ASSESSING THE STUDENT IMPACT OF HIGHER EDUCATION MERGERS: INSIGHTS FROM METALLURGICAL AND MATERIALS SCIENCE PROGRAMS IN ROMANIA

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Abstract

As mergers between higher education institutions increasingly become a global phenomenon, the existing literature has largely emphasized institutional performance, governance structures, and policy-driven outcomes, while the perspectives of students remain marginally addressed. This study provides a student-centered analysis of a large-scale university merger in Romania, focusing on students from the Faculty of Materials Science and Engineering. In this context, the establishment of the National University of Science and Technology POLITEHNICA Bucharest represents both a potential paradigm shift and an illustrative case for universities in Central and Eastern Europe. The study examines students' perceptions of the merger process, with particular attention to perceived advantages, challenges, and implications for educational quality, access to academic and research resources, and overall student experience. Using a student-centered analytical approach, the findings reveal that students are active and informed participants in the institutional transformation, perceiving the merger not merely as an administrative reorganization but as a strategic initiative aimed at enhancing the university's national and international positioning. The results indicate a predominantly positive assessment of the merger's outcomes, especially regarding the diversification of academic programs, improved research and educational infrastructure, increased institutional prestige, and strengthened academic competitiveness within the field of Materials Science and Engineering. At the same time, the analysis identifies critical challenges related to resistance to change, legislative instability, and the absence of a clearly articulated long-term institutional strategy. By foregrounding student perspectives in a technical and engineering-oriented academic field, this study extends the current literature on higher education mergers beyond institution-level metrics and contributes empirical evidence on the sociocultural dimensions of organizational transformation. Overall, the findings highlight the importance of integrating student voices into merger strategies and offer relevant insights for policymakers, academic leaders, and researchers concerned with the sustainable governance of higher education institutions.

Keywords: Higher education, mergers, students perspective, management system, metallurgical and materials science

1. INTRODUCTION

In the current socio-economic context, considering the demographic changes in Europe, as well as the AI shift that transforms all industries and domains, the higher education systems are facing the need for growth strategies that straighten their position as well as their financial status. Romania is a European country underrepresented in the leading global university rankings, which raises internal concerns about the quality of higher education, research performance, and the lack of effective support policies. The low international competitiveness of Romanian universities is often linked to fragmented resources and limited research productivity [1]. In response to these challenges, the 2023 merger between POLITEHNICA University of Bucharest and the University of Pitești, which created the National University of Science and Technology

POLITEHNICA Bucharest, represents a major step toward reshaping the Romanian higher education landscape. This paper examines the merger from the students' perspective. Using the Faculty of Materials Science and Engineering as a case study and survey data collected from students, we assess the merger's impact on students enrolled both before and after the merger. The findings highlight key factors influencing integration success and provide evidence-based recommendations that may be informative for future university and research institution mergers across Central and Eastern Europe. Although university mergers have been studied in higher education research for nearly five decades, most work has focused on integration processes and outcomes widely framing mergers as strategic responses aimed at improving international visibility, research performance, and institutional competitiveness [2]. Very few papers focus on student experiences. Romanenko [3] is one of the few that offers important insights into how university mergers shape student experiences through organizational, cultural, and procedural changes. The study show that mergers significantly affect academic and social life, including adjustments in teaching, assessment, infrastructure, and institutional culture, as well as perceptions of university reputation. In this study, students reported challenges related to changes in facilities, accommodation, academic staff, and evaluation standards, which were interpreted either as necessary upgrades or as unfair disruptions. Communication issues also emerged due to differing institutional cultures, especially when students from smaller or practice-oriented universities integrated into large research-intensive institutions. Overall, students' perceptions were strongly linked to institutional status and degree value rather than formal rankings, with responses differing depending on their original university background. These findings help explain how mergers influence student experiences, complementing institutional-level analyses of policy and performance outcomes. In Russia, university mergers have been a key instrument in restructuring and modernizing higher education, aimed at consolidating institutions to improve efficiency, teaching quality, and research performance. The process included a state-driven phase targeting underperforming universities and a voluntary phase focused on strengthening regional institutions, reflecting global trends toward autonomy and world-class standards. Despite persistent challenges such as skills mismatches, low international rankings, limited research impact, financial constraints, and few English-taught programs, evidence shows that mergers have improved institutional performance and reduced gaps with leading universities. Policies promoting restructuring have increased competitive pressure, with actively involved universities achieving better performance outcomes [4,5]. In Romania, university mergers are a relatively recent development, emerging mainly after the 2011 higher education law, although early initiatives were constrained by unclear legal frameworks. The first major public merger occurred in 2011 between the Technical University of Cluj-Napoca and the University of the North in Baia Mare, followed by subsequent absorptions of smaller institutions by larger universities, including Babeș-Bolyai University in 2020. The most significant transformation took place in 2023, when POLITEHNICA University of Bucharest merged with the University of Pitești, forming the National University of Science and Technology POLITEHNICA Bucharest under Law no. 186/2023. This merger established a large, multidisciplinary institution with multiple campuses, expanded academic structures, and a broad range of study programs, extending beyond engineering fields. It is part of a broader strategic vision to develop a national-level university capable of integrating additional institutions and research centers over time, strengthening regional development, research capacity, and international visibility [6,7]. With a substantial student and staff body, diversified programs, research infrastructure, and industry partnerships, the university aims to respond to demographic decline and increasing internationalization pressures. In this context, the POLITEHNICA Bucharest merger represents a landmark step toward a new higher education model in Romania, oriented toward multidisciplinary integration, regional engagement, and improved global competitiveness.

