed. Graduates (alumni) from Lebanese universities were asked to indicate their level of approval (agreement) or disapproval (disagreement) with a series of 34 statements (items). Table 1 outlines the operationalization method and measurement indicators of the variables incorporated into the questionnaire.

Table 1: Variables Operationalization and Measurement Indicators

Variables/ Dimensions	Operationalization Definition	Indicators
university's social responsibility (USR)	USR is defined as the set of institutional commitments that the university makes to society. It is implemented through four complementary dimensions. It is operationalized by dividing it into four	1. Transparency 2. Academic Equity 3. Stakeholder Dialogue 4. Responsibility to Students 5. Societal Impact

	dimensions, each of which is translated into measurable indicators.	
Social Dimension	This dimension pertains to the university and its members' involvement in activities that strengthen the social fabric and promote solidarity.	1. University-Community Relations 2. Voluntary Initiatives 3. Local Social Projects 4. Charity Events 5. Promoting Social Engagement
Economic Dimension	This dimension demonstrates how the university and its stakeholders collaborate to promote economic development and enhance employability.	1. Educational Financial Support 2. Employability Programs 3. Students' Assistance 4. Co-financing Infrastructure 5. Mentoring/Entrepreneurship
Ecological Dimension	This measure demonstrates the university's and its stakeholders' commitment to environmental protection and sustainable development.	1. Environmental Awareness 2. Sustainable Development Projects 3. Eco-responsible Policies 4. Ecological Activities 5. Creation of Green Spaces
Cultural Dimension	This dimension embodies the university's commitment to fostering a culture of diversity and heritage.	1. Artistic and Cultural Activities 2. Heritage Preservation 3. Cultural Diversity 4. Promoting Local Culture 5. Intercultural Events
Student Engagement	This mediating variable is operationalized through their active participation in academic and community life, their involvement in collective projects, and their willingness to maintain this connection after graduation. This variable plays a key role in linking social responsibility practices to the dynamics of USR and graduate engagement.	1. Clubs and Associations 2. Student Impact Initiatives 3. Collaborative Projects with Teachers 4. Postgraduation Participation 5. Promoting Student Activities
Activation of Alumni Networks	It is defined as the active and ongoing participation of students in the academic, social, and community life of the university, sometimes extending beyond graduation. It constitutes the essential link between the university's social responsibility and the activation of the alumni network.	1. Participation in events 2. Communication platform 3. University recommendation 4. Usefulness of professional network 5. Post-graduation contribution

A convenience sampling method was utilized to gather the data. Convenience sampling has proven to be the most practical and suitable method for this study. Lebanese universities frequently lack complete or accessible graduate databases, which prevents the use of probability sampling methods.

Convenience sampling, therefore, made it possible to reach graduates who were available and willing to participate, drawing on university contacts, student associations, and informal networks. No selection criteria were implemented. Participants are graduates from Lebanese universities. No

predictors of their behavior as alumni, such as maintaining ties post-graduation, fundraising contributions, and knowledge sharing, were introduced to eliminate social desirability bias in answers. To further reduce bias, methodological precautions were taken, including ensuring anonymity, using neutral language in questions, and minimizing social desirability effects. This approach maintains the reliability of the data collected while taking into account the specificities of the Lebanese context.

As a result, the university administration in North Lebanon was contacted, and permission was requested for data collection. These institutions were assured of confidentiality, and the anonymity of their graduates was preserved. The sample analyzed shows an even gender distribution, with equal representation of men and women (50% each), offering a balanced view of gender perspectives in the Lebanese university setting. Regarding age, most respondents fall within the 26-35 range (36.9%), a period marked by the transition from higher education to professional life and early social engagement. This age group is followed by those aged 36-45 (21.8%) and 18-25 (17.6%), indicating strong participation from young adults; the remaining 7.7% are graduates over 55 years old. These figures highlight the demographic diversity of participants, which is crucial for understanding intergenerational dynamics in student involvement and the alumni network.

The sample is predominantly composed of individuals with master's degrees (40.7%), followed closely by those with bachelor's degrees (39.7%). Respondents with doctoral degrees represent 18.9% and only 0.6% was diploma holders. This result specifies a high level of expertise and critical insights into university practices. These statistics provide a comprehensive reflection on university social responsibility (USR) and engagement mechanisms. An Exploratory Factor Analysis (EFA) with Varimax rotation was conducted to remove certain items. EFA is an initial technique used in developing a measurement scale. It involves analyzing a correlation matrix of indicators (or items) using statistical software (SPSS 25) (27). Items or indicators that are too strongly correlated with other factors or too weakly correlated with their own factor or variable are eliminated. Items

with correlations below 0.5 are removed (purification). The goal of a PCA is to create factors, known as principal components, from a set of initial individual variables (or items). As a result, the researcher aims to select a limited number of factors to clarify and simplify the analysis. This selection should capture as much information as possible from the data. Purifying the measurement instrument involves performing several successive iterations aimed at eliminating items that reduce its metric quality (2). Two methods were employed. First, Principal Component Analysis (PCA) with varimax rotation was used to determine the dimensionality of the scales to be retained, relying on four different indices: the Kaiser-Meyer-Olkin criterion (KMO test), Bartlett's test of sphericity, examination of the eigenvalue, and the determinant. Second, the calculation of Cronbach's alpha coefficient assessed the construct validity and internal reliability of the measurement scale. Several items were thus deleted due to multicollinearity problems across several factors. To validate the measurement scale, a confirmatory factor analysis was conducted using AMOS version 24 software. Thanks to the battery of indices it provides, the structural equation method allowed us to verify the good fit of the measurement model with the collected data.

