

Article

Beyond Teaching and Research: Measuring the Societal Impact of Universities

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Abstract

Higher education institutions face growing pressure to demonstrate and quantify societal contributions beyond research and teaching; this study addresses measurement challenges for third-mission activity by developing both a conceptual typology and a practical assessment framework. We developed a four-dimension typology—research-based impact, teaching-based impact, campus-management-anchored impact, and administrative infrastructure—that synthesizes the existing literature while drawing attention to under-examined areas such as campus operations and institutional support. Methodologically, we synthesize the literature, analyze national and international best practices, and design an assessment approach that combines individual case studies and evidence-based questionnaires with automated metrics applied in multi-year cycles. We demonstrate that the typology reflects a broad range of impact pathways and argue that the proposed framework balances rigor and feasibility while surfacing key measurement tensions—breadth versus depth; general-purpose versus domain-specific metrics; input versus output indicators; levels of analysis; and assessment burden versus outcome quality. We conclude with actionable recommendations for academic staff, institutional leaders, and national agencies to integrate third-mission activities into evaluation and funding systems, offering a methodological toolkit that may support impact assessment into HEI evaluation without overstating conclusions.

Keywords: higher education institutions; third-mission activities; societal impact; impact-assessment framework; evaluation metrics



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1. Introduction

Within modern society, higher education institutions (HEIs) are entrusted with three principal missions (Leydesdorff & Etzkowitz, 1998; Hart et al., 2009; Zomer & Benneworth, 2011). The first mission is to generate new knowledge through research and thereby expand the frontiers of science, technology and the humanities. The second mission is to teach, educate and cultivate capable graduates and informed citizens.

Beyond the traditional research and teaching realms, the third HEI mission encompasses forms of externally oriented engagement that apply academic expertise and institutional resources to societal, environmental, cultural, and economic challenges (Nowotny et al., 2001; Sachs, 2012). While research and teaching may generate societal impact indirectly, third-mission activity refers to intentional, community-facing contributions that extend beyond routine scholarly and instructional responsibilities.

To avoid conceptual conflation, we distinguish between (a) societal impact arising from first- and second-mission activities and (b) third-mission activities, which involve intentional collaboration with external stakeholders beyond routine academic duties. Hence, activities such as publishing research, delivering coursework, or supervising graduate students fall within the first two missions, even when they generate indirect societal benefits.

Third-mission activities apply academic expertise through structured interactions with external stakeholders to produce tangible societal outcomes. These activities include, among others, community development partnerships; youth, adult, and prison education programs; clinical and advisory services; service on national regulatory and advisory committees; cultural programming; non-commercial knowledge transfer; and collaborative initiatives with local governments, NGOs, and civil society organizations. In recent years, there is a growing interest in HEI's societal contribution, driven by heightened public scrutiny of HEI expenditures ([Higher Education Policy Institute, 2022](#); [Organisation for Economic Co-Operation and Development \[OECD\], 2023](#)), the proliferation of global issues such as climate change and social inequality ([Filho et al., 2024](#)) and evolving policy frameworks linking institutional funding with demonstrated societal impact ([Research England, 2019](#); [European Commission, 2023](#); [Brewis & Marginson, 2024](#)).

Despite the increasing demands being made by national funding agencies for universities to demonstrate their wider contributions to society, there remains an absence of standardized global definitions of what those societal contributions entail. In light of this diversity of standards, several universities have developed innovative models that highlight public impact beyond research and teaching. Notably, Utrecht University in the Netherlands, the University of Vienna in Austria, and Arizona State University have introduced frameworks that strategically integrate societal impact into academic planning, faculty development, and performance evaluation systems ([Dabars & Dwyer, 2022](#); [Gal & Weiss-Gal, 2023](#); [de Jong & Spaapen, 2023](#); [Getz et al., 2024](#); [Klein et al., 2025](#)). While these examples represent important institutional advances, they remain exceptions that underscore a broader pattern: the formal support, measurement and incentivization of third-mission activities is still largely absent from mainstream public academia.

The limited inclusion apparently stems from strategic, cultural, and structural determinants. Promoting third-mission activities may signal that traditional missions are being deprioritized, particularly among research-intensive universities where prestige and funding are dependent on scholarly output ([Etzkowitz & Leydesdorff, 1998](#); [Hart et al., 2009](#); [Gal & Weiss-Gal, 2023](#)). Moreover, effectively incentivizing third-mission activities requires extensive organizational transformation, including overhauling evaluation criteria and reshaping institutional culture ([Getz et al., 2024](#); [Klein et al., 2025](#)). Many national frameworks lack policy structures prioritizing university-driven societal engagement ([Zomer & Benneworth, 2011](#)), leaving institutions without systemic incentives for large-scale impact-centered reforms.

Additionally, other non-government institutions have developed systems for assessing HEI performance that evaluate all three missions, including the direct effects of third-mission activities on society. These include the Carnegie Elective Classification for Community Engagement (CI-CCE) in the United States, Times Higher Education's Impact Ranking (THE-IR)¹, and the Clarivate framework for evaluating societal impact of research (CL-SIR)². Despite the annual participation of thousands of universities in these aforementioned evaluations and TMAI measurement initiatives, substantial challenges remain. For instance, the different systems currently in use assign varying levels of importance to each of the three missions. Indeed, third-mission activities involving societal engagement lack a definitive form. Hence, a great deal of ambiguity remains when theorizing the boundaries between the first and second HEI missions (research and teaching) and the realm

of the third mission. For example, some frameworks focus on appraising research-based knowledge transfer, while others track forms of curricular-driven community engagement.

While existing models mostly delineate the types of activities that can be assessed, they tend to overlook key areas of real-world impact, such as the transfer of knowledge to non-commercial organizations. At the same time, the scholarly literature and current practices present a range of measurement approaches but generally circumvent the inherent challenges of implementation—particularly the trade-offs between qualitative and quantitative methods, and the administrative burdens (and ensuing costs) involved in managing these processes at both institutional and national levels. Additionally, as there are no internationally recognized definitions or officially classified categories of what constitutes third-mission activities, it is difficult to effectively measure extra-academic contributions to societal well-being. Consequently, without standardized global metrics, national agencies are reluctant to include TMAI in funding schemes. Similarly, universities are hesitant to include third-mission activities in hiring and promotion processes so that HEI personnel have limited incentives to engage in activities extending beyond core research and teaching responsibilities (Hazelkorn, 2015; Wróblewska et al., 2023).

Responding to these issues, our paper draws the boundaries and maps the landscape of university impact measurement while offering actionable recommendations for national agencies seeking to incorporate impact assessment into their HEI performance evaluation programs. We present two avenues for addressing the shortcomings highlighted above. First, we offer a flexible, heuristic typology that synthesizes the existing literature and practice, providing institutions with an adaptable structure for conceptualizing and assessing third-mission activities. We stress that the proposed typology is not intended as a universal model but rather as one possible organizing framework that may assist institutions seeking greater clarity in conceptualizing third-mission activities. Second, we propose an extensive yet operational assessment framework that balances multiple methodological tensions while building on proven approaches from existing national models.