2. RESEARCH PURPOSE, OBJECTIVES AND METHOD

The purpose of this study is to investigate how students of the Faculty of Science and Materials Engineering perceive the institutional merger established under Law no. 186/2023, which created the National University of Science and Technology POLITEHNICA Bucharest through the integration of the Politehnica University of

Bucharest and the University of Pitești. The study aims to identify key information sources regarding university activities, perceived advantages of the merger, and main implementation challenges, as well as to assess its impact on admissions, teaching processes, and institutional functioning, with a view to informing future development strategies. Data was collected through an online questionnaire designed in Microsoft Forms and administered in March 2025. The survey included 14 items (13 closed-ended and one open-ended), combining multiple-choice and Likert-scale questions (1 = strongly disagree, 5 = strongly agree), and required approximately 5 minutes to complete. The questionnaire followed a branching design, with different response paths depending on students' enrollment status before or after the merger, as well as on the faculty of origin for post-merger students (either one of the merging institutions or another university). This structure allowed for a comprehensive and differentiated analysis of student perceptions, ensuring a more complete understanding of how the merger is experienced across distinct academic cohorts and institutional backgrounds. The questionnaire also gathered basic demographic data and included items on students' institutional affiliation and experience, while the open-ended question captured qualitative feedback and improvement suggestions. Participation was voluntary, anonymous, and compliant with GDPR standards, with all respondents informed about the study's objectives prior to participation.