Results

Statistical tests were conducted to validate the proposed model empirically. This section began with descriptive statistics and exploratory factor analysis (EFA), allowing for the assessment of the internal validity of the scales used. Reliability tests, using Cronbach's alpha coefficients, enabled the dimensions to be refined, retaining only the most robust items. Convergent and discriminant validity analyses were then conducted using interdimensional correlations, tolerance indices, and VIF (Variance Inflation Factor), confirming the absence of multicollinearity and the consistency of the conceptual relationships between the latent variables. The model's validity was then reinforced by second-order structural equation modeling, whose overall fit indices (Cmin/df, RMSEA, RMR, GFI, AGFI, CFI, TLI, NFI, and P-close) demonstrated a good fit between the observed data and the theoretical structure (2). Lastly, hypothesis tests were conducted to analyze the direct and indirect relationships between the dimensions of USR,

student engagement, and alumni network activation. These tests relied on standardized regression weights, standard errors, critical values (C.R.), and significance levels (p), thus making it possible to assess both the strength and significance of the relationships between the variables. The overall averages in Table 1 for the

measured dimensions ranged from 3.11 to 3.49, demonstrating a moderate to relatively high level of respondents' perceptions regarding the various dimensions studied. The dispersion of responses, measured by standard deviation, remained reasonable, reinforcing the consistency of assessments within the sample.

Table 2: Descriptive Statistics and Normality Distribution of USR Dimensions, Student Engagement, and Activation of Alumni Networks

	Mean	Std. Deviation	Skewness		Kurtosis		Ranking
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error	
Student Engagement	3.49	1.109	.450	.138	.824	.275	1
Economic Dimension	3.48	0.904	.427	.138	.325	.275	2
Cultural Dimension	3.39	1.012	.542	.138	.116	.275	3
Ecological Dimension	3.37	0.938	.445	.138	.096	.275	4
Activation of Alumni Networks	3.255	0.998	.208	.138	.719	.275	5
Social Dimension	3.11	1.014	.063	.138	.657	.275	6
Valid N (listwise)	312						

Table 2 presents the descriptive statistics and normal distribution of USR dimensions, student engagement, and alumni network activation. This table ranks variables according to their means. Student engagement ranked first ($M = 3.49$), validating those students perceive their involvement in university life positively. This confirms its central role in activating alumni networks, as hypothesized in the research model. The economic dimension of university social responsibility came in second ($M = 3.48$). This high score validates that university initiatives perceived as contributing to economic development are well recognized. The cultural ($M = 3.39$) and ecological ($M = 3.37$) dimensions follow closely behind. These results reveal a perceived satisfactory commitment from universities in terms of cultural diversity and

environmental sustainability initiatives. Universities' ability to activate alumni networks is rated slightly lower ($M = 3.25$); hence, the results advocate for room for improvement in managing alumni relationships through interactive platforms and alumni clubs. Lastly, the social dimension had the lowest mean score ($M = 3.11$), reflecting a reserved view of universities' involvement in social issues, such as volunteering. This highlights the need for officials to improve social action initiatives to foster alumni's sense of belonging. Table 2 presents the results of the exploratory factor analysis. Table 3 presents the discriminant validity of USR dimensions, student engagement, and activation of alumni networks. It is an exhibition of the rotated component matrix using varimax rotation.

Table 3: Discriminant validity of USR Dimensions, Student Engagement, and Activation of Alumni Networks (Rotated Component Matrix)

University Social Responsibility (Multidimensional)			Component Loadings Extraction	
TVE = 73.3; AVE = 0.821; KMO = 0.821; determinant = 0.006				
Social Dimension				
SOD2. I get involved in volunteer initiatives organized by the university.			0.877	0.788
SOD3. I participate in social initiatives that aim to enhance the local quality of life.			0.843	0.789
SOD4. I participate in charity events organized by the university or the alumni association.			0.799	0.724

SOD1. I participate in activities that aim to strengthen relations between the university and the local community.	0.766	0.637
Economic Dimension		
ECO2. I participate in programs designed to enhance student employability.	0.862	0.792
ECO3. I contribute to funding initiatives for disadvantaged students.	0.797	0.655
ECO1. I financially support the university's educational projects.	0.795	0.739
Cultural Dimension		
CUD3. I propose projects that promote cultural diversity within the university.	0.838	0.767
CUD4. I contribute to promoting local culture through university events.	0.797	0.785
CUD1. I participate in artistic or cultural activities organized by the university.	0.749	0.655
Student Engagement (Unidimensional)		
TVE = 82.6; AVE = 0.814; KMO = 0.831; determinant = 0.036		
SE5. I promote student activities to new graduates.	0.921	0.849
SE7. My student experience encourages me to get involved with the university.	0.918	0.843
SE6. I remain committed to supporting students as an alumnus.	0.914	0.835
SE4. I participate in university life even after graduation.	0.883	0.780
Activation of Alumni Networks (Unidimensional)		
TVE = 80.7; AVE = 0.892; KMO = 0.825; determinant = 0.187		
AN6. The university values the contributions of its alumni in its activities.	0.920	0.920
AN7. I want to play an active role in the university's post-graduation projects.	0.911	0.911
AN5. I find the professional network created by the alumni association useful.	0.864	0.864

The exploratory factor analysis in Table 3 confirms the robustness of the conceptual model, revealing a well-defined and consistent statistical structure across all variables. KMO indices above 0.82 and explained variance values exceeding 73% for each dimension demonstrate the quality of the data. Table 2 verifies that three dimensions were retained for university social responsibility. The social dimension presents the highest loadings, underscoring the importance of volunteering and community activities. The economic dimension follows, with high values demonstrating a strong interest in employability programs for

disadvantaged students. As for the cultural indicator, it highlights good recognition of actions related to diversity and local culture.