Thus, the structure of the paper reflects these contributions: Section 2 reviews the prior literature on the conceptualization of third-mission activities and describes our methodological approach. Section 3 presents our refined typology of third-mission activities. Section 4 reviews prominent national TMAI assessment frameworks, mapping their relation to our typology, as well as discusses implementation challenges and inherent tensions. Section 5 outlines our proposed TMAI assessment framework with specific recommendations for various stakeholders. Section 6 discusses the paper's contributions to the literature and offers practical recommendations for national agencies that regulate, supervise or fund HEI.

2. Background and Methodological Approach

2.1. Literature Review: Conceptualization of Third-Mission Activities

In the current era, traditional metrics centered on publication counts and citation rates are increasingly regarded as insufficient for measuring broader social impact (Molas-Gallart et al., 2002; Bautista-Puig et al., 2022; Filchenko et al., 2024; Cam & Chung, 2025). As such, HEIs must navigate a dense landscape wherein it is necessary to maintain research and teaching excellence while also effectively articulating third-mission societal impact activities (Hart et al., 2009; Compagnucci & Spigarelli, 2020; Miller et al., 2021). Yet, despite their growing centrality, third-mission activities are generally left out of university mission statements (Benneworth et al., 2018; Farnell et al., 2020) and are not being formally incorporated into key human resource processes such as hiring, evaluation, and promotion (Marrero et al., 2013; O'Meara et al., 2015; Janke et al., 2023; Lim et al., 2025).

The TMAI concept relates closely to notions of “public engagement” (Hart et al., 2009; Weingart et al., 2021), “external engagement” (Thune et al., 2016), “civil engagement” (Tandon, 2008), and “community engagement” (Driscoll, 2008; Benneworth et al., 2018), yet it distinguishes itself by concentrating on outcomes rather than on the processes of dialogue and participation. While public engagement emphasizes democratization of knowledge and societal dialogue, TMAI assessment draws on the Theory of Change (Weiss, 1995) and Social Return on Investment (Millar & Hall, 2013)—models that are applied to capture societal, economic, cultural, or environmental changes attributed to university activities. Understanding this distinction is crucial for developing metric structures that scrutinize tangible impact (outcomes) rather than merely focusing on engagement activities (processes). Nonetheless, given that there is much overlap of these contexts, our review of the scholarly literature and practical frameworks extends beyond TMAI to include various forms of HEI public engagement.

An ongoing scholarly discourse explores the measurement of TMAI, offering diverse approaches for evaluating how knowledge generated through HEI third-mission activities is transferred to society (Rowe & Frewer, 2005; Perkmann et al., 2013). Several government-funded agencies have configured policy-oriented toolkits (Hart et al., 2009; Vargiu, 2014)³. Each produced sets of particularized criteria for in-country TMAI evaluations. Prominent among these are the UK’s Research Excellence Framework (UK-REF), the Dutch Strategy Evaluation Protocol (DU-SEP), Australia’s Engagement and Impact Assessment (AU-EIA), and the Impact Framework by New Zealand’s Health Research Council (NZ-IF).⁴

2.2. Methodological Approach and Framework Selection Criteria

To ensure conceptual rigor and transparency, our methodological approach consisted of three stages: (1) selecting national and international frameworks for analysis, (2) conducting a structured comparative assessment of their characteristics, and (3) deriving an integrative typology of third-mission activities through iterative synthesis.

Framework Selection. We adopted explicit criteria to determine which frameworks would be included in our analysis. First, the framework had to be nationally recognized or internationally adopted, ensuring that it reflects established assessment practices rather than isolated institutional initiatives. Second, the framework needed to provide formal documentation—such as methodological guidelines, scoring rubrics, or reporting templates—allowing for systematic comparison. Third, the framework had to include explicit mechanisms for evaluating societal impact, whether through narrative case studies, indicator-based metrics, bibliometric tools, or structured self-assessments. Finally, we prioritized frameworks that have been implemented at scale (e.g., national assessments, global rankings) to ensure relevance for policymakers and HEI leadership. Applying these criteria resulted in the inclusion of UK-REF, DU-SEP, AU-EIA, NZ-IF, CI-CCE, THE-IR, and CL-SIR.

Analytical Procedure. We conducted a structured comparative analysis using a combination of dimension mapping, thematic coding, and cross-framework triangulation. Each framework was examined along a set of analytical dimensions, including: (a) scope of coverage (research, teaching, operations, infrastructure), (b) methodological approach (qualitative, quantitative, mixed), (c) level of analysis (project, organizational unit, institution), (d) type of metrics (input, process, output), and (e) administrative requirements. We coded each framework according to these dimensions and then compared patterns across frameworks to identify convergences, divergences, and conceptual gaps. This process enabled us to systematically evaluate how different systems conceptualize and operationalize third-mission impact.

Derivation of the Typology. The typology presented in Section 2.2 was developed through an inductive, iterative synthesis of the coded framework characteristics combined with insights from the scholarly literature. To implement this qualitative analytical method, we first identified recurring categories of activities across frameworks (e.g., policy influence, knowledge transfer, public engagement). We then clustered these categories using inductive thematic grouping, which allowed us to identify four higher-order domains that consistently appeared across both policy frameworks and academic discourse: impactful research, impactful teaching, impactful campus management, and institutional infrastructure. These domains were refined through repeated comparison with the literature on public engagement, knowledge transfer, and societal impact assessment. The resulting typology therefore reflects both the empirical structure of existing assessment systems and the conceptual distinctions emphasized in prior scholarship. This dual grounding ensures that the typology is both analytically robust and practically applicable for HEI evaluation.

3. Typology of Third-Mission Activities

The boundaries between traditional academic duties and wider societal engagement remain indistinct. The demarcation of the essential activities implicit in first and second HEI missions (research and teaching) and the broad sphere of third-mission societal contributions occurring outside these core domains is fluid (Bornmann, 2013; Baycan, 2013). It is therefore useful to outline a coherent model that establishes a conceptually coherent delineation between the scholarly and societal impacts affected by these three realms.

To address this complexity, we offer a set of guiding questions aimed at clarifying the ambiguities inherent in evaluating this form of societal impact. These guiding questions were derived from recurring ambiguities identified during our cross-framework comparison and from conceptual distinctions emphasized in prior scholarship (Bornmann, 2013; Baycan, 2013). The first question is: “Is the activity a commonly required academic responsibility?”. If so, it can be classified under traditional missions. The second question is: “Could the researcher accomplish this activity without their academic expertise and reputation?”. If so, it likely belongs to their personal sphere. Conversely, if the activity extends beyond routine academic responsibilities yet relies on the individual’s scholarly expertise, it is likely to constitute a third-mission activity. Similarly, we offer recommendations for what constitutes third-mission teaching-based activities.

Our typology synthesizes conceptual distinctions from previous scholarship while providing an inclusive framework for the diversity and complexity of contemporary HEI third-mission activities. As such, our framing of third-mission activities excludes actions that are especially associated with the second mission, such as the education for values (e.g., democracy or sustainability) or student placement within a given workforce. In categorizing third-mission activities, the guiding principle of our typology was the source from which the third-mission impact originates. Namely, we identify the origins of this impact in an HEI’s core activities—research, teaching or campus management—and accordingly define three primary categories of impactful activities: research-based, teaching-based, and operations-based impact.

