

Impact of Open Access on Scholarly Visibility: A Case Study of Institutional Repositories

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Abstract. This study investigates the impact of open science on academic visibility by analyzing the GCRIS IZTECH platform as a case study. Quantitative data from early 2026 indicate that GCRIS's interoperable architecture is associated with increased global views and downloads. Integrating research outputs into unified ecosystems is essential for international scalability.

Keywords: Open Science, Open Access, GCRIS IZTECH, Institutional Repositories, Academic Visibility.

1 Introduction

The global transition to Open Science (OS) has fundamentally redefined the metrics of academic success and institutional prestige. In an era characterized by information saturation, the openness of scientific knowledge has shifted from a peripheral ethical consideration to a primary determinant of academic visibility and scientific engagement.

The impact of Open Access (OA) on scholarly visibility is well documented, with the literature consistently reporting a citation advantage and higher interaction rates for unrestricted publications. However, achieving these benefits depends significantly on the technical infrastructure supporting research dissemination. Traditional passive repositories are increasingly inadequate in environments that require high discoverability and metadata interoperability. Modern Current Research Information Systems (CRIS), such as the GCRIS platform, provide a more dynamic solution by establishing an integrated ecosystem for diverse research outputs.

This study examines how the GCRIS platform, developed by Research Ecosystems, a company located in IZTECH Technopark, enhances academic visibility at the Izmir Institute of Technology (IZTECH). By analyzing empirical data collected at the beginning of 2026, the research evaluates the impact of the platform's interoperable architecture on global interaction rates for various scholarly outputs, including articles, datasets, and theses. The results indicate that consolidating research within an integrated ecosystem substantially increases visibility, leading to higher download metrics and broader international reach. The GCRIS IZTECH experience provides a concrete model for institutional digital transformation and offers a strategic framework for evaluating how modern infrastructure can elevate academic success on a global scale.

This paper is structured into five sections. Following this introduction, Section 2 reviews OA literature. Section 3 outlines IZTECH's Open Science leadership and the GCRIS infrastructure. Section 4 examines the platform's impact on visibility and performance through case studies. Section 5 presents the conclusion and evaluation.

2 The Role of Open Access in Enhancing Visibility and Scientific Interaction

A comprehensive understanding of the transformative impact of modern infrastructures such as GCRIS requires contextualizing the theoretical foundations and historical evolution of the Open Access (OA) movement. The present focus on integrated research ecosystems represents the culmination of decades of advocacy for unrestricted knowledge dissemination.

Within this framework of global dissemination, the creation of value in academia depends not only on the generation of knowledge but also on its effective utilization. OA constitutes a strategic shift that facilitates the unrestricted circulation of scientific outputs in the digital environment. As articulated in the Budapest Open Access Initiative (2002), removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge.

The literature extensively documents the practical implications of these principles. Tennant et al. (2016) report that OA provides multidimensional benefits across academic, economic, and societal domains. Academically, OA confers a notable citation advantage and enhances global visibility, allowing research to reach wider audiences without financial barriers. Economically, OA supports innovation by enabling small enterprises and practitioners to access current research and alleviating financial pressures on institutional libraries. Additionally, OA is instrumental in advancing global equity by narrowing the knowledge gap between developed and developing countries, thereby fostering a more inclusive and efficient system of scientific communication.

Consistent with these findings, Kumar and Bansal (2008) highlight the transformative impact of OA on scholarly communication. They contend that OA articles reach broader and more diverse audiences by eliminating paywall barriers. The immediate and unrestricted dissemination of knowledge via digital platforms not only increases the visibility of individual research outputs but also accelerates the global spread of scientific discoveries, contributing to a more dynamic and responsive research environment.

Recent discipline-specific studies further substantiate these theoretical predictions. For example, a scientometric analysis published in the *Postgraduate Medical Journal* (PMJ) found that open-access articles achieve significantly higher citation counts, page views, and PDF downloads compared to subscription-based articles (Yi et al., 2024). The study identifies a statistically significant, independent, and direct correlation between OA status and increased visibility. These results demonstrate that OA publishing

not only removes access barriers but also substantially enhances the scientific visibility and overall scholarly impact of research articles.