3. RESULTS AND DISCUSSIONS

The survey conducted among students of the Faculty of Materials Science and Engineering offers a detailed perspective on how academic communities interpret and respond to large-scale institutional change. Beyond quantitative distributions, the findings also capture the cultural and symbolic dimensions of the merger, highlighting how structural transformations are reflected in students' perceptions, identities, and experiences of the university environement. In the academic year 2024–2025, the Faculty of Materials Science and Engineering enrolled a total of 1,217 students, including 570 at bachelor's level, 452 at master's level, and 195 doctoral students. 348 students completed the online survey, representing 28.59% of the total student population. The response rate was 31.60% for bachelor's and master's students combined and 12.82% for doctoral students. Of all respondents, 92.82% were enrolled in bachelor's or master's programs, while 7.18% were doctoral candidates. Regarding enrollment cohort, 184 respondents (52.87%) were admitted after the 2023 merger, while 164 respondents (47.12%) were enrolled before the merger at either POLITEHNICA University of Bucharest or the University of Pitești. In terms of gender distribution, 50.29% of respondents were male, 49.14% female, and 0.29% identified as other. The age structure shows that 16.38% were under 20 years old, 40.80% were aged 20–24, 8.62% were 25–29, 7.76% were 30–34, 9.77% were 35–39, 7.18% were 40–45, and 9.48% were over 45 years old. Analysis of students' responses regarding information sources about the institutional merger that created the National University of Science and Technology POLITEHNICA Bucharest indicates that academic staff represented the primary communication channel (37.38%), followed by official communications from university management (23.74%). Informal discussions with peers and online sources each accounted for 15.51% of responses, while traditional media played a relatively limited role (7.60%). These findings suggest that formal institutional communication mechanisms were effective in disseminating information about the merger, with academic staff acting as key intermediaries between university leadership and students. At the same time, the importance of peer networks and online resources highlights the complementary role of informal and digital communication channels in shaping students' understanding of the institutional transformation. Given the questionnaire's branching structure, students enrolled after the merger were directed to a distinct set of questions. Responses from the 184 post-merger students indicate that the creation of the new university had a strongly positive influence on their decision to enroll at the Faculty of Materials Science and Engineering, with most dimensions evaluated at the highest levels of agreement (**Figure 1**).

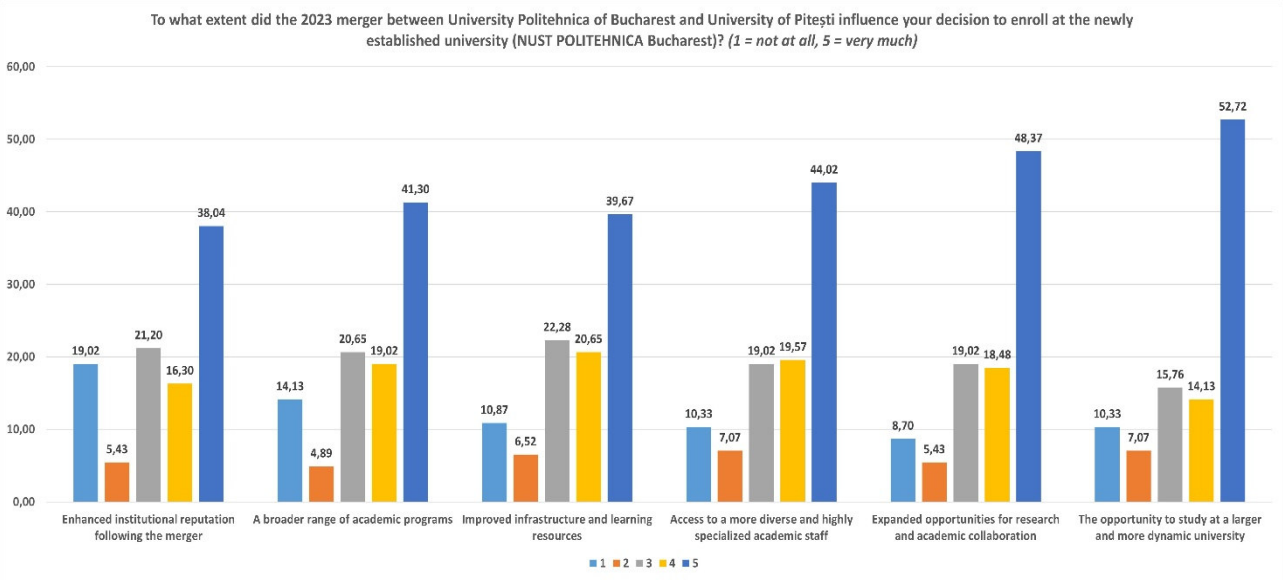


Figure 1 The perception of students of the Faculty of Materials Science and Engineering enrolled post-merger regarding influence of merger on their decision to enroll

Responses from the 164 students enrolled at the Faculty of Materials Science and Engineering prior to the merger indicate that the institutional transformation had a substantial impact across all major areas of university activity. As shown in **Figure 2**, teaching activities were perceived as the most strongly affected dimension, with 65.24% of respondents selecting the highest level of impact, followed by extracurricular activities (64.63%), research activities (62.20%), administrative processes (57.32%), institutional management (56.72%), and financial-administrative operations (53.05%). Overall, the findings suggest that students perceived the merger as a significant organizational change affecting both academic and support functions of the university (**Figure 2**).