3.1. Impactful Research Activities

This category includes activities where academic research contributes directly to societal advancement that may directly influence policymakers, practitioners and the general public, thereby generating societal, economic, or environmental benefits.⁵ Our typology comprises four sub-categories of impactful research activities:

- **Shaping Policy and Decision-Making:** University personnel contribute to public policy and institutional reforms by providing evidence-based recommendations, the par-

participation of faculty in advisory boards and/or technical committees and producing policy-relevant research. These suggestions align with ideas posited by [Hart et al. \(2009\)](#) and [Vargiu \(2014\)](#), as well as with frameworks such as the UK-REF (impact case studies), AU-EIA (policy outcomes), NZ-IF (documenting health-related policy uptake and service delivery change), and CL-SIR (tracking the influence of academic work through citations in policy documents, patents, and media). CL-SIR captures this dimension through bibliometric tracking of citations in policy documents and media. The SPRU toolkit ([Molas-Gallart et al., 2002](#)) highlights policy advisory activities relevant for evaluation.

- **Transfer of Knowledge and Best Practices to Practitioners** (including commercialization): This includes consulting, collaborative research, patents, spin-offs, and professional training. This dimension is central to frameworks such as UK-REF, AU-EIA, and THE-IR (notably under SDG 9: Industry, Innovation, and Infrastructure). CL-SIR complements these indicators by capturing citation flows in the patent literature and industry-oriented outputs. The SPRU model also suggests such illustrative activities under commercialization and facility-based services, E3M includes this under the envisioned dimension “Technology Transfer & Innovation” (TTI) and TEFCE addresses this activity under the category of “Engaged Research”.
- **Public Access to Research Knowledge**: Activities include science communication through lectures, workshops, open-access publications, and digital outreach. These may be mapped to Hart’s “public access to knowledge,” SPRU’s suggestion for engagement tools, TEFCE’s “Public Access to Knowledge” and “Academic Staff Engagement” categories, THE-IR’s SDG 4 indicators, and CI-CCE’s co-curricular public education efforts. CL-SIR indirectly supports this dimension through indicators tracking public attention and digital dissemination.
- **Co-Creation and Participatory Science**: Collaborative research involving a broad range of local actors and dynamics including citizen science and research-based collaboration with other non-academic entities (e.g., communities, local government and municipalities) who engage in participatory data collection, community-driven research agendas, and co-production of knowledge.

3.2. Impactful Teaching Activities

This category captures both internal student development and public-facing education. As noted earlier, we exclude from our analysis impactful activities that we deem part of the core teaching responsibilities of universities (i.e., those stemming from the second mission), particularly value-oriented education and student work placements.

- **Internal: University Student Engagement and Development**
 - **Student Engagement** (e.g., student participation in environmental conservation initiatives): Aligned with [Hart et al. \(2009\)](#) and [Vargiu \(2014\)](#), curricular engagement and outreach are emphasized in CI-CCE and THE-IR addresses similar goals under SDG 4. Student engagement is also included in the proposals in SPRU’s toolkit (student-facing public engagement), the E3M project (Continuing Education) and in TEFCE’s model (Engaged Teaching and Learning).
 - **Widening Participation and Promoting Social Mobility** (Equalities and Diversity): Addressed in TEFCE’s “Institutional Engagement”, THE-IR via SDG 10; and is also referenced in CI-CCE through access and inclusion benchmarks and included in the illustrative activities in the SPRU model.

- External: Servicing and Educating the General Public, including Clinical Services and Life-Long Learning.
 - Clinical services, such as health-related services as well as the legal clinics. The integration of public-facing professional services—such as health and legal clinics—within teaching-based third-mission activities reflects the dual nature of these community-oriented initiatives. While these programs provide critical, direct services to the general public, they are fundamentally anchored in the university’s instructional mission as structured environments for student training and experiential learning. This alignment is explicitly recognized in the TEFCE framework under the category of “Community-Engaged Teaching and Learning,” which highlights programs where student learning and community enrichment operate as mutually reinforcing processes (Benneworth et al., 2018; Farnell et al., 2020).
 - Initiatives like MOOCs and community-targeted lectures correspond to lifelong learning indicators in THE-IR, and the “curricular engagement” dimension of CI-CCE. These activities are also part of the dimensions targeted in the E3M and TEFCE frameworks. In this instance we distinguish between knowledge dissemination (research-based) from instruction (teaching-based). That is, while ‘public access to knowledge’ refers to dissemination of research outputs, ‘educating the public’ involves structured pedagogical activities. This distinction aligns with the existing literature.

3.3. Impactful Campus Management Activities

This dimension measures the societal implications of how HEIs manage their facilities and staff. The inclusion of sustainable campus operations within third-mission activities is supported by a growing literature that positions universities as key institutional actors in advancing societal sustainability. Scholars argue that HEIs function as “living laboratories,” where operational practices—such as energy management, waste reduction, procurement policies, and transportation systems—generate measurable environmental and social impacts that extend beyond the campus itself (Cortese, 2003; Lozano, 2011). Moreover, the integration of sustainability initiatives with the UN Sustainable Development Goals (SDGs) underscores their societal relevance, as universities’ operational footprints directly contribute to SDG targets related to climate action, responsible consumption, and sustainable cities (Findler et al., 2019). These perspectives highlight that campus sustainability is not merely an internal management concern but a visible and influential component of the university’s broader societal mission.

- Internal: Sustainability Practices: Efforts to reduce emissions and promote sustainable campus management are captured primarily in THE-IR under SDGs 7, 12, and 13. The SPRU model also identifies institutional sustainability as an area of assessment.
- Internal: Human Resources and Equity Practices: Initiatives to promote a more equitable and just environment for staff and students, for example special programs to help students from underprivileged populations or programs to address gender inequalities among academic staff. Such initiatives are primarily captured in THE-IR under SDGs 5 and 10.
- External: Public Access to Facilities: Providing community access to libraries, cultural spaces, and recreational facilities aligns with the SPRU non-commercial services model, with TEFCE’s “Public Access to University Facilities” and with THE-IR’s indicators (SDG 11).

3.4. Institutional Infrastructure for Supporting Impact

This cross-cutting category evaluates internal mechanisms for facilitating and promoting impactful third-mission activities. The organizational infrastructure includes leadership roles that are dedicated to third-mission activities, public engagement and impact (e.g., impact officers), internal policies for promoting third-mission activities, dedicated funds for impactful research and teaching, and the integration of impactful activities into the promotion criteria of a researcher.

While formal organizational structures such as Knowledge Transfer Offices (KTOs), impact units, and public engagement offices play an increasingly prominent role in supporting third-mission activities, research consistently shows that societal engagement is also strongly shaped by informal, relationship-driven practices among individual academics. Many impactful collaborations emerge not from institutional mandates but from long-standing personal networks, disciplinary norms, or researchers' intrinsic motivations and commitments to societal issues. This creates a structural tension: on the one hand, institutionalization is necessary to provide resources, recognition, and continuity; on the other hand, overly formalized systems may fail to capture or incentivize the organic, trust-based interactions that often underpin effective engagement. Studies highlight that third-mission outcomes frequently depend on academics' personal affinity for outreach, their embeddedness in practitioner communities, and their ability to mobilize informal partnerships that fall outside formal organizational channels. Recognizing this duality is important for designing institutional infrastructures that support, rather than constrain, the diverse ways in which societal impact is generated within HEIs.