Examining the practical outcomes of OA, Miles (2016) reports that approximately 66% of OA literature demonstrates a clear citation advantage. Across disciplines, publications in either Green or Gold OA formats exhibit, on average, 50% greater research impact than paywalled articles. The Human Genome Project exemplifies how immediate public data release can drive significant advancements in economics, public health, and genetics. Currently, Altmetrics, which track article engagement across social media, news outlets, and blogs, further illustrate the substantial public interest and societal awareness generated by OA studies.

A large-scale global analysis by Piwowar et al. (2018) found that OA articles receive, on average, 18% more citations than closed-access articles. This citation advantage is especially evident in Green and Gold access models, indicating that depositing research in institutional repositories is a strategic approach for enhancing both academic career progression and global visibility.

Although these studies demonstrate a clear 'OA advantage,' the extent of this effect increasingly depends on the technical interoperability of the hosting platform. This dependency highlights the need for a detailed analysis of specialized systems such as GCRIS.

3 Institutional Context: Izmir Institute of Technology (IZTECH)

Izmir Institute of Technology (IZTECH), established in Izmir in 1992, represents the only high-technology institute model in Türkiye. Recognized as one of Türkiye's leading research universities, IZTECH comprises the Faculties of Engineering, Science, and Architecture, in addition to the Graduate School. According to 2025 data, IZTECH employs 233 faculty members, 449 research and teaching assistants, and 357 administrative staff, supporting 5,972 undergraduate and 1,275 graduate students at the master's and doctoral levels (İYTE Strateji Geliştirme Daire Başkanlığı, 2026). The institute produces approximately 500 publications annually. According to 2025 Scopus publication data, IZTECH ranks second among public universities in Türkiye for publications per faculty member (İYTE, 2026).

Beyond its educational mission, IZTECH functions as Türkiye's primary technology hub. Initiatives including Teknopark Izmir, the Informatics Valley, and Integrated Research Centers foster collaboration between academia and industry. IZTECH is the sole state university in Türkiye designated as a UNESCO Center of Excellence, emphasizing R&D-driven development and the cultivation of future scientific leaders.

3.1 The Pioneering Role of IZTECH in Open Science and the GCRIS Platform

The theoretical benefits highlighted in the literature, together with the catalytic role of open access in facilitating scientific interaction, require a strategic transformation of

institutional infrastructure. At the national level in Türkiye, the Izmir Institute of Technology (IZTECH) provides the most concrete and pioneering example of this transformation, having led the national open science movement through international projects since 2008. In 2021, moving beyond traditional repository structures, IZTECH leveraged its decade-long expertise to transition to the GCRIS platform—Türkiye’s first research information system compliant with international standards. This transition signifies more than software modernization; it institutionalizes the objectives of integration into global networks and interoperability within a comprehensive ecosystem. (Gürdal et al., 2023)

Developed by Research Ecosystems, an R&D and technology company founded in 2021, within the IZTECH Technopark under the strategic support and vision of the IZTECH administration, GCRIS has provided a definitive solution to the challenge of 'interoperability' and seamless data exchange between disparate systems—one of the most significant gaps in Türkiye’s academic infrastructure. While initially designed to meet IZTECH’s institutional needs, this locally developed system rapidly expanded beyond national borders due to its world-class standards (Tuglular et al., 2022). As of March 2026, GCRIS IZTECH has established itself as an internationally recognized research information system, preferred by 20 universities in Türkiye and 1 university in Kazakhstan.

3.2 Establishing Global Integration Through OpenAIRE

IZTECH’s open science initiatives have been shaped by the OpenAIRE projects (OpenAIREplus, OpenAIRE 2020, and OpenAIRE Advance), which define Europe’s scholarly communication infrastructure. As the only university from Türkiye to participate in these projects between 2011 and 2021, IZTECH integrated international experience into the GCRIS infrastructure. The institution’s role as a founding member of the OpenAIRE AMKE association in 2019 (Bulut et al., 2020), together with the appointment of IZTECH Library Director Gültekin Gürdal to the Board of Directors, was instrumental in ensuring that GCRIS was developed as a world-class system, fully compliant with euroCRIS and OpenAIRE guidelines.