Student engagement, as a mediating variable, clearly stands out with very high loadings and an explained variance greater than 82%. Results confirm that it is a central factor in the relationship between social responsibility and network activation. Lastly, the activation of alumni networks also yields remarkably high results. Consequently, alumni are actively seeking to maintain a connection with the university, provided that their past engagement is valued.

Table 4: Summary of the Exploratory Factor Analysis (Validity and Reliability of Retained Constructs)

	Items		Alpha Cronbach		KMO		Results
	Initial	After	Initial	After	Initial	After	
Social Dimension	5	4	0.842	0.873	0.797	0.818	Retained
Economic Dimension	5	3	0.815	0.980	0.662	0.752	Retained
Ecological Dimension	5	0	0.836	0	0.806	0	Eliminated
Cultural Dimension	5	3	0.805	0.885	0.695	0.851	Retained
Student Engagement	7	4	0.938	0.929	0.923	0.831	Retained
Activation of Alumni Networks	7	3	0.882	0.880	0.816	0.725	Retained

Table 4 provides a summary of the exploratory factor analysis. It highlights the validity and reliability of the retained constructs. Table 4 indicates that three dimensions (social, economic, and cultural) were retained for social responsibility, excluding the ecological dimension.

The exploratory factor analysis, after purification, allowed us to refocus the model around the most robust dimensions, eliminating weak items to strengthen the internal consistency of the scales. This process enabled the identification of the most relevant structures and the exclusion of

statistically unstable elements. The social dimension exhibits a notable improvement in internal consistency, with Cronbach's alpha increasing from 0.842 to 0.873. The economic dimension underwent a significant reduction, with only three items retained. However, this reduction allowed for a rise in reliability to a remarkable level (alpha of 0.980). Conversely, the ecological dimension was completely excluded. This exclusion reflects a low level of recognition for environmental actions carried out by universities. The cultural dimension, although reduced to three items, showed a significant increase in its

psychometric indices (alpha rising from 0.805 to 0.885), emphasizing the importance placed on cultural promotion.

For student engagement, four out of seven items were kept. Despite this reduction, reliability remains excellent (alpha = 0.929). Lastly, the dependent variable related to activating alumni networks retained three items considered the most representative, with nearly unchanged reliability (alpha at 0.880). Retained elements are adequate to reflect the connection between graduates and their institution.

Table 5: Convergent alidity of USR Dimensions, Student Engagement, and Activation of Alumni Networks (Correlations and VIF)

	SOD	ECO	CUD	SE	Collinearity Statistics	
					Tolerance	VIF
SOD Social Dimension	1				0.760	1.31
ECO Economic Dimension	0.339**	1			0.650	1.53
CUD Cultural Dimension	0.471**	0.473**	1		0.527	1.89
SE Student Engagement	0.313**	0.555**	0.614**	1	0.533	1.87
AN Activation of Alumni Networks	0.421**	0.305**	0.408**	0.315**	---	---

Table 5 presents the results of the bivariate correlation analysis and the VIF values. It confirms that the correlations are positive and significant at the 0.01 level. The convergent validity analysis reveals significant correlations between the main dimensions of university social responsibility, including social (SOD), economic (ECO), and cultural (CUD), and the mediating variable of student engagement (SE), as well as with the dependent variable, the activation of alumni networks. These results support the conceptual coherence among the variables.

The cultural dimension exhibits the highest correlations, notably with student engagement ($r = 0.614$) and the economic dimension ($r = 0.473$). Results validate a robust correlation between cultural initiatives and graduates' participation. The economic dimension demonstrates a significant correlation with student engagement ($r = 0.555$), reinforcing the notion that policies related to employability and financial support enhance student involvement. The social dimension shows weaker yet statistically significant correlations, particularly with the activation of alumni networks ($r = 0.421$), suggesting that volunteer and community service initiatives have a direct impact on graduates' ongoing connection to their alma mater.

Furthermore, the collinearity (VIF) statistics are all below 2, demonstrating the absence of problematic multicollinearity and confirming the reliability of the models used to test the structural relationships. The acceptable tolerance and low VIFs reinforce the credibility of the measured links between the dimensions.

Figure 2 presents the results of the Structural Equation Modeling of the second order. It highlights the relationship between retained constructs. The fit indices of the overall structural model in Figure 2 demonstrate a very satisfactory fit. The chi-square to degrees of freedom ratio ($Cmin/df = 2.5$) remains well below the critical threshold of 3, indicating that the model structure is acceptable. The RMSEA index of 0.07 is acceptable according to social science standards. The other fit indices reinforce the robustness of the modeled structure: the GFI (0.906) and the AGFI (0.968) demonstrate a good fit between the observed data and the theoretical model. Comparison indices, such as the CFI (0.952), the TLI (0.940), and the NFI (0.923), all exceed the commonly accepted threshold of 0.90 for validating a satisfactory fit. These results, stable and consistent with previous analyses, confirm that the theoretical model, including the mediation of student engagement, is empirically validated.