These structures are addressed in the SPRU model, which suggests evaluating institutional strategy alignment with public engagement, and in TEFCE's "Institutional Engagement" category. The organizational infrastructure supporting third-mission activities is also central to the CI-CCE framework, which evaluates institutionalization of community engagement through indicators such as strategic alignment and faculty development (Saltmarsh & Johnson, 2020).

In sum, several studies (Hart et al., 2009; Vargiu, 2014) offer broad typologies of public engagement and third-mission activities that often conflate knowledge transfer, student engagement and public education. Additionally, the SPRU (Molas-Gallart et al., 2002), E3M (Soeiro & Montesinos, 2011) and TEFCE (Benneworth et al., 2018; Farnell et al., 2020) models recommend categories such as continuing education, technology transfer, and social engagement. Notwithstanding the contribution of these prior efforts, these models do not offer a fully integrated conceptualization of impactful third-mission activities.

In response, we present here a refined, four-pillar typology, organized around HEI core processes (research, teaching, campus management, institutional infrastructure), that brings together the academic literature and practical evaluation frameworks to propose an actionable typology for impact assessment. Our typology reflects the diversity of university activities that contribute to societal impact. We propose a schema that extends beyond prior research-focused measurement frameworks by including data from campus management strategies and the associated institutional infrastructure for facilitating impact-driven initiatives. This typology provides the foundation for the next section that analyzes the methodological aspects of impact assessment.

4. Mapping Existing Framework to Our Proposed Typology

4.1. Surveying Existing Frameworks for the Assessment of Third-Mission Impact

We analyze prominent national and international frameworks for assessing academic third-mission impact, evaluating their coverage against our suggested typology and assessment characteristics including methodology, frequency, and administrative require-

ments. The examined frameworks include: UK Research Excellence Framework (UK-REF), that evaluates institutional performance using publications, research environment and non-academic impact through peer-reviewed case studies (Martin, 2011; Pinar & Horne, 2022); Dutch Strategy Evaluation Protocol (DU-SEP), assessing quality, relevance, and viability through structured self-assessments (van der Meulen & Rip, 2000); Australian Engagement and Impact Assessment (AU-EIA), requiring narrative case studies and quantitative indicators (Harris & Spickett, 2011); New Zealand Health Research Council Impact Framework (NZ-IF), combining structured narratives with outcome tracking (Haigh et al., 2015); Carnegie Elective Classification for Community Engagement (CI-CCE), emphasizing demonstrable societal changes (Saltmarsh & Johnson, 2020); Times Higher Education Impact Rankings (THE-IR), benchmarking HEI alignment with UN Sustainable Development Goals (Bautista-Puig et al., 2022; Urbano et al., 2025); and Clarivate Societal Impact of Research (CL-SIR), providing bibliometric tools tracking citations in policy documents, patents, and media (Filchenko et al., 2024; Cam & Chung, 2025).

Below, Table 1 summarizes and compares information regarding the coverage and assessment process of these frameworks. Additional details of these various frameworks are provided in a Supplementary Data segment of this article. Several important patterns emerge from our review. First, considerable variation exists in coverage benchmarks: while UK-REF and AU-EIA focus narrowly on research-based impact, THE-IR and CI-CCE extend into teaching, campus management, and institutional infrastructure. Second, frameworks differ in measurement approaches—from structured narratives (UK-REF, NZ-IF) to indicator-based rankings (THE-IR) and automated bibliometric systems (CL-SIR). These differences reflect trade-offs between comprehensiveness, comparability, flexibility, and cost-efficiency. Notably, no single framework offers a truly holistic approach for capturing the full range of impactful activities across all dimensions. This gap highlights the value of exploring more integrated framework that emulates the existing strengths of the models while similarly addressing their limitations.

Although the typology was informed by the frameworks reviewed, its use as an analytical lens is not circular but reflects an iterative synthesis process. The typology was developed by abstracting recurring dimensions across frameworks and integrating them with conceptual distinctions identified in the scholarly literature. Once established, the typology functions as an independent analytical structure that enables systematic comparison of the frameworks, highlighting gaps, inconsistencies, and areas of uneven coverage that are not visible when examining each framework in isolation. This two-stage process, deriving the typology inductively and then applying it deductively, follows established practices in comparative policy analysis and ensures that the typology both reflects existing assessment practices and provides a critical tool for evaluating them (Barnett-Itzhaki et al., 2025). In this sense, the typology does not merely reproduce the frameworks but offers a structured means of revealing their limitations and informing the design of more comprehensive assessment models.

Table 1. Mapping of existing national and international frameworks for impact assessment.

Framework/Dimension	UK-REF	DU-SEP	AU-EIA	NZ-IF	CI-CCE	THE-IR	CL-ISI
Coverage	Selective	Flexible/self-defined	Mixed	Applies only to HRC-funded research	Institutional self-study	Broad (SDG-aligned)	Selective/automated
Impactful Research	Central (case studies)	Included in relevance	Core focus	(Health, policy, and societal impact)	Via engagement	Policy metrics	Bibliometric focus
Impactful Teaching	Indirect	If strategy-aligned	Linked to engagement	Not assessed	Via curricular engagement	SDG 4 (education)	Not assessed
Impactful Operations	Not assessed	Possibly included	Not systematic	Not assessed	Equity, sustainability optional	SDGs 12–15	Not assessed
Administrative Infrastructure	Via environment narrative	Strategic planning	Engagement strategies	Via stakeholder engagement and planning docs	Required in all dimensions	SDGs 16/17	Not assessed
Level of Analysis	Unit, institution	Research groups	Unit, institution	Project	Institution	Institution	Institution/system
Type of Metrics	Output, process	Process (flexible, qualitative)	Mixed	Narratives & indicators	Narratives & indicators	Output + self-report	Output (automated)
Frequency of Evaluation	6–8 years	6 years	Periodic	Multi-stage (mid- & post-project reports)	5–7 years (voluntary)	Annual	Continuous
Evaluation Process	Panel review + case scoring	Self-evaluation + peer review	Expert panel + documentation	Structured narratives + expert review	Structured peer review by a panel	Metric-driven + evidence	Fully automated
Submission Requirements	1 case per 15 staff; ~4000 words	~20–30 page narrative	Case narratives + indicators	Template includes context, outcomes, and impacts	Structured application + documentation	SDG evidence + indicators	None (data mined)
Participation Cost	No fee	No fee	No fee	No fee; internal labor only	No fee; internal labor only	Tiered entry fee	Subscription
Effort	High–Medium	Medium	High–Medium	High–Medium	Medium–Low	Medium	Medium–Low
Faculty Members	Medium	Medium	Medium	Medium	Medium	Low	None
Institution	High	Medium	High	Medium	Medium	Medium	Low
Admin. Agency	High	Medium	High	High	Low	High	High

4.2. Challenges in Measuring the Impact of Third-Mission Activities

As noted, operationalizing and measuring third-mission HEI impact presents a set of multifaceted challenges. Despite increased attention from policymakers, funding bodies, and institutional leaders, there is no universally accepted methodology for assessing the scope, quality, and effectiveness of HEI contribution to society. Detailed below, the review of the main assessment frameworks in the previous section points to several recurring tensions that complicate the development of an accepted, scalable and context-sensitive TMAI measurement parameters.