3.3 Visibility and Strategic Decision-Making

The integration of the modern DSpace 7.6.2 architecture within GCRIS, alongside IZTECH’s active participation in OpenAIRE, ensures that academic publications produced at the institute achieve rapid global indexing. This process enhances international research visibility and maximizes citation potential. Additionally, the system’s data-driven analytical tools allow university administration to monitor researcher and departmental performance using objective criteria and to conduct strategic planning.

The GCRIS open science infrastructure at IZTECH surpasses traditional repositories by providing a comprehensive research ecosystem that interconnects projects, patents, awards, events, laboratory equipment, and researcher profiles, thereby digitalizing institutional memory. This integrated structure ensures that research funded by taxpayers is transparently disseminated to society, promoting the democratization of knowledge.

Evidence from Tennant et al. (2016) and Sastrón-Toledo et al. (2024) demonstrates that making publicly funded research accessible is now an economic necessity rather than a preference.

GCRIS IZTECH facilitates rapid, accurate indexing of scientific outputs by global search engines, thereby enhancing the institution's and its researchers' international visibility. Accessibility is further enhanced by a dedicated mobile application and a GCRIS AI assistant that streamlines the research workflow. It allows scholars to perform a range of scholarly tasks via natural language interaction, such as conducting instant publication queries, tracking citation summaries, and monitoring h-index metrics. By offering a seamless mobile interface and an adaptable AI assistant, the system not only preserves institutional memory but also significantly accelerates the global dissemination and discoverability of knowledge.

The following sections of this study will examine the visibility, access statistics, and scholarly impact of open-access publications through case studies in the GCRIS IZTECH system.

4 The Transformative Power of GCRIS on Researcher Visibility and Institutional Academic Performance

4.1 Case Studies and Implementation Outcomes

To evaluate the impact of IZTECH's open science vision on the GCRIS platform, the general landscape of articles and review-type publications—the institute's primary scientific outputs—was first examined. As of March 17, 2026, the total number of articles and review-type publications registered in the GCRIS IZTECH system was 6,901. Of these publications, 5,956 (86.31%) are open access. This remarkably high open-access rate is a concrete indicator of how effectively the 'Mandatory Open Access Policy' adopted by the IZTECH Senate is being implemented at the institutional level.

The statistics presented in Table 1 extend beyond numerical representation, reflecting the breadth and diversity of the institute's intellectual ecosystem. The GCRIS IZTECH platform functions as a multidimensional knowledge hub, integrating scholarly outputs, a notable Open Access ratio, researchers, organizational units, funded projects, and advanced research equipment that collectively drive innovation. To demonstrate the tangible impact of this diverse infrastructure on institutional visibility, an analysis was conducted on publications with the highest engagement levels, using pageviews and downloads as primary indicators of global reach.