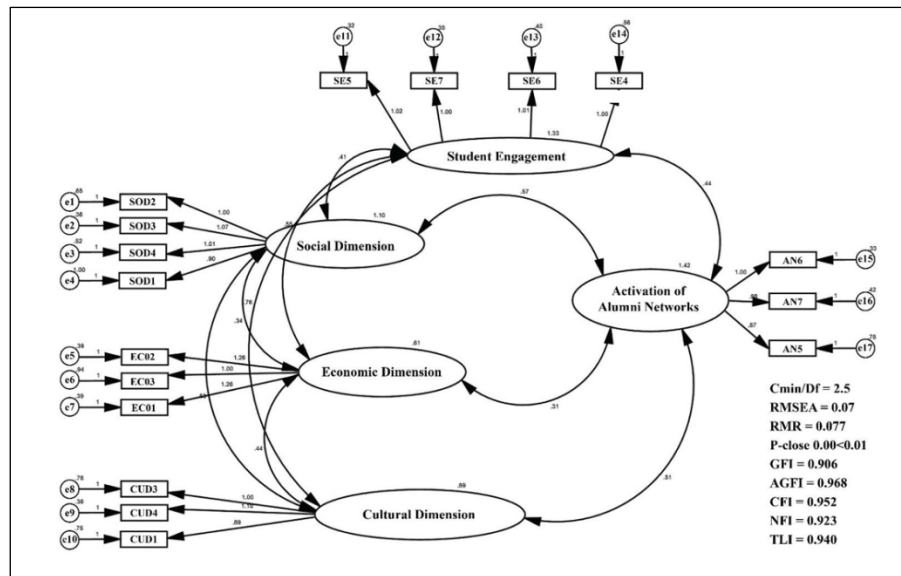


Figure 2: Structural Equation Modeling Connecting Retained USR Dimensions, Student Engagement, and Activation of Alumni Networks (Second Order)

Table 6: Regression Weights of Retained Endogenous Constructs and Their Relationship with Exogenous Latent Dimensions

			Estimate	S.E.	C.R.	P
Social Dimension	→	SOD2	1.000			
Social Dimension	→	SOD3	1.068	.064	16.676	***
Social Dimension	→	SOD4	1.010	.065	15.625	***
Social Dimension	→	SOD1	.895	.072	12.450	***
Economic Dimension	→	ECO2	1.285	.114	11.254	***
Economic Dimension	→	ECO3	1.000			
Economic Dimension	→	ECO1	1.264	.113	11.230	***
Cultural Dimension	→	CUD3	1.000			
Cultural Dimension	→	CUD4	1.105	.081	13.635	***
Cultural Dimension	→	CUD1	.894	.078	11.466	***
Activation of Alumni Networks	→	AN6	1.000			
Activation of Alumni Networks	→	AN7	.979	.051	19.003	***
Activation of Alumni Networks	→	AN5	.867	.054	15.960	***
Student Engagement	→	SE5	1.017	.043	23.369	***
Student Engagement	→	SE7	1.000			
Student Engagement	→	SE6	1.015	.045	22.313	***
Student Engagement	→	SE4	.997	.049	20.209	***

Table 6 displays the regression weights of the retained endogenous constructs and their relationships with the exogenous latent dimensions. It shows that the Social Dimension, Economic Dimension, and Cultural Dimension are exogenous latent variables. The results from second-order structural equation modeling (Table 6) confirm the robustness of the conceptual model by illustrating highly significant relationships between the indicators and their latent dimensions, even after removing the lowest-performing items. All regression weights are

statistically significant ($p < 0.001$), which empirically validates the construction of the social, economic, cultural, student engagement, and alumni network activation dimensions. Comparatively, the economic dimension has the highest weights, particularly for the item related to improving employability ($ECO2 = 1.285$) and supporting educational projects ($ECO1 = 1.264$), which highlights the decisive impact of economic actions perceived as tangible, concrete, and beneficial for the student community. In contrast, the social dimension, while still significant,

displays slightly lower weights, particularly for item SOD1, which relates to strengthening ties between the university and the community (0.895), suggesting a more moderate perception of concrete social benefits. The cultural dimension demonstrates a pronounced emphasis on promoting local culture, with weights ranging from 0.894 to 1.105. Student engagement emerges as a pivotal dimension, with regression loadings exceeding 0.997 and reaching a peak of 1.017 for activities associated with new graduates (SE5), indicating a sustained sense of attachment. Alumni networks also exhibit substantial weights, reflecting graduates' eagerness to maintain

involvement, particularly when their contributions are acknowledged (AN6 = 1.000) or when they perceive professional benefits (AN5 = 0.867). Table 7 presents the analysis of hypotheses using structural equation modeling of the first order. This table summarizes the path analysis to examine the direct and indirect effects of constructs. This table highlights graduates' perception of how the university's social responsibility dimensions influence the activation of alumni networks, either directly or through student engagement. The results offer an effective reasoning of the dynamics within Lebanese universities in northern Lebanon.