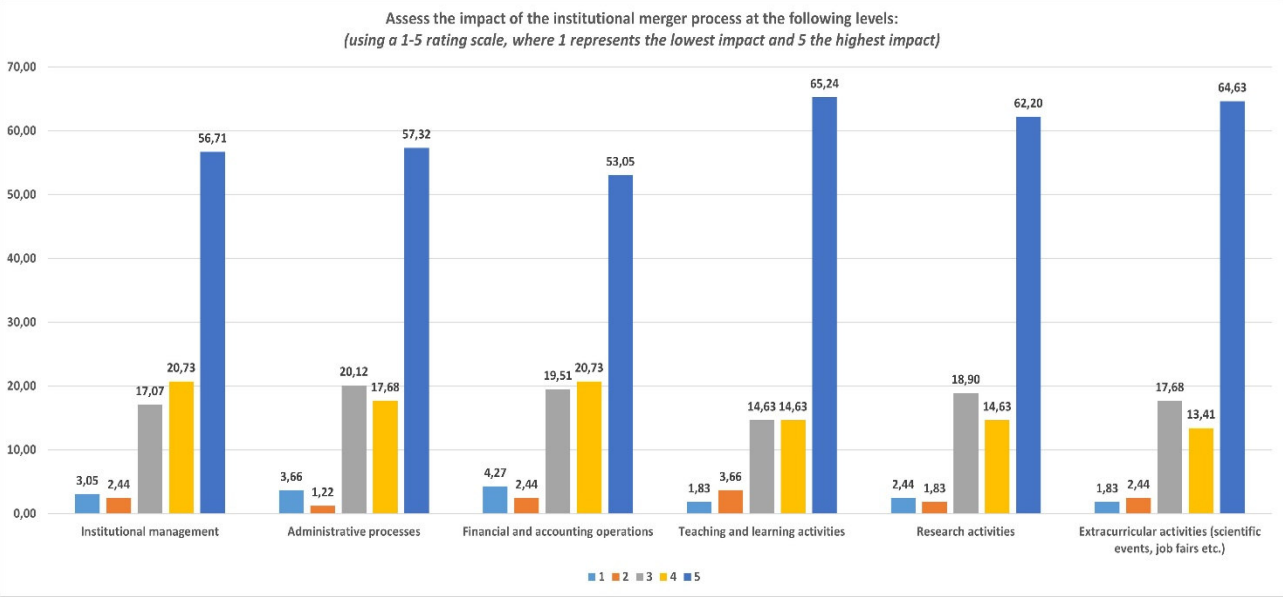


Figure 2 The perception of students of the Faculty of Materials Science and Engineering enrolled prior to the merger regarding the impact of the merger on different aspects