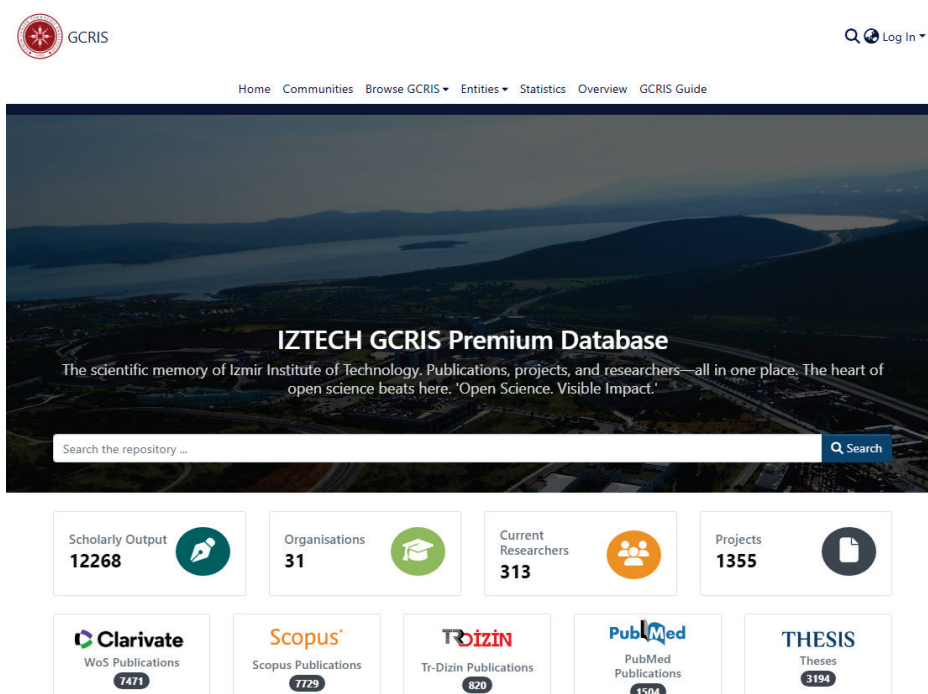


Fig. 1. GCRIS IZTECH user interface showcasing real-time engagement metrics and scholarly impact data.

Table 1. Overall landscape of GCRIS IZTECH (17 March 2026).

Entities in GCRIS IZTECH	Value
Scholarly Outputs	12.268
Open Access Publications	10.562 (OA rate: 86,12%)
<i>Publication types:</i>	
- Journal articles + review	6.901 (OA rate: 86,31%)
- Thesis (Master and Doctoral)	3.194
- Conference Object	1.480
- Book Part	303
- Presentation	76
- Other (Editorial, Correction etc.)	314
Researchers	539
Organizational Units	31
Projects	1.355
Awards	238
Equipments	323

Events	9
Patents	17

Analysis of Table 2 indicates a non-linear yet significant relationship among views, downloads, and citation counts. Data from the GCRIS IZTECH platform demonstrate the global impact of academic output across three key dimensions: visibility, usage, and scientific impact:

Table 2. Most Downloaded and Viewed Publications on the GCRIS IZTECH Platform (17 March 2026).

Publication Title / Author(s) / Publication Type / Publication Year	Total Downloads	Total Pageviews	Citation Count (Scopus / WoS / OpenCitations)	Altmetrics
Measuring the Impact on Children Engagement in Research / Alkozai, Wahdat / Research Proposal / 2021	30.803	53.694 <i>Rank: 1</i>		
Experimental data showing the thermal behavior of a flat roof with phase change material / Basaran, Tahsin / Data Paper / 2015	92.286 <i>Rank: 1</i>	52.060 <i>Rank: 2</i>	4 / 3 / 3	
Flow Cytometry: Basic Principles and Applications / Nalbant Aldanmaz, Ayten, et al. / Article / 2017	40.451 <i>Rank: 3</i>	51.840 <i>Rank: 3</i>	698 / 625 / 641	18
Dynamic Replication Strategies in Data Grid Systems: A Survey / Ayav, Tolga / Article / 2015	30.485	48.179 <i>Rank: 4</i>	31 / 24 / 21	
Cell Proliferation and Cytotoxicity Assays / Adan Gökbulut, Aysun, et al. / Article / 2016	36.837 <i>Rank: 4</i>	48.072 <i>Rank: 5</i>	470 / 426 / 381	13
Internet of things simulation using cisco packet tracer / Thera, David / Master Thesis / 2020	53.533 <i>Rank: 2</i>	41.386		
Introduction To Machine Learning / Baştanlar, Yalın, et al. / Book Chapter / 2014	35.705 <i>Rank: 5</i>	37.358	406 / 299 / 307	6

Global Visibility and Accessibility Performance. Achieving over 37,000 views for each of the most-viewed publications demonstrates the system's technical effectiveness and underscores the importance of open access for a range of academic outputs, including research proposals, book chapters, and datasets. The modern architecture of GCRIS IZTECH, along with its comprehensive integration with global search engines such as Google Scholar and international networks like OpenAIRE, facilitates worldwide discovery of publications.

Notably, the top two most-viewed publications are a "Research Proposal" and a "Data Paper," rather than conventional articles. This trend highlights researchers' demand for access to raw data and project methodologies, and illustrates how GCRIS IZTECH advances scientific transparency by providing access to this content.

The high interaction rates for publications detailing fundamental methods and concepts, such as *"Flow Cytometry: Basic Principles and Applications,"* *"Cell Proliferation and Cytotoxicity Assays,"* and the book chapter *"Introduction to Machine Learning,"* indicate that the system serves as a comprehensive reference resource for both advanced researchers and a broader audience, including graduate students and technical experts.