Table 7: Regression Weights used for Hypothesis Testing

			Estimate	S.E.	C.R.	P	Label
Social Dimension	→	Activation of Alumni Networks	0.299	0.053	5.63	0.00	Supported
Economic Dimension	→	Activation of Alumni Networks	0.122	0.058	2.09	0.00	Supported
Cultural Dimension	→	Activation of Alumni Networks	0.262	0.057	4.62	0.00	Supported
Social Dimension	→	Student Engagement	0.230	0.045	3.51	0.00	Supported
Economic Dimension	→	Student Engagement	0.406	0.049	8.30	0.00	Supported
Cultural Dimension	→	Student Engagement	0.531	0.048	11.14	0.00	Supported
Student Engagement	→	Activation of Alumni Networks	0.315	0.054	5.85	0.00	Supported
Social Dimension	→	Activation of Alumni Networks	0.660	0.010	6.80	0.00	Supported
Student Engagement	→	Activation of Alumni Networks	0.000	0.009	.004	0.997	Rejected
Economic Dimension	→	Activation of Alumni Networks	0.000	0.009	.004	0.997	Rejected
Student Engagement	→	Activation of Alumni Networks	0.000	0.009	.004	0.997	Rejected
Cultural Dimension	→	Activation of Alumni Networks	0.210	0.009	2.20	.020	Supported
Student Engagement	→	Activation of Alumni Networks	0.210	0.009	2.20	.020	Supported

Table 7 shows the results of hypothesis testing with regression weights. The first hypothesis tested concerns the direct effect of the social dimension on the activation of alumni networks. With an estimated weight of 0.299 and strong significance (CR = 5.63; $p < 0.001$), this relationship is supported. This indicates that the social actions undertaken by the university, such as volunteering, community projects, or solidarity events, directly foster a sense of belonging and the desire of graduates to remain connected to their institution. In comparison, the economic dimension has a more modest direct effect (0.122), although it is statistically significant (CR = 2.09; $p < 0.001$). Therefore, economic initiatives, such as financial aid, have a real but less decisive impact on

the postgraduate bond compared to social dynamics. In contrast, the cultural dimension ranks intermediate, with a weighting of 0.262 (CR = 4.62; $p < 0.001$), underscoring the importance of cultural and identity initiatives in fostering strong alumni relationships.

Regarding the mediating effects via student engagement, the results confirm that this variable plays a central role. The social dimension has a significant influence on student engagement ($r = 0.230$). Hence, results propose that the more students feel involved in the social sphere of their university, the more actively they tend to engage. The economic dimension, with a weighting of 0.406, exerts a stronger influence, suggesting that access to concrete opportunities (jobs, internships,

scholarships) further strengthens student investment. However, it is the cultural dimension that has the most pronounced effect on engagement (0.531), indicating the ability of cultural activities to emotionally anchor students in their academic journey.

The direct effect of student engagement on network activation is also significant and robust (0.315, CR = 5.85; $p < 0.001$), confirming that the more involved a student is in university life, the more likely they are to remain active after graduation. Analysis of indirect effects completes this picture. The social dimension maintains a strong indirect mediated effect via engagement (0.660, $p < 0.001$), reinforcing the idea that its impacts are mediated by both direct action and the lever of student involvement. In contrast, the indirect effect of the economic dimension is statistically insignificant (0.000, $p = 0.997$), suggesting that the impact of this dimension on alumni does not necessarily mediate through student engagement, but rather operates directly. Finally, the cultural dimension shows a moderate but significant mediated effect (0.210, $p = 0.020$), confirming that cultural activities promote graduate retention by first cultivating their engagement.

In overall comparison, it appears that the cultural dimension is the most powerful in activating alumni networks, both directly and through engagement. The social dimension follows closely, with a significant and convergent dual effect. However, although the economic dimension is relevant, its impact is primarily direct, and its mediating role is negligible. These results thus make it possible to identify clear priorities for action for university decision-makers, highlighting cultural and social initiatives as the foundations of institutional attachment, while continuing to offer credible economic measures with a more operational focus. Student engagement, at the heart of the process, remains the keystone for building a lasting relationship with future alumni.

Discussion

Student engagement is a strategic lever and catalyst for alumni relationships, serving as a bridge between lived experiences and future involvement. This conclusion is based on stakeholder theory, which highlights those students are active stakeholders whose

participation generates mutual value for both the institution and its alumni network (35-43). Likewise, the findings support social capital theory, demonstrating that the bonds and trust established during the student years serve as resources that continue to influence collaboration and solidarity after graduation (5).

Results reinforce the idea that the quality of social relationships during studies shapes post-graduation dynamics. University social responsibility plays a significant role in activating alumni networks, particularly when mediated by student engagement (38). The three retained dimensions of USR (social, economic, and cultural) have a direct effect on student engagement and the activation of alumni networks. Therefore, organizing university responsibility around relational, economic, and cultural commitments creates a sustainable cycle of trust, loyalty, and active engagement of graduates (8, 12, 44). Universities strengthen the social, economic, and cultural aspects of their corporate social responsibility, as these are the areas that shape students' positive perceptions and influence their long-term commitment. The elimination of the ecological dimension, however, highlights an urgent need to reassess or clarify environmental initiatives, which are currently hardly visible or unconvincing (10-12). A comparative analysis of the hypotheses reveals that the cultural dimension has a strong direct and indirect influence on the activation of alumni networks through graduates' engagement. In other words, student engagement mediates the relationship between USR social and cultural dimensions and the activation of alumni networks. However, it fails to mediate the relationship between the economic dimension and this network (15-17). Although financial support initiatives may be valued, they alone cannot sustain graduates' active involvement without the added strength of social bonds and a shared cultural identity. In other words, findings show that without a foundation of social belonging and cultural resonance, economic factors alone do not predict lasting alumni engagement. The validated model shows that when universities take responsible and comprehensive actions, student loyalty increases, even after graduation. This creates a positive cycle between social responsibility, engagement, and the sustainability of their alumni network (41-43).

Compared with previous studies, these findings both converge and diverge. It is supported by studies that report USR promotes student engagement and graduate loyalty (22-24). This study differs from those that focus on the economic aspect as the main driver of student alumni activation. Instead, this study emphasizes the importance of social and cultural factors within the Lebanese context. The differences highlight the significance of local sociocultural contexts in shaping perceptions of USR and how engagement translates into alumni network engagement.

