

From Engagement to Impact: How Community-Engaged Research Shapes Social Science Research Outcomes in Indian Universities (Public Vs Private)

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ABSTRACT

Universities are increasingly being challenged to illustrate societal relevance and the societal impact of their research beyond conventional academic output. Community-engaged research, thus, has become a vital mechanism to enhance the social, policy and practical impact of scholarly work and in particular for research in the social sciences. This study explores the effects of community engagement on research impact in social science departments of Indian universities, with a focus on public versus private universities. A cross-sectional survey design was adopted, and data were collected from 312 respondents at public and private universities across India. Descriptive, factor and reliability analyses, regression and moderation models were used to investigate the impact of community engagement on different forms of research impact such as interdisciplinary research collaborations, applied nature of research work and use in practice, policy influence and social impacts of research. Results indicated that community engagement has a significant positive impact on all forms of research impact and public universities have higher impact resulting from engagement than private institutions especially regarding policy impacts and social development impacts of research work. It was also found that incentives for engaged research and use of generative artificial intelligence tools positively moderate the impact of engaged scholarship. This study adds empirical evidence to the discussions about engaged scholarship and the significance of support systems and mechanisms within higher education institutions.

Keywords: Community-engaged research; Research impact; Social science research; Public and private universities; Institutional incentives; Indian higher education

SECTION 1: INTRODUCTION

There is a growing pressure for universities to be socially relevant and the impact of research not solely to be based on traditional scholarly publications (Boyer, 1996; Wilsdon et al., 2015). This expectation is influenced by wider changes to governance in higher education, in which the social contribution of academia and usability of knowledge are key metrics used to assess academic research.

In the case of India, the National Education Policy (NEP, 2020) states it as a main mandate of universities to do community-oriented, inter-disciplinary, and socially relevant research that aims at solving local and national challenges through long term engagement with the local communities, policy makers, and other stakeholders.

Extending past studies that addressed institutional and individual determinants of research community engagement in social science departments in India, this paper moves beyond an investigation into predictors of research community engagement and instead offers an investigation into its impacts. The research questions focus on how community-engaged research impacts research productivity, cross disciplinary work, applied outcomes, policy and social impacts and tests how these links between community engagement and research outcomes vary systematically between public and private universities.

Linking engagement practices to outcomes of research offers contributions to the discourse of engaged scholarship, impact assessment and higher education governance by demonstrating an empirical link between engaged scholarship practices and research outcomes, thus informing policymakers, university administrators and academics.

SECTION 2: LITERATURE REVIEW

2.1 Community-Engaged Research and Research Impact

COMMUNITY-ENGAGED RESEARCH stresses reciprocity, co-production and mutual benefits between researchers and community members as stakeholders, involving communities as active research partners rather than passive research

participants (Bringle et al., 2009; Saltmarsh et al., 2009). These endeavors are intended to integrate research agendas with societal needs and enhance research ethics and contextual relevance.

Engaged scholarship offers an alternative paradigm to traditional knowledge production methods by bringing non-academics into research process and valuing lay and experiential knowledge along with specialized academic knowledge (Gibbons et al., 1994; Nowotny et al., 2001) that are attributed with increased research relevance and societal impacts.

2.2 Engagement and Interdisciplinary Research Outcomes

Engagement with community partners naturally implies interdisciplinary activities since problems of societal significance often exist across and span several areas of knowledge (Etzkowitz & Leydesdorff, 2000). Engaged research environments cultivate cross-disciplinary collaboration with the focus on problem-oriented and integrative research processes.

It has been suggested that the universities that have adapted engaged research paradigm may be prone to foster cross-disciplinary research collaborations as a part of their overall societal missions (Zomer & Benneworth, 2011).

2.3 Policy and Social Impact of Engaged Research

Research co-produced with community members is more likely to have a policy and practice impact because it is grounded in the local context, has higher perceived legitimacy and it responds to existing practical concerns (Lemos & Morehouse, 2005). Engagement helps facilitate knowledge transfer between researchers and decision makers, enhancing the probability of research uptake.