A chronological analysis reveals that the most downloaded and viewed publications in the entire GCRIS IZTECH are concentrated between 2015 and 2021. This highlights GCRIS IZTECH's institutional effectiveness in achieving rapid visibility for contemporary research while simultaneously maintaining high-impact accessibility for archival data. These findings indicate that GCRIS extends the scholarly longevity of publications, ensuring that academic impact is sustained over time and contributes to a continuous cycle of global engagement.

Usage Dynamics: From Viewing to Downloading. When we deepen the analysis of interaction on GCRIS IZTECH, it is observed that publications are not only "discoverable" but also possess a high degree of "usability." An examination of the top five most downloaded publications reveals a significant overlap with the highest view counts, indicating a strong correlation between these engagement metrics.

The data paper titled *"Experimental data showing the thermal behavior of a flat roof with phase change material"*, which ranks second in views, leads the download list with 92,286 downloads. Its download count, nearly double its view count (52,060), demonstrates the high re-use value of the information. This indicates that researchers are not only reading but also downloading the publication to incorporate the data into their own calculations or models. This case exemplifies the importance of open data for scientific transparency and efficiency, and aligns with IZTECH's Research Data Management vision.

The master's thesis titled *"Internet of Things Simulation Using Cisco Packet Tracer"*, which ranks second among the most downloaded items with 53,533 downloads, demonstrates the enhanced visibility that institutional repositories provide to early-career researchers. The elevation of such works, which often remain obscure in commercial databases, into global reference sources through GCRIS is a clear example of the democratizing effect of open access.

“Flow Cytometry: Basic Principles and Applications”, “Cell Proliferation and Cytotoxicity Assays” rank highly on both view and download lists. This suggests that publications containing methodologies and laboratory protocols serve as essential reference sources and are frequently archived by researchers for repeated use.

The download count of 35,705 for a book chapter suggests that researchers and students retain this content as a handbook or core reference. The high download rate of book chapters, which are typically longer and more detailed than articles, reflects the enduring value of long-form content.

When download statistics are examined chronologically, it is seen that the GCRIS system does not merely place IZTECH's academic production in a momentary showcase but keeps a decade-long accumulation dating back to 2014 as an active part of the global research ecosystem. This finding is the strongest evidence that institutional repositories maximize the impact of scientific knowledge by making it time-independent.

Academic and Social Impact: Citation Relationship. The effectiveness of open science is assessed not only by the "discovery" (viewing) or "recording" (downloading) of publications, but also by the extent to which these interactions result in citations within subsequent academic works. Analysis of citation data for the most downloaded publications on GCRIS demonstrates a direct correlation between high usage rates and academic impact. The most notable finding in the table 2 is that high interaction directly translates into high citation counts.

“Flow Cytometry: Basic Principles and Applications” (698 Scopus / 625 WoS citations) and *“Cell Proliferation and Cytotoxicity Assays”* (470 Scopus / 426 WoS) studies exemplify publications with the highest ratio of downloads to citations. These findings indicate that open-access methodological guides are not only widely read but also serve as foundational reference sources in subsequent research. By providing digital access to these essential scientific methods, GCRIS has significantly increased the citation potential of IZTECH researchers internationally. The substantial number of Open Citations for these publications (641 and 381) further demonstrates the system's strong integration with open data networks.

Notably, the data paper with the highest number of downloads (92,286) received only 4 citations. This suggests that researchers primarily utilize data papers as "raw material" for validating models or conducting analyses, rather than for traditional citation purposes. These findings demonstrate that data possesses a "re-use value" beyond citation, and that open science advances scientific transparency through such mechanisms.

Book chapters typically function as introductions to a subject or as comprehensive reviews. The observation that *“Introduction to Machine Learning”*, a book chapter, received over 400 citations illustrates how GCRIS IZTECH enhances the citation potential of foundational literature by providing open access. Information that would otherwise remain restricted within paid book sets has been made widely available through GCRIS, resulting in increased citation impact.

Furthermore, the Altmetric scores associated with the publications in the table 2 (e.g., 18 and 13) indicate that these studies are discussed not only in academic literature but also in external media, including social media, news outlets, and policy documents.

