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# MAPPING CANDIDATE ATTRITION ACROSS A TECHNICAL INTERNSHIP ASSESSMENT PIPELINE

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## ABSTRACT

The growing demand for technically proficient graduates in the information technology sector has intensified competition in internship recruitment, prompting organizations to adopt multi-stage assessment pipelines designed to filter candidates efficiently. While such pipelines are widely used, the patterns of candidate attrition across successive stages remain poorly documented in academic literature, particularly in the context of Eastern European higher education markets. Understanding where and why candidates disengage, whether due to lack of preparation, self-selection, or structural barriers, is essential for designing fairer and more effective selection processes. This study aims to quantify and analyse candidate drop-off across a two-stage technical assessment pipeline used in the selection of technical developer interns (specifically targeting PL/SQL programming competencies), and to identify systematic patterns related to institutional affiliation, academic level, and domain of study. The analysis draws on a recruitment dataset comprising 456 applicants from three major Romanian universities: the University Politehnica of Bucharest (UPB), the Academy of Economic Studies (ASE), and the University of Bucharest (UNIBUC), spanning undergraduate years B2 through B4 and master's years M1 and M2. The pipeline consisted of two sequential instruments: a general cognitive and aptitude screening via TestGorilla, followed by a domain-specific technical assessment via Getik. Candidate outcomes were classified across four distinct states, namely a failed attempt (FAIL), assigned to candidates who did not engage with the assessment at all, a valid numerical performance score (SCR), a did-not-complete status (DNC), assigned to candidates who started but did not finish the assessment, and a retired status (RET), assigned to candidates who withdrew during the stage, enabling funnel-level attrition analysis at each transition point of the pipeline. Attrition rates were computed as stage-level conversion ratios and compared across institutional and cohort dimensions using descriptive and comparative statistical analysis. The data reveal substantial and progressive attrition throughout the pipeline. At the TestGorilla stage, 31.6% of applicants recorded a zero score indicating non-participation, while an additional 13.2% did not complete the test, leaving only 55.3% of the total pool with a positive score and a mean of 57.2 points. Progression to the second stage was highly selective, as only 79 candidates were invited to the Getik assessment, of whom 22 did not complete it and 9 were retired, yielding 48 candidates with a valid technical score, representing a final conversion rate of 10.5% of the original applicant cohort. The mean score among successful Getik participants rose to 64.5 points, consistent with a positive selection effect across stages. Analysis by academic year reveals that B3 students exhibited the highest first-stage pass rate at 64%, compared to 50 to 53% for B2, B4, and M1 cohorts. At the institutional level, candidates from UPB's Faculty of Automatic Control and Computer Science and UNIBUC's Faculty of Mathematics and Informatics demonstrated stronger pipeline progression, while ASE-affiliated profiles showed higher rates of non-completion at the technical validation stage. The findings indicate that the dominant form of attrition in this pipeline is early-stage disengagement rather than failure under assessment conditions, a distinction with significant practical implications for recruitment design. The high non-attempt rate at the TestGorilla stage suggests that

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a substantial proportion of applicants may apply without genuine commitment or adequate technical preparation. Furthermore, the steep drop between the two assessment stages, from 252 candidates with a valid first-stage score to only 48 with a confirmed technical result, points to a structural bottleneck that may warrant redesign through threshold calibration, intermediate self-assessment instruments, or targeted pre-application guidance. These results contribute empirical evidence to the growing literature on recruitment analytics and talent pipeline optimization, and offer actionable recommendations for IT organisations seeking to improve internship selection efficiency without compromising technical quality standards.

**Keywords** internship recruitment · candidate attrition · technical assessment pipeline · PL/SQL · funnel analytics · higher education

## **References**

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