The results obtained in this research partially align with those of recent studies, which confirmed the positive impact of university social responsibility on student engagement (11, 12). However, while results emphasize the economic dimension as the main driver of graduate engagement and loyalty, results reveal a different dynamic in the Lebanese context, where cultural and social dimensions play a more decisive role. This divergence highlights the significance of sociocultural context in shaping perceptions of university actions (22-24).

Lebanese universities possess a functional and coherent framework connecting social responsibility with alumni engagement and mobilization. Results align partially with past studies (46, 47). The three dimensions (social, economic, and cultural) are effectively organized around active student participation, which subsequently fosters the maintenance of postgraduate connections (19).

These outcomes provide university management with a clear strategic direction: to enhance initiatives with high social and cultural visibility, allocate resources to economic support programs such as employment opportunities, scholarships, and mentoring, and, most importantly, to involve students from the start of the program to build a strong alumni network. As a result, this structural model acts as an operational tool for assessment and strategic guidance in developing university social responsibility policies, thereby supporting sustainable graduate retention. The findings demonstrate that universities in Lebanon can boost their social capital by adopting a socially responsible and context-aware approach, thus reinforcing the social capital that sustains active alumni networks and enhances institutional resilience.

This research contributes to the development of practical tools for measuring and evaluating the impact of USR on alumni engagement. These tools are essential for Lebanese universities to implement structured USR initiatives and measure their effectiveness. This research makes a significant contribution to stakeholder theory in the context of higher education institutions. It provides a better understanding of how alumni, as a specific stakeholder, respond to USR initiatives and how this response can be optimized. This practical contribution can facilitate the wider adoption of USR approaches in higher education. This research provides empirical arguments to support the integration of USR into national higher education strategies and its contribution to sustainable development.

It should be noted, however, that this research is not without limitations, three of which seem obvious. First, a limitation of this research is the sample size, which is limited to universities in northern Lebanon; this limitation may affect the relevance of the results. Second, due to the limited time and the unavailability of graduate databases in universities, convenience sampling was employed for data collection. Therefore, the research results may not be generalized. The cross-sectional design limits the ability to measure change rates in alumni behavior regarding engagement and participation rates in activating the alumni network. Future research should consider using longitudinal designs to inspect behavioral changes.

One avenue for future research is to explore the antecedents of alumni networks through qualitative research in the Lebanese context. Further research is desirable to explain the associations between USR and other work-related attitudes, such as motivation, involvement, and commitment. Furthermore, future studies could be designed to examine perceptions of CSR and its relationship with individual performance outcomes, taking into account faculty gender. Lastly, this research could be replicated in other sectors of activity in the Lebanese context.

Conclusion

The objective of this article was to examine the role of university social responsibility (USR) in activating alumni networks, with a focus on the mediating effect of student engagement in

universities in northern Lebanon. Results confirmed that effectively activating alumni networks depends primarily on the quality of the university experience, and more specifically on the alignment between social and cultural values and lived engagement. Therefore, cultural, economic, and social initiatives should not be considered in isolation, but as complementary levers. In particular, the cultural dimension appears to be a powerful vector for long-term mobilization and attachment. University leaders are therefore called upon to invest more in unifying cultural projects, while maintaining solid economic programs and visible social initiatives. By synergistically activating these three levers, universities can strengthen student engagement and alumni loyalty, key elements for building sustainable and dynamic networks.

Universities should strengthen the social, economic, and cultural dimensions of their corporate social responsibility, as these are the areas that shape students' positive perceptions and influence their long-term commitment to the institution. The elimination of the ecological dimension, on the other hand, suggests an urgent need to revalue or clarify environmental initiatives, which are currently barely visible or unconvincing. These findings provide managers with a clear direction: to strengthen practices with strong social and cultural visibility, structure tangible economic partnerships, and foster active and sustainable student engagement as an essential foundation for activating alumni networks.

Results inspire Lebanese university leaders to focus on concrete and visible economic initiatives, which appear to be the most decisive in stimulating student engagement and, ultimately, activating alumni networks. At the same time, cultural and social dimensions should not be overlooked, as they contribute to the overall university experience and strengthen the sense of belonging. It is therefore essential to invest in projects that promote local heritage, strengthen social ties, and provide post-graduation support. The validated model suggests that the more a university acts responsibly and holistically, the greater its student loyalty beyond their academic career, thus creating a virtuous circle between social responsibility, engagement, and the sustainability of its alumni

network. Lebanese universities should develop projects with a strong social impact, including community involvement, volunteering, and solidarity initiatives, that must be institutionalized as integral components of university life to foster a lasting sense of purpose and belonging. Social responsibility initiatives should be structured around a continuous approach, ranging from student integration to their role as active alumni. Such an approach strengthens the reciprocal nature of connections and the sustainability of the university community.

Abbreviations

AN: Activation of Alumni Networks, CFI: Comparative Fit Index, CR: Critical Ratio, CUD: Cultural Dimension, SE: Student Engagement, ECO: Economic Dimension, EFA: Exploratory Factor Analysis, PCA: Principal Component Analysis, RMSEA: Root Mean Square Error of Approximation, SOD: Social Dimension, TLI: Tucker-Lewis Index, USR: university social responsibility, VIF: Variance Inflation Factor.

Acknowledgement

The authors wish to express their gratitude to Jinan University for providing access to its library resources.

Author Contributions

All authors contributed equally to the conceptualization, data analysis, and manuscript preparation of the study.