4.2.1. General vs. Domain-Dependent Metrics

Ideally, an assessment framework should be valid for all scientific domains. However, there are significant variations between research disciplines and these need to be taken into consideration when designing an impact assessment framework. For example, in engineering disciplines, most of the impact is in the form of knowledge transfer to industry and its commercialization, whereas in the social sciences much of the social benefits involve contributions to policy and the transfer of knowledge to practitioners. Third-mission activities are particularly context-dependent and hence impact indicators must capture the interactive and co-produced nature of societal outcomes (Bouter, 2010; Meagher & Martin, 2017) while also being field-sensitive (Bornmann, 2013). Furthermore, metrics should be flexible enough to accommodate local institutional missions, encompassing both tangible and intangible forms of impact (Vargiu, 2014). Possibly, this tension could be mitigated by organizing institution-level evaluations per domain, as practiced by THE-IR. In this instance, metrics are organized per globally accepted SDG determinants and indicators tailored for the specific category.

4.2.2. Breadth vs. Depth

A major challenge lies in determining the scope and coverage of the evaluation framework and, in particular, balancing breadth with specificity. Comprehensive metrics that aim to capture a full range of activities often rely on automated quantitative systems. These provide consistency and scalability, but risk oversimplifying complex and context-dependent forms of impact (Bornmann, 2013; Vargiu, 2014; Benneworth et al., 2018). Conversely, selective approaches—such as expert-reviewed case studies—offer rich detail but generally lack comprehensiveness (Hart et al., 2009; Bornmann, 2013; Penfield et al., 2014). Existing measurement frameworks like UK-REF, DU-SEP, AU-EIA, and CI-CCE adopt a case-study-based methodology and a selective approach that allows for contextual richness, depth and reflexivity in how impact is interpreted. Other frameworks, for example CL-SIR, aim for broader coverage using indicators or bibliometric tracking. The THE-IR approach seeks a balance between highly detailed but demanding methods like qualitative case studies, and broad but superficial quantitative measures such as citation proxies. Ultimately, it prioritizes covering a wide range of domains (breadth) over measuring the depth or magnitude of impact.

4.2.3. Type of Metrics: Input, Process, or Output Metrics

Another tension concerns the types of indicators used in assessment toolkits. Input metrics track allocated resources (Donovan, 2011) and process metrics, often used in the assessment of HEI public engagement. Examples for this include the development of metrics used for measuring Quadruple-Helix type collaborations—universities, industry, government, and the public—that fuse universities and research centers with the joint aim of improving the promotion of open-access knowledge valorization (Popa et al., 2020; Starkbaum et al., 2024). These types of collaboration metrics assess the structure and quality

of activities (Meagher & Martin, 2017), while output metrics capture concrete outcomes (Bornmann, 2013). Given our focus on impact measurement, we advocate the use of outcome metrics and, when needed, falling back on process and input metrics when it is difficult to assess direct outcomes. The UK-REF attempts to measure outcomes, but only for a limited number of cases. The NZ-IF provides an example for an integrative approach that attempts to capture both the process that facilitates impact generation (e.g., stakeholder engagement), as well as the tangible outcomes of third-mission activities (e.g., policy change).

4.2.4. Level of Analysis

An additional tension concerns the level of analysis at which impactful activities are assessed. That is, should these activities be evaluated at the level of individual projects, research units, institutions, or entire national systems? Each alternative carries implications for detail, scalability, and institutional alignment. Project-level evaluations, such as those advocated for by the Riconfigure Project, a European Union funded project that analyzed Quadruple-Helix collaborations in practice, offer granularity but are labor-intensive (Penfield et al., 2014; Braun et al., 2021), while institutional level assessments offer comparability but may dilute individual achievements (Smit & Hessels, 2021). For example, the case-based approach that is employed by UK-REF focuses on projects and the NZ-IF similarly adopts a project-level analysis, requiring grantees to report on impacts over multiple stages of the research process; the DU-SEP focuses on individual research units; and THE-IR combines evidence from specific projects and institution-wide metrics.

4.2.5. Data Collection Methods and Administrative Burden

When considering data collection strategies, institutions can choose from several approaches, each with inherent trade-offs. For example, questionnaires completed by faculty members allow for broad input and coverage but risk low response rates, subjectivity, and added administrative burden (Penfield et al., 2014; Calice et al., 2022). Interviews with key stakeholders offer rich, qualitative insights but are resource-intensive and not easily scalable (Gregorutti, 2021). External peer review panels may enhance credibility and comparability but may also lack alignment with local institutional missions (van der Meulen & Rip, 2000; Hazelkorn, 2015).

An important consideration pertains to the frequency of the data collection and review cycles. Frequent assessments may encourage responsiveness but risk privileging short-term outputs. At the same time, while allowing long-term effects to surface, infrequent assessments may be disconnected from institutional planning cycles. Thus, AU-EIA and NZ-IF, for instance, address this potential pitfall by adopting multi-year evaluation cycles.

A central consideration is the trade-off between the comprehensiveness and reliability of the assessment, and the burden it places on faculty, research leaders, and university administrators. Highly detailed and inclusive frameworks may be more accurate but require significant time and effort. Conversely, fully automated systems like CL-SIR reduce the collection burden, but risk omitting nuanced and context-specific activities (Penfield et al., 2014). An optimal model must strike a balance—focusing on strategically selected categories and leveraging automation wherever possible.

One increasingly viable solution is the use of existing university information systems. Data such as funding allocations, staff activity logs, and student engagement can serve as proxy indicators. For instance, project funding tied to social goals can be used as an input metric (Getz et al., 2024). Structured outreach participation or policy engagement can be logged through internal performance systems. This approach reduces documentation burden and improves scalability. CL-SIR exemplifies this direction by using bibliometric

tools (derived from policy documents, media coverage, and patents) to capture both retrospective and predictive signals of impact, thereby reducing reporting burden while enhancing scalability (Filchenko et al., 2024).

In summary, systematic TMAI assessment is hampered by a set of unresolved tensions: (a) breadth vs. depth; (b) metrics types; (c) levels of analysis; (d) general-purpose vs. domain-specific metrics; as well as (e) data collection methods and administrative burden. Identifying and understanding the nature of these tensions is crucial for advancing the development of an inclusive, practical and widely applicable measurement framework.

5. Our Proposed Impact Assessment Framework

In this section, we provide concrete suggestions for an impact assessment framework that synthesizes best practices from the national and international initiatives that were reviewed in Section 3 and addresses the various tensions discussed in Section 4. The primary goal of our framework is to develop for national funding agencies an applicable tool that captures the many TMAI forms while acknowledging and incentivizing institutional achievements. A secondary goal is to engage HEIs in a process of inquiry, reflection and self-assessment by aiding in the ongoing development of impactful programs.

Our framework is based on several principles. First, we strive to balance academic rigor and practical, real-world feasibility, prioritizing meaningful indicators over exhaustive measurement, without compromising validity. This balance is crucial for sustaining institutional engagement and ensuring that the measurement supports, rather than hinders, the core academic missions. Second, our framework adopts a multidimensional evaluation approach that combines: (I) selective case studies (REF-style) with structured narratives inspired by the AU-EIA dual emphasis on narrative submissions and measurable outcomes, (II) evidence-based questions (similar to THE-IR), and (III) automated metrics (as in CL-ISI). Third, we look to leverage existing data infrastructure, whereby administrative systems can be configured to extract proxy indicators of impact—such as funding for public engagement, stakeholder participation records, and cross-sector collaborations—reducing the need for bespoke data collection. The framework is structured across four core dimensions of academic impact: research-based, teaching-based, operational-based, and institutional infrastructure. We list multiple assessment components for each category, describing each element through scope, method, evaluation cycle, estimated effort, and anticipated cost. These points are summarized in Table 2 at the end of the section.