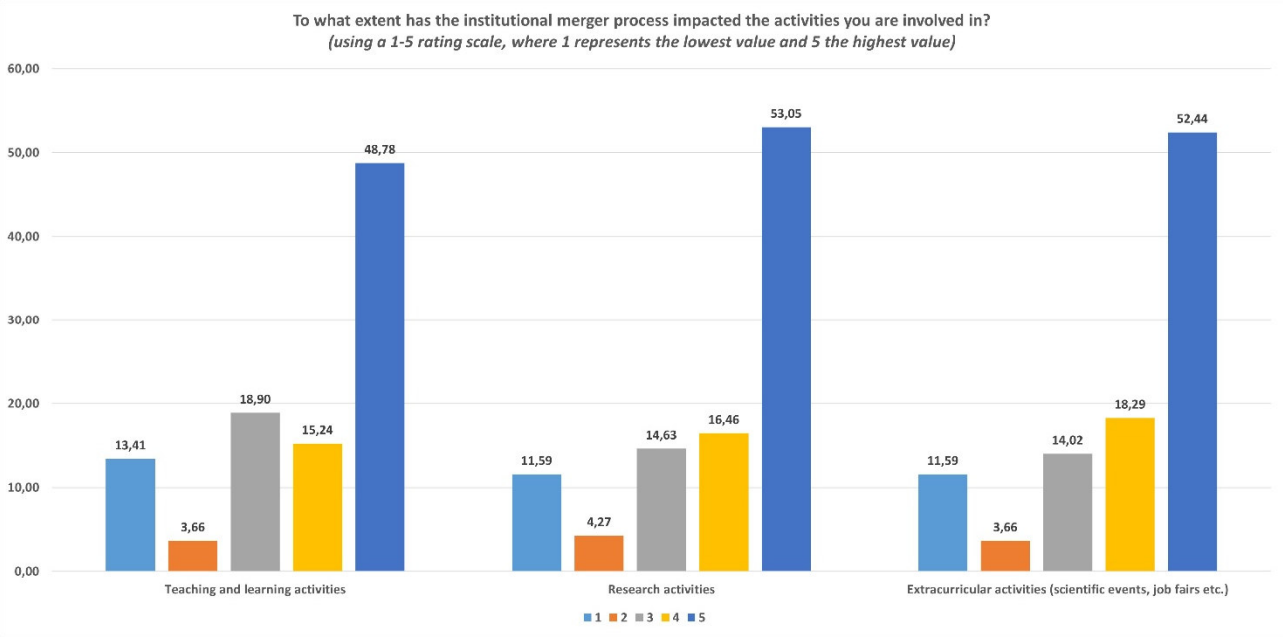


Figure 3 The perception of students of the Faculty of Materials Science and Engineering enrolled prior to the merger regarding the impact of the merger on the activities they are involved in

A separate item asking students enrolled post merger to indicate at what extent the institutional merger affected the activities they were involved in shows that students perceived the merger as having a substantial impact on the activities. For all three dimensions examined, the hihest proportion of respondents selected the maximum score (5), namely 53.05% for research activities, 52.44% for extracurricular activities and 48.78% for teaching and learning activities (**Figure 3**).

By centralizing the open-ended responses collected from 348 students who completed the questionnaire, which allowed them to provide recommendations and proposals for improving the quality of teaching and research activities within the university, the following categories of suggestions were identified, ranked hierarchically: positive remarks (4.59%); improvement of teaching strategies (8.90%); increased investment in educational infrastructure (8.33%); better balance between theory and practice, with a stronger emphasis on practical activities (7.75%); enhanced communication with students and better use of their feedback (6.60%); advanced digitalization (5.49%); development of human resource competencies (5.49%); increased investment in research (4.59%); institutional management-related recommendations (4.59%); development of inter-institutional and international collaborations (3.73%); and no recommendations provided (47.41%).

A dichotomous-response item was used to assess students' perceptions of the university expansion strategy through future mergers with other universities. The results reveal overwhelming support for this approach: 92.24% of respondents considered the strategy appropriate, while only 7.76% expressed an opposing view. These results indicate strong acceptance of institutional growth through mergers and suggest that students generally view expansion and consolidation as positive for the university's future development.

4. CONCLUSION

The research shows that, within the Faculty of Materials Science and Engineering at the National University of Science and Technology POLITEHNICA Bucharest, the institutional merger implemented under Law No. 186/26 June 2023 is viewed positively by students. Perceptions show that the merger is seen not only as an administrative change, but as a strategic step to strengthen the university's national and international position. Students enrolled after the merger state that their choice of university was positively influenced by this process,

while those enrolled before the merger acknowledge its beneficial effects. Future research will extend this methodology to the wider student population of the university, enabling a broader validation of the findings and their alignment with the stages of institutional development strategy. In addition, the study aims to enrich the academic literature by offering a comprehensive and well-documented analysis of the university merger process and it seeks to generate practical insights and recommendations that can support other higher education institutions in managing similar merger initiatives, with the results serving as a useful reference for decision-makers, academic staff, and experts involved in university governance and transformation.

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