Conflict of Interest

No conflicts of interest were reported. The authors declare that they have no financial or non-financial conflicts that could have influenced the work presented in this study. They confirm that they have no personal or institutional interests that might affect the results or interpretation of the research, thereby maintaining the scientific impartiality of the study.

Declaration of Artificial Intelligence (AI) Assistance

No generative AI technology or AI-powered tools were used in writing this manuscript. All content is solely the author's work. The scientific integrity and authenticity of the research and writing process have been fully maintained.

Ethics Approval

The ethical guidelines for human subjects, as outlined by the American Psychological Association, were strictly adhered to. The ethics committee approved the data collection tool (questionnaire), but did not provide an official number because it was recently created. This approval ensures that the process meets ethical research standards. Following the Declaration of Helsinki, participants provided informed consent, was informed of their rights, and their responses were handled anonymously to ensure their privacy was safeguarded. The authors created all the figures.

Funding

The authors did not receive any financial support from any funding agency, whether commercial or nonprofit, for the research, authorship, or publication of this article.

References

- George B, Worth M, Pandey S, et al. Strategic management of social responsibilities: a mixed methods study of US universities. *Public Money and Management*. 2024;44(1):15-25.
- Alshihabat K, Atan T. The mediating effect of organizational citizenship behavior in the relationship between transformational leadership and corporate social responsibility practices: Middle Eastern example/Jordan. *Sustainability*. 2020;12(10):1-17.
- Comoli M, Gelmini L, Minutiello V, Tettamanzi P. University social responsibility: The case of Italy. *Administrative Sciences*. 2021;11(4): 1-22.
- Siddiqui K, Al-Shaikh M, Bajwa I, Al-Subaie A. Identifying critical success factors for university business incubators in Saudi Arabia. *Entrepreneurship and Sustainability Issues*. 2021;8(3):267-79.
- Reid S, Muenzen J, Rezvanian R. Value add: A finance case study on how to enhance student learning experience through student managed investment fund and engaged alumni network. *Journal of International Education in Business*. 2020;13(1):131-43.
- Do M, Huang Y. Barriers to university social responsibility implementation in the Vietnamese higher education. *International Journal of Educational Management*. 2023;37(3):647-61.
- Li L. University social responsibility, the level of digital ethics and knowledge about data security: The case of first-year and fifth-year students. *Education and Information Technologies*. 2024;29(12):14733-47.
- Suranta S, Rahmawati R. The role of higher education image and service quality on the effect of university social responsibility (USR) on student loyalty in Indonesia. *Journal of Applied Research in Higher Education*. 2024;16(2):378-90.
- Lytovchenko O. Social responsibility of universities as a tool for community development (analysis of domestic scientific publications). *International Scientific Journal of Universities and Leadership*. 2021;12(20):263-72.
- Pactwa K, Woźniak J, Jach K, Brdulak A. Including the social responsibility of universities and sustainable development goals in the strategic plans of universities in Europe. *Sustainable Development*. 2024;32(5):4593-605.
- Esposito B, Sessa M, Sica D, et al. Corporate social responsibility engagement through social media. Evidence from the university of salerno. *Administrative Sciences*. 2021;11(4):1-15.
- Aversano N, Di Carlo F, Sannino G, et al. Corporate social responsibility, stakeholder engagement, and universities: New evidence from the Italian scenario. *Corporate Social Responsibility and Environmental Management*. 2020;27(4):1892-99.
- Chen C, Vanclay F. Transnational universities, host communities and local residents: social impacts, university social responsibility and campus sustainability. *International Journal of Sustainability in Higher Education*. 2021;22(8):88-107.
- Ali M, Mustapha I, Osman S, Hassan U. University social responsibility: A review of conceptual evolution and its thematic analysis. In *Journal of Cleaner Production*. 2020;286(3):1-43.
- Nardo M, Codreanu G, Roberto F. Universities' social responsibility through the lens of strategic planning: A content analysis. *Administrative Sciences*. 2021;11(4):1-16.
- Sousa J. de Siqueira E, Binotto E, Nobre L. University social responsibility: perceptions and advances. *Social Responsibility Journal*. 2021;17(2):263-81.
- Coelho M, Menezes I. University Social Responsibility, Service Learning, and Students' Personal, Professional, and Civic Education. *Frontiers in Psychology*. 2021;12:1-8.
- Tan P, Rasoolimanesh S, Manickam G. How corporate social responsibility affects brand equity and loyalty? A comparison between private and public universities. *Heliyon*. 2022; 8(4):12. <https://www.sciencedirect.com/science/article/pii/S2405844022005540>
- Leko Šimić M, Sharma E, Kadlec Ž. Students' Perceptions and Attitudes toward University Social Responsibility: Comparison between India and Croatia. *Sustainability*. 2021;14(21):13763. <https://www.mdpi.com/2071-1050/14/21/13763>
- Jie C, Huam H. Predictors of reputation through university social responsibility practices in a Malaysian private university: The customer's perspective. *Jurnal Komunikasi: Malaysian Journal of Communication*. 2019;35(3):316-33.
- Meseguer-Sánchez V, Abad-Segura E, Belmonte-Ureña L, Molina-Moreno V. Examining the research evolution on the socio-economic and environmental dimensions on university social responsibility. *International Journal of Environmental Research and Public Health*. 2020;17(13):4729. <https://www.mdpi.com/1660-4601/17/13/4729>
- Bokhari A. Universities' Social Responsibility (USR) and Sustainable Development: A Conceptual Framework. *International Journal of Economics and Management Studies*. 2017;4(12):8-16.