Table 2. Proposed Impact Assessment Frameworks.

Type	Component	Suggested Evaluation Cycle	Effort & Cost		
			Individual Researcher	HEI	Administrative Agency
A. Impactful Research	A1. Case Study Evaluation of Societal Impact	4 years	Low. Help create case studies	High. Prepare case studies	High. Expert reviews of case studies
	A2. Quantitative Bibliometric Analysis	Yearly	None	Medium. Outsourced at an estimated cost of \$5000–\$10,000/year. Borne by HEI or by the administrative agency	
	A3. Faculty Participation in Policy Committees	Rolling	Low. Self-reports	Low. Organize faculty reports by committees.	Medium. Maintain list of eligible committees
	A4. Project Funding for Knowledge Transfer	2 years	None	Low. Data to be extracted from internal systems	Medium. Maintain list of eligible funding agencies

Table 2. Cont.

Type	Component	Suggested Evaluation Cycle	Effort & Cost		
			Individual Researcher	HEI	Administrative Agency
B. Impactful Teaching	B1. Student Engagement	4 years	Low. Help create case studies	High. Prepare case studies	High. Expert reviews of case studies
	B2. Widening Participation	2 years	None	Medium. Answer questionnaire and provide evidence	Medium. Assess answers and evidence
	B3. Educating the General Public	2 years	None	Medium. Answer questionnaire and provide evidence	Medium. Assess answers and evidence
C. Impactful Operation	C1. Community Access	2 years	None	Medium. Answer questionnaire and provide evidence	Medium. Assess answers and evidence
	C2. Sustainability Practices	2 years	None	High. Prepare carbon footprint report (possibly, outsource)	Medium. Assess carbon footprint reports
	C3. Employment Practices	2 years	None	Medium. Answer questionnaire and provide evidence	Medium. Assess answers and evidence
D. Admin.	D1. Internal Structures for Third-Mission Support	2 years	None	Medium. Answer questionnaire and provide evidence	Medium. Assess answers and evidence

5.1. Impactful Research

This includes four components that offer a structured assessment of research-based impact:

5.1.1. Case Study Evaluation of Societal Impact

This approach takes its cue from the UK-REF, using a few narrative case studies per institution, reviewed by a panel of experts and managed by the national funding agency. This system requires the institutional coordination of HEIs to draft and compile case narratives and supporting documentation. Suggested review cycle: 4 years.

5.1.2. Quantitative Bibliometric Analysis

This format utilizes data collection through automated extraction from bibliometric databases (e.g., annual analysis of citations in policy, media, patents). The method is similar to the Current Research Information System (CRIS) that tracks and counts noted mentions of published research by leveraging bibliometric data. A similar approach is employed in the CL-ISI model. The use of this service could be outsourced at an anticipated cost of \$5000–\$10,000 per HEI. Suggested review cycle: yearly.

5.1.3. Faculty Participation in Policy and Advisory Committees

In this method, data is collected from faculty self-reportage via promotion dossiers and verified institutional review. Credits are allocated based on nationally approved policy and advisory committees and weighted by level of importance of a given committee, requiring the preparation of a list of eligible committees. Suggested review cycle: 2 years.

5.1.4. Project Funding for Knowledge Transfer

This component focuses on research projects with societal or environmental goals, according to a national list of approved granting agencies, requiring that a list be prepared by the national granting agency. Data for reporting could be extracted from institutional grant management systems and complemented with manually added contextual information, just as in the approach advocated by the E3M project and similar to the way this is applied by CL-ISI. Suggested review cycle: 2 years.

5.2. *Impactful Teaching*

Our framework includes three components for assessing teaching-based impact.

5.2.1. Student Engagement

This arrangement includes curricular and extra-curricular outreach programs, internships, and community engagement. Institutional units identify, write, and compile case documentation (4–5 cases), that are evaluated by a panel of education and civic engagement experts. Suggested review cycle: 4 years.

5.2.2. Widening Participation and Promoting Social Mobility

This process advocates for the inclusion of activities and efforts that improve knowledge access and equity. Data is collected through structured questionnaires, with each data point supported by institutional evidence in a manner similar to the approach employed by THE-IR. Scoring is based on responses and the quality of documentary evidence. Suggested review cycle: 2 years.

5.2.3. Educating the General Public

This method is similar to initiatives like MOOCs and community-targeted lectures that promote lifelong learning. Data can be attained through structured questionnaires, with each data point supported by institutional evidence in a manner similar to the approach employed by THE-IR wherein scoring is based on responses and quality of documentary evidence. Suggested review cycle: 2 years.

5.3. *Impactful Campus Management*

We suggest incorporating three components for assessing impactful campus management:

5.3.1. Community Access

In this instance, we suggest monitoring sustainability policies and public facility access. Data can be collected based on responses to structured questionnaires that are supported by evidence from internal reports and usage data, along the lines of the approach used by THE-IR (primarily for SDGs 6, 7, 12, and 13). Suggested review cycle: 2 years.

5.3.2. Sustainability Practices

This analysis focuses on an institution's carbon footprint, covering Scope 1 (direct GHG emissions from sources that are owned or controlled by the organization), Scope 2 (indirect GHG emissions from the generation of purchased electricity, heat, or steam), and Scope 3 (all other indirect emissions that occur in the value chain) emissions. The report could be prepared by the institution or a third party, based on data usage. Suggested review cycle: 2 years.

5.3.3. Employment Practices

In this instance we suggest fostering a diverse and inclusive workplace with fair employment practices, by implementing inclusive hiring, relevant training, and fair promotion

practices. Data may be collected based on responses to structured questionnaires that are supported by evidence from internal reports and usage data, similar to the approach taken by THE-IR (primarily for SDG8). Suggested review cycle: 2 years.

5.4. Institutional Infrastructure

Our framework includes one key component to assess this dimension:

Internal Structures for Supporting Third-Mission Activities

These organizational structures include strategic plans, dedicated staff, and funding programs. Data would be collected through a self-assessment questionnaire and associated supporting evidence that would be complemented by input from university leadership. This diagnostic approach is consistent with the one advocated by the SPRU model, the E3M project, the TEFCE toolkit and employed within the THE-IR framework. Suggested review cycle: 2 years. section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

6. Discussion

As noted above in our review of the various national and international impact assessment frameworks, countries such as the UK, the Netherlands, Australia and New-Zealand have gainfully incorporated data from third-mission impact analyses into their HEI performance frameworks. Data and takeaways from these analyses are then employed to make funding decisions. Yet, while there is a growing expertise in evaluating TMAI and a plethora of participation in these initiatives, (e.g., THE 2025 Impact Ranking reviews over 2500 institutions) several fundamental obstacles remain. Top-tier institutions often elect to opt out of taking part in voluntary impact measurements schemes. For instance, American Ivy League HEIs are primarily known for their outstanding core mission results and therefore forego participation in THE-IR program. Moreover, in many countries, national agencies have resisted incorporating impact assessments into their HEI funding agendas. The reluctance primarily stems from the perceived variability of such impact assessment toolkits, as well as the anticipated administrative burden and various political considerations, with the notion being that an investment in impact accountability may appear as undercutting the traditional emphasis on first-rate research production.