4.2 Case Analysis: Citation Trends of the "Introduction to Machine Learning" Publication

A citation analysis of the book chapter “*Introduction to Machine Learning*” offers a compelling case study of the impact of depositing scholarly works into an institutional repository. Comparing its citation trajectory from 2014 to 2025 against its inclusion in the GCRIS IZTECH platform in 2021 reveals a distinct difference between the pre-integration and post-integration periods. The data indicate that, although the publication experienced steady citation growth since 2014, its integration into GCRIS IZTECH in 2021 acted as a catalyst, markedly increasing its academic performance and international visibility as reflected in enhanced engagement metrics. The specific breakdown of this citation growth before and after the GCRIS integration is presented in Table 3.

Table 3. Scopus Citation Analysis of the "Introduction to Machine Learning" Publication.

Period	Total Citations	Average Annual Citations
2014 - 2020 (Pre-GCRIS) (7 years)	94	13,43
2021 - 2025 (Post-GCRIS) (5 years)	310	62

An analysis of the publication's Scopus citation trend from 2014 to 2025 indicates that 2021, the year of the transition to GCRIS at IZTECH, represents a significant turning point. This data can be examined in terms of citation momentum, visibility, and the author's academic success as follows:

Citation Momentum: Pre- and Post-GCRIS IZTECH.

- **During the pre-GCRIS period (2014–2020)**, the publication accumulated 94 citations, resulting in a consistent yet modest average of 13.4 citations per year.
- **In the post-GCRIS period (2021–2025)**, following the 2021 implementation of GCRIS IZTECH, citation growth increased substantially. Over five years, the publication received 310 citations, raising the annual average to 62.
- **Strategic Leap:** The transition to GCRIS resulted in a 4.6-fold increase (362%) in the average annual citation rate. The citation count rose from 30 in 2020 to 50 in 2021, the year the platform began to be used, indicating the system's rapid impact on the publication's global visibility.

The Relationship Between Visibility and Downloading.

- **Converting Accessibility into Academic Authority:** A clear correlation exists between the chapter's 35,705 downloads and its subsequent increase in citations. GCRIS's advanced infrastructure enabled the publication to overcome the paywall barriers associated with traditional commercial databases. By maintaining free and easy access to the work, GCRIS supported a seamless progression from initial discovery to formal citation, thereby establishing the chapter as a global reference point.

- **Sustained Academic Longevity:** Securing 75 citations in 2023 for a 2014 publication underscores GCRIS's capacity to preserve and re-vitalize institutional memory. This demonstrates that GCRIS maintains research in active circulation for over a decade, ensuring that archival content remains a relevant and 'fresh' resource for the global scientific community.

Author Impact and Institutional Reputation.

- **Academic Leverage Effect:** The 4.6-fold increase in annual Scopus citations, rising from an average of 13.43 to 62, substantially enhances the h-index potential of the authors (Baştanlar, Y. and Özuysal, M.). Although Baştanlar, Y. (Scopus h-index: 15) and Özuysal, M. (Scopus h-index: 11) already possess established academic profiles, this GCRIS-driven growth serves as a strategic catalyst, strengthening their scientific authority in machine learning and expediting their progress toward higher academic impact metrics.
- **Institutional Prestige:** The visibility-citation cycle facilitated by the GCRIS platform solidifies IZTECH's standing as a leading hub for the global scholarly communications cycle. This expanded reach directly bolsters the university's reputational capital, positively influencing its performance and standing in international university rankings.
- **Altmetric Support:** The Altmetric score (6) achieved by the publication demonstrates that its academic impact extends beyond scholarly articles to include social and digital media platforms.

In summary, a 362% increase in total citations for the analyzed book chapter, alongside a 4.6-fold rise in the annual citation average, demonstrates that the platform functions not merely as an archiving tool but as a 'lever' that amplifies academic visibility and influence. This paradigm confirms that the technical 'discoverability' of a publication directly facilitates its 'usability' (downloading), which subsequently drives increased academic impact, as measured by citations. By eliminating 'access barriers' to academic content, the cycle enabled by GCRIS can reposition even decade-old works at the forefront of current research.. Accordingly, these data provide robust evidence that institutional investment in digital visibility yields exponential benefits, ranging from the strengthening of researchers' global profiles to the enhancement of the university's international reputation.