23. Adel H, Zeinhom G, Younis R. From university social-responsibility to social-innovation strategy for quality accreditation and sustainable competitive advantage during COVID-19 pandemic. *Journal of Humanities and Applied Social Sciences*. 2022;4(5):410-37.
24. Galvão A, Mendes L, Marques C, Mascarenhas C. Factors influencing students' corporate social responsibility orientation in higher education. *Journal of Cleaner Production*. 2019;215:290-304.
25. Ismail T. Does Egyptian universities' disclosure on social responsibility enhance sustainable development? *Journal of Humanities and Applied Social Sciences*. 2019;2(2):81-99.
26. Sharma D, & Sharma R. A review literature on University Social Responsibility initiatives in the global context. *Journal of Emerging Technologies and Innovative Research*. 2019;6(6):27-35.
27. Sasaki T, Horng C. Exploratory study about achievements and issues of university social responsibility — "USR" as a dynamic process. *International Journal of Educational Development*. 2023;102:1-69.
28. Pal S, Sarker P, Odhikari S. Raising Perceptions on Corporate Social Responsibility for Achieving Sustainable Development Goals. *Business and Economic Research*. 2022;12(1):16.
<https://ideas.repec.org/a/mth/ber888/v12y2022i1p116.html>
29. Carrillo-Durán M, Blanco Sánchez T, García M. University social responsibility and sustainability. How they work on the SDGS and how they communicate them on their websites. *Higher Education Quarterly*. 2024;78(3):586-607.
30. Ouragini I, Ben Hassine Louzir A. University social responsibility and sustainable development: illustration of adapted practices by two Tunisian Universities. *Social Responsibility Journal*. 2024;20(6):1177-92.
31. Widianingsih L, Triuwono I, Djamhuri A, Rosidi. University social responsibility from the transformative ecofeminism perspective. *Qualitative Report*. 2022;27(6):1688-1709.
32. Acosta-Gonzaga E. The effects of self-esteem and academic engagement on university students' performance. *Behavioral Sciences*. 2023;13(4):348.
<https://pubmed.ncbi.nlm.nih.gov/37102862/>
33. Olson N, Oberhoffer-Fritz R, Reiner B, et al. Study related factors associated with study engagement and student burnout among German university students. *Frontiers in Public Health*. 2023;11:1-10.
34. Hanaysha J, Shriedeh F, In'airat M. Impact of classroom environment, teacher competency, information and communication technology resources, and university facilities on student engagement and academic performance. *International Journal of Information Management Data Insights*. 2023;3(2):1-12.
35. Latif K. The Development and Validation of Stakeholder-Based Scale for Measuring University Social Responsibility (USR). *Social Indicators Research*. 2018;140:511-47.
36. Hwang Y, Ko Y, Shim S, et al. Promoting engineering students' social responsibility and willingness to act on socioscientific issues. *International Journal of STEM Education*. 2023;10(1):1-16.
37. Reichel J, Rudnicka A, Socha B. Perspectives of the academic employees on university social responsibility: a survey study. *Social Responsibility Journal*. 2023;19(3):486-503.
38. Song M, Guo L, Shen J. The relationship between alumni network and exploratory innovation: the mediating role of enterprise risk-taking. *Sustainability*. 2023;15(22):1-18.
39. Cheong H, Kim J, Munkel F, Spilker H. Do social networks facilitate informed option trading? Evidence from alumni reunion networks. *Journal of Financial and Quantitative Analysis*. 2022;57(6):2095-139.
40. Tang M, Yang C, Baskaran A, Tan J. Engaging alumni entrepreneurs in the student entrepreneurship development process: A social network perspective. *African Journal of Science, Technology, Innovation and Development*. 2020;12(5):619-29.
41. Liu J. Alumni network, CEO turnover, and stock price crash risk: evidence from China. *Cogent Economics and Finance*. 2022;10(1):1-25.
42. Qi T, Li J, Xie W, Ding H. Alumni Networks and Investment Strategy: Evidence from Chinese Mutual Funds. *Emerging Markets Finance and Trade*. 2019;56(11):2639-55.
43. Ding F, Riccucci N. The value of alumni networks in responding to the public administration theory and practice: Evidence from the COVID-19 pandemic in China. *Administrative Theory and Praxis*. 2020;42(4):588-603.
44. Baroncelli A, Bolzani D, Landoni, M. Mapping the engagement of alumni organisations in entrepreneurship education and support at UK universities. *International Journal of Management Education*. 2022;20(2):1-14.
45. Machado C, Reyes G, Riehl E. Alumni Job Networks at Elite Universities and the Efficacy of Affirmative Action. *SSRN Electronic Journal*. 2022;1(1):1-72.
46. El-Kassar A, Makki D, Gonzalez-Perez M. Student-university identification and loyalty through social responsibility: A cross-cultural analysis. *International Journal of Educational Management*. 2019;33(1):45-65.
47. Kadi L, Moukarzel D, Daccache S. Students' Engagement for Better Learning at a Lebanese Francophone University: A Case Study. *Middle Eastern Journal of Research in Education and Social Sciences*. 2021;2(1): 99-118.
48. Al Am A. The Lebanese Students' Awareness on the Concept of Corporate Social Responsibility. *Athens Journal of Business & Economics*. 2020;6(4):331-48.

How to Cite: Najjar RE, Massoud M, Hijazi B. University Social Responsibility and the Activation of Alumni Networks: The Mediating Effect of Student Engagement. *Int Res J Multidiscip Scope*. 2025; 6(4):692-710. doi: 10.47857/irjms.2025.v06i04.07170