6.1. The Contributions of the Paper

By defining and discussing the boundaries, interplay and tensions between the three core HEI missions, our paper provides a macro perspective on measuring university impact. As such, we outline ways to amplify the inclusion of societal impact in university measurement programs and offer practical recommendations for research agencies seeking to insert impact measurement criteria into national funding schemes. In the previous sections we introduced a roadmap for future TMAI measurement that connects multivarious components from a wide range of existing frameworks. The model attempts to balance between the various tensions identified in Section 3—namely, breadth vs. depth; general-purpose vs. domain-specific metrics; type of metrics; level of analysis; and assessment quality versus burden. We recommend employing a multi-tiered strategy wherein qualitative narratives are reserved for particularly high-impact cases, while broader data collection is supported by institutional records and surveys. Although resource-intensive, such hybrid models serve to strengthen both the validity and efficiency of third-mission impact evaluations (e.g., Spaapen & van Drooge, 2011; Meagher & Martin, 2017) while supplying defensible, context-rich evaluations that inform both strategic learning and funding decisions (Sivertsen, 2017).

A key consideration in the design of our framework is the measured balance between the quality of impact assessment (i.e., the comprehensiveness and reliability of the measurement) with the practical considerations implicit in the efforts and costs that are borne by the various stakeholders: individual researchers, the institution and its administrative personnel, and the national or international bodies that administer the assessment process. Our goal, therefore, is to develop a system that captures meaningful indicators without adding an excessive burden to an already heavy workload. Specifically, we emphasize the need to minimize the effort required from individual researchers to participate in measurement initiatives. Likewise, we recommend reducing administrative burden by distributing high-effort components across multi-year cycles.

Additionally, we suggest that input effort be reduced through partial automation based on the systemized integration of existing data infrastructure. In particular, we highlight the potential in extracting impact proxies by using data already stored in institutional information systems, such as documentation from funded public engagement activities. External data records could also be utilized to assess TMAI. For instance, although limited in its coverage of third-mission activities, the Clarivate ISI model (Filchenko et al., 2024) combines scale, automation and focus on measurable outcomes—suggesting a practical solution for achieving both accountability and efficiency in assessing academic impact. Furthermore, we expect that recent advancements in generative artificial intelligence (AI) will facilitate more cost-effective data collection and assessment processes. In fact, THE-IR and several other frameworks have already begun using automated tools for assessing HEI submissions. We anticipate that these advancements will have a transformative effect on the ability to administer and analyze third-mission impact assessments on a national and international scale.

Notwithstanding the potential of such developments, our model calls for considerable initial setup efforts both on the part of the institutions (e.g., identifying the relevant data in internal systems that could be used as proxies for various indicators) and the administrative agencies (e.g., developing lists of eligible policy-making committees and funding agencies for research-based knowledge transfer and structuring the various questionnaires). However, once the infrastructure is in place, we estimate the ongoing labor and cost of evaluating HEI impact to be moderate, as summarized in Table 2.

It should be stressed that rather than launching the full framework all at once, the implementation of our proposed system could be achieved in stages, by choosing the relevant components from each category to be deployed at particular stages. A staggered approach would reduce risks, limit personnel expenditure and allow for measured learning cycles. To improve viability and ensure effectiveness, we recommend the following steps: (a) operationalizing the framework for a certain national or cultural setting (for example, detailing the items for the various questionnaires and preparing nationally accepted lists of eligible policy-making committees and appropriate funding agencies for research-based knowledge transfer); and (b) evaluate the framework via pilot studies at several HEIs in order to accurately quantify the effort involved in the data collection, submission and evaluation processes, as well qualify the usefulness of the generated data.

6.2. Practical Recommendation for Various Stakeholders

Synthesizing the best practices from different TMAI measurement toolkits and evaluation frameworks, we offer a variety of practical recommendations for promoting academic impact, that are geared towards diverse stakeholders: academic faculty, HEI institutional leadership, and the agencies that are responsible for measuring academic performance and making HEI funding recommendations.

6.2.1. For Academic Staff, We Offer Two Recommendations

First, we encourage researchers to acquire a well-accepted working definition of third-mission activities and then document their activities that meet these criteria. Documentation includes tracking involvement in policy consultations, community projects, educational outreach, and co-production of knowledge that benefits society. Second, we suggest that academics that engage in third-mission activities advocate for recognition of these activities within their institutions, particularly in their promotion and tenure processes. Furthermore, faculty collectives and professional societies should push for expanded definitions of academic merit to include activities that benefit society.

6.2.2. For Higher Education Institutions (HEI)

We recommend incorporating the notion of societal impact into mission statements, while providing consistent messaging from institutional leadership regarding the importance of third-mission activities. Universities could interact more deeply with communities, government (at both the regional and national levels) and industry, to better understand the needs of these various sectors, leveraging their academic knowledge and resources to more meaningfully address their interests. We also suggest that third-mission activities be incorporated into the budgetary priorities of HEIs, for example, by allocating funds for impactful research programs and educational offerings that engage with communities. Such organizational transformations require a coordinating body, and thus it is important that HEIs establish an enabling infrastructure such as an administrative unit to advance community-university partnerships.

In cases where the national assessment of HEI productivity does not yet incorporate contributions to society, we encourage universities to start experimenting with TMAI measurement (e.g., by participating in voluntary assessment initiatives, such as the CI-CCE in the US or the international THE-IR), with the expectation that impact measurement can be incorporated into future national assessment programs. Finally, HEIs are encouraged to align internal performance evaluations with third-mission goals. For instance, we encourage universities to gradually revise promotion criteria to explicitly include societal impact and engagement dimensions, as advocated by the SPRU, E3M and TEFCE models. It should be mentioned that universities should proceed cautiously when integrating third-mission activities into tenure and promotion benchmarks, as such changes may be met with resistance from faculty members. To ensure legitimacy and institutional support, the incorporation of impact metrics into academic evaluation procedures should be guided by an open, transparent and inclusive dialogue with academic staff.

6.2.3. For National Agencies Responsible for Measuring Academic Performance and for Funding HEIs

We also offer a set of recommendations. Our primary advice is to align the strategic objective of these agencies—promoting national goals and social development through higher education—with HEI funding schemes. Namely, we recommend that these agencies provide funding tied to the impact of third-mission activities. This could take the form of dedicated one-time funding, or more broadly, agencies might embed impact measurement into the frameworks used to allocate university funding. In particular, we advocate that funding arrangements go beyond research-based knowledge transfer to industry to include other forms of non-economic benefits to society such as the transfer of knowledge to government agencies or contributions to policymaking. Moreover, funding allocation models could also incentivize impactful teaching activities (e.g., community outreach programs) as well as impactful campus management (e.g., opening university facilities to the general public).