Analysis of Global Impact and Geographic Distribution. Analysis of viewership data across countries for the publication 'Introduction to Machine Learning' reveals that leading science and technology nations—including the United States, China, Germany, France, Japan, South Korea, and the United Kingdom—make up the core of the engagement network. This trend indicates that the content remains highly relevant across major global academic markets. The data further demonstrate that GCRIS has successfully positioned IZTECH-originated research at the center of the global scientific community. The platform's extensive reach across Europe, Asia, the Americas, and Australia highlights its function as a strategic channel for the transnational dissemination of IZTECH's scientific output. Furthermore, engagement from regions such as Brazil,

Egypt, and Colombia exemplifies the potential of Open Science to facilitate the unrestricted distribution of knowledge across international borders. This broad geographical participation affirms that GCRIS serves as a 'global equalizer', ensuring that high-quality research is accessible to scholars regardless of their geographic location or institutional resource constraints.

4.3 Technical Governance and the Impact of Academic & AI Bots

The increase in visibility and engagement on GCRIS IZTECH is largely attributable to its high level of interoperability with automated web clients. Nevertheless, maintaining this level of openness in a rapidly changing digital landscape presents significant technical challenges. International evidence, as outlined in the report *The impact of AI bots and crawlers on open repositories: Results of a COAR survey, April 2025* (Shearer & Walk, 2025), indicates a marked escalation in aggressive bot activity, primarily linked to generative AI models harvesting data for training purposes. The survey identifies bot traffic as a global crisis for Open Access repositories, noting that "badly-behaved" bots often ignore the Robots Exclusion Protocol (robots.txt) and overwhelm infrastructures with excessive network requests. The report further states that over 90% of repositories regularly encounter predatory bots, while 80% experience direct service disruptions. These disruptions include performance degradation and excessive CPU usage, which may result in elevated server temperatures and, in some instances, complete system failures that necessitate manual intervention. In response to this persistent "arms race," approximately 50% of institutions have implemented defensive measures such as IP blocking, rate limiting, or the deployment of "AI Labyrinths." However, these methods frequently function as a "blunt instrument," causing "collateral damage" by unintentionally restricting access for legitimate researchers and essential academic indexers (Shearer & Walk, 2025). This unintended consequence undermines the global visibility that platforms like GCRIS are intended to promote.

In alignment with COAR's conclusion that no single solution is sufficient (Confederation of Open Access Repositories, 2026), GCRIS utilizes a proactive, human-in-the-loop governance model to manage these threats. Instead of relying exclusively on static filters, GCRIS is overseen by a specialized technical task force that ensures system adaptability. Continuous monitoring across all infrastructure layers enables the rapid detection of traffic spikes or anomalous behaviors. When problematic bots are identified, the team implements targeted interventions—such as dynamic firewall updates and refined filtering rules—to block malicious actors while maintaining uninterrupted access for approved scholarly bots and human users. By sharing these technical insights with the COAR Dealing With Bots Task Group, GCRIS contributes to the development of more effective defense strategies within the broader Open Science community.

5 Conclusion and Evaluation

Within the scope of this study, data obtained from GCRIS—the institutional repository of the Izmir Institute of Technology (IZTECH)—demonstrates the transformative impact of Open Access on scholarly visibility and engagement. The observed correlation among views, downloads, and citation metrics indicates that the GCRIS platform serves not only as a technical archive but also as a strategic asset that enhances IZTECH's global reputation.

Beyond visibility, GCRIS IZTECH provides critical strategic decision support for the university's broader research objectives. By providing granular data, the platform enables the systematic monitoring of research performance at both individual and faculty levels. This traceability facilitates the identification of institutional strengths, more effective resource allocation, and targeted support for high-impact research areas.

In summary, GCRIS has evolved from a local repository into an international ecosystem that transcends traditional archiving by seamlessly connecting projects, datasets, and researcher profiles. By adhering to the COAR Next Generation Repositories vision, GCRIS positions IZTECH at the forefront of a paradigm shift where repositories are no longer passive silos but active, interconnected participants in the global scholarly communication ecosystem. IZTECH's leadership in this field provides a sustainable, traceable, and high-impact Open Science model, serving as a benchmark for other higher education institutions in Türkiye and beyond.

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