Providing funding to support third-mission impact requires that national agencies adopt frameworks for assessing TMAI. As demonstrated above, impact assessments have proven viable along a variety of approaches. Hence, national agencies are not required to develop an entirely new approach but rather, they can either adapt an existing assessment framework or, alternatively, develop an approach that is tailored to their specific needs and limitations (similar to our suggested model in Section 5). Any type of measurement framework is likely to require investments from participating universities and thus we encourage national agencies to fund evaluation capacity-building, particularly in under-resourced institutions, in order to ensure that the quality of impact reporting is not tied to institutional wealth. It should also be mentioned that given the diversity of institutional missions, disciplinary cultures, and national policy environments, third-mission assessment is unlikely to converge on a single standardized model. Rather, hybrid and context-sensitive approaches remain essential, and the typology presented here should therefore be understood as one possible organizing framework rather than a prescriptive or universal solution. As such, we emphasize the value of a flexible assessment architecture that institutions can adapt to their disciplinary cultures, strategic priorities, and policy environments.

7. Conclusions

As discussed in our paper, beyond being beneficial to society, HEIs have much to gain from placing greater emphasis on third-mission activities. Cultivating programs that include direct public engagement will attract students and advance research-based collaborations with external partners. Moreover, pursuing an impact-oriented agenda may result in reputation enhancement, both for faculty members and institutions. For example, institutions that excel in impact ranking such as THE-IR stand to profit from status gains.

Notwithstanding these potential advantages and despite growing participation in national and international impact assessments frameworks, to date, many academic institutes remain disinclined to sign on to a structured impact-driven agenda. In diverse countries, university budget allocation processes at the national level often fail to consider the capacity of higher education institutions to contribute to societal impact. This likely stems from the proclivity of HEIs to view knowledge transfer and academic contributions to public policy and community engagement as secondary to securing research grants and publishing papers in prestigious academic journals.

With this obstacle in mind, we posit the gilded use of monetary incentives to foster a change in attitudes towards the value of impact-oriented academia. Yet, budget allocation decisions are also highly political. When working with a fixed amount, increases in expenditures for third-mission activities inevitably come at the expense of first- and second-mission activities. Furthermore, at the national level, any re-distribution of funds is likely to benefit some institutions, while hindering others and, within a given university, may likely benefit certain activity centers at the expense of others. Thus, it is expected that a realignment of funding schemes to better reflect current societal priorities and enhance the support for third-mission activities may encounter resistance that will require brave choices and disciplined follow-up on the part of decision makers both at the national and institutional levels.

Despite these challenges, we believe that the shift in emphasis towards greater third-mission consciousness within the academy is inevitable. As universities are called upon to help solve urgent global challenges, the ability to demonstrate their value to society becomes not only a policy requirement, but a moral imperative. Hence, this paper offers a modest contribution to advancing this transition.

As with all frameworks, the applicability of our model varies across institutional types, national systems, and disciplinary cultures. We therefore view it as a flexible heuristic rather than a prescriptive standard. While the proposed framework offers a structured way to conceptualize and assess third-mission activities, it is not without limitations. First, the administrative burden associated with implementing a multi-dimensional assessment system may be substantial, particularly for institutions with limited staffing or without established impact-support structures. Even when automated indicators are used, the collection, verification, and contextualization of evidence require significant institutional capacity. As such, the feasibility of adopting the framework will vary considerably across higher education systems.

Second, although the typology aims to capture a broad range of societal contributions, any attempt to categorize third-mission activities inevitably risks oversimplifying the diverse and context-specific ways in which universities engage with society. The boundaries between research, teaching, and societal engagement remain fluid, and certain activities may not fit neatly within the four pillars. This underscores the need for flexibility in applying the framework rather than treating it as a rigid evaluative template.

Finally, the framework must be adapted to local institutional missions, disciplinary cultures, and national policy environments. A model that is useful for a research-intensive university may be less applicable to a teaching-focused institution or one embedded in a different regulatory context. For this reason, the framework should be understood as a heuristic tool that can guide reflection and support institutional learning, rather than a standardized system intended for universal adoption.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/educsci16081225/s1>, Overview of Selected Evaluation Frameworks.

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Abbreviations

The following abbreviations are used in this manuscript:

HEI	Higher Education Institutions
TMAI	Third-Mission Activity Impact
UK-REF	United Kingdom Research Excellence Framework
DU-SEP	Dutch Strategy Evaluation Protocol
AU-EIA	Australian Engagement and Impact Assessment
NZ-IF	New Zealand Health Research Council Impact Framework
CI-CCE	Carnegie Elective Classification for Community Engagement

THE-IR	Times Higher Education Impact Rankings (renamed Times Higher Education Sustainability Impact Ratings from 2026)
CL-SIR	Clarivate Societal Impact of Research framework
SPRU	Science and Technology Policy Research (University of Sussex)
E3M	European Indicators and Ranking Methodology for University Third Mission
TEFCE	Towards a European Framework for Community Engagement in Higher Education
TTI	Technology Transfer & Innovation
IF	Impact Factor
SDG	Sustainable Development Goals

Notes

- ¹ For the 2026 ranking and onward, the terminology was changed to “Times Higher Education Sustainability Impact Ratings”.
- ² We note that the Clarivate Societal Impact of Research framework (CL-SIR) contributes primarily to this dimension, offering a newly proposed Impact Factor (IF), that integrates metrics such as publication count and citation behavior.
- ³ In particular, the model by the Science and Technology Policy Research (SPRU) group, at the University of Sussex, which was developed for the Russell Group of Universities (Molas-Gallart et al., 2002), as well as several EU-funded projects, namely: E3M (“European Indicators and Ranking Methodology for University Third Mission”; Soeiro & Montesinos, 2011), TEFCE (“Towards a European Framework for Community Engagement in Higher Education”; Benneworth et al., 2018; Farnell et al., 2020).
- ⁴ The frameworks cited here are established national approaches for assessing research quality, societal impact, and research engagement: **UK Research Excellence Framework (UK-REF)**: The United Kingdom’s national research assessment system, administered by the UK funding bodies. REF evaluates research quality and, importantly, includes an assessment of research impact beyond academia through impact case studies; **Dutch Strategy Evaluation Protocol (DU-SEP)**: The Netherlands’ national framework for evaluating university and research institute performance. SEP assesses research units on three core dimensions: research quality, societal relevance, and future viability, with a strong emphasis on formative, development-oriented evaluation rather than quantitative rankings; **Australia’s Engagement and Impact Assessment (AU-EIA)**: Developed by the Australian Research Council (ARC), the Engagement and Impact Assessment evaluates how effectively universities engage with research end-users and how research generates economic, social, environmental, and cultural benefits beyond academia. The inaugural national assessment was conducted in 2018; **New Zealand Health Research Council Impact Framework (NZ-IF)**: The Health Research Council of New Zealand developed a research impact assessment approach to evaluate the pathways through which health research contributes to health, wellbeing, policy, and societal outcomes, while demonstrating value from public investment in research.
- ⁵ Please note that the abbreviations for these various frameworks were introduced by the authors, so as to help with the paper’s readability. For additional details of the frameworks, see <https://2029.ref.ac.uk/>; https://storage.knaw.nl/2022-06/SEP_2021-2027.pdf; <https://www.arc.gov.au/evaluating-research/ei-assessment>; https://www.hrc.govt.nz/sites/default/files/2024-08/HRC%20Research%20Impact_0.pdf; <https://carnegieclassifications.acenet.edu/elective-classifications/community-engagement/>; <https://www.timeshighereducation.com/world-university-rankings/impact-rankings-2025-methodology>; <https://clarivate.com/academia-government/blog/introducing-a-comprehensive-framework-for-evaluating-the-societal-impact-of-research/> (accessed on 23 December 2025).

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