From the policy studies perspectives, participatory and deliberative research processes increase the usability of knowledge because the generation of knowledge is integrated with policy needs and institutional setting (Fischer, 2003)

2.4 Institutional Context: Public vs Private Universities

India's public and private universities are governed by differing accountability, financing and governance systems which will affect their research agendas and engagement practices (Tilak, 2015). Where public universities are typically focused on public service and policy relevance, private ones prioritize flexibility, innovation and market responsiveness. While some of these traditional roles were re-framed under the National Education Policy, the structural differences continue to mediate engagement impact (Krishna & Patil, 2021).

2.5 Generative AI and Contemporary Research Engagement

Contemporary research engagement has been influenced by emerging tools, particularly applications of Generative AI, to aid data management, analyze data and help with research communication and dissemination (Wilsdon et al., 2015). These technologies will make engagement easier by allowing quicker and more effective communication with community partners and interdisciplinary work, improving engagement impact (Krishna, et al., 2021).

2.6 Institutional Incentives and Research Engagement

Institutional theory and in particular, the version considering academic activity, highlights the profound role of the system of reward and incentives in structuring the practice and focus of university research (Slaughter & Rhoades, 2004). Awards, promotion considerations, the distribution of funds, workload calculations and university awards signal quite clearly the value orientation of a university and what is expected of its faculty. In academic discourse, such rewards signal the importance of impacts other than publications (or the "public purpose" argument of impact-oriented research in its academic, policy-driven variant) and that unless some reward exists, real-world impacts may be considered overly time-consuming, risky and academic un-credible. Research demonstrates that the stronger the engagement agenda at an institution, and the more explicitly engaged scholarship is a criterion for evaluation at that institution, the more sustained is the impact-oriented research practice that results (Hazelkon, 2015). Reward and incentives are also apparent at the level of the institution and seem to function not only as encouragement to do the work, but as an enabler of the shift of engagement to impact.

2.7 Measuring Research Impact Beyond Academic Outputs

Traditional metrics of research performance (e.g. Number of publications, citation analysis) have been widely criticized for failing to provide accurate metrics of research impact and value (Wilsdon et al., 2015). Many alternative frameworks

have emerged to capture research impact; those which reflect societal change and influence, capacity building or public engagement foreground a process of interaction, which implies the need for multidimensional, contextually-sensitive assessment frameworks—especially in the social sciences. Engagement research itself inherently requires an expansion of metrics used in the research impact assessment because of its reliance on processes of interaction, knowledge exchange and co-production (Bozeman & Sarewitz, 2011). Indeed, some authors are exploring the ability of engagement-based research to generate impacts outside of those that are conventional; these may take time to emerge and to be recognized, but engagement may offer an alternative, "alternative pathway", towards that impact (Wilsdon et al., 2015).

2.8 Engagement, Impact, and the Global South Context

The literature reviewed here mostly emanates from work conducted within western contexts and begs the question to what extent these are transferable to the contexts of Global South universities; in countries like India these universities are embedded within the context of differing social and political systems (Altbach, 2016). Universities within such a system have the potential to address development challenges and for this reason, community engagement is an extremely important activity in research contexts (Krishna, 2014). It is expected that this would lead to more impact-driven research, but this depends greatly on an institution's capacities, government structures and supporting systems. Given this, comparison between public and private universities in the study of this topic should be of particular interest.

2.9 Conceptual Gaps and Contribution of the Present Study

To date, while there are some descriptive studies of engagement in Indian universities and many normative pieces about the need for social relevance, there appears to be little empirically based research investigating direct links between engagement and outcomes. This study fills a void by considering the extent to which engagement affects outcomes at an institutional level within the Indian social sciences and how incentives, institutions and emerging Generative AI applications mediate that relationship.

SECTION 3. CONCEPTUAL FRAMEWORK AND HYPOTHESES

3.1 Conceptual Framework

Conceptualizing engagement as the core explanatory variable, the study posits its impact across several dimensions of research impact: engagement is expected to lead to improved outcomes through better collaboration, increased relevance of research to its context, and more effective dissemination of research results. Moderating factors include the institutional context (public vs. Private universities), whereas digital tools and institutional incentives function as facilitating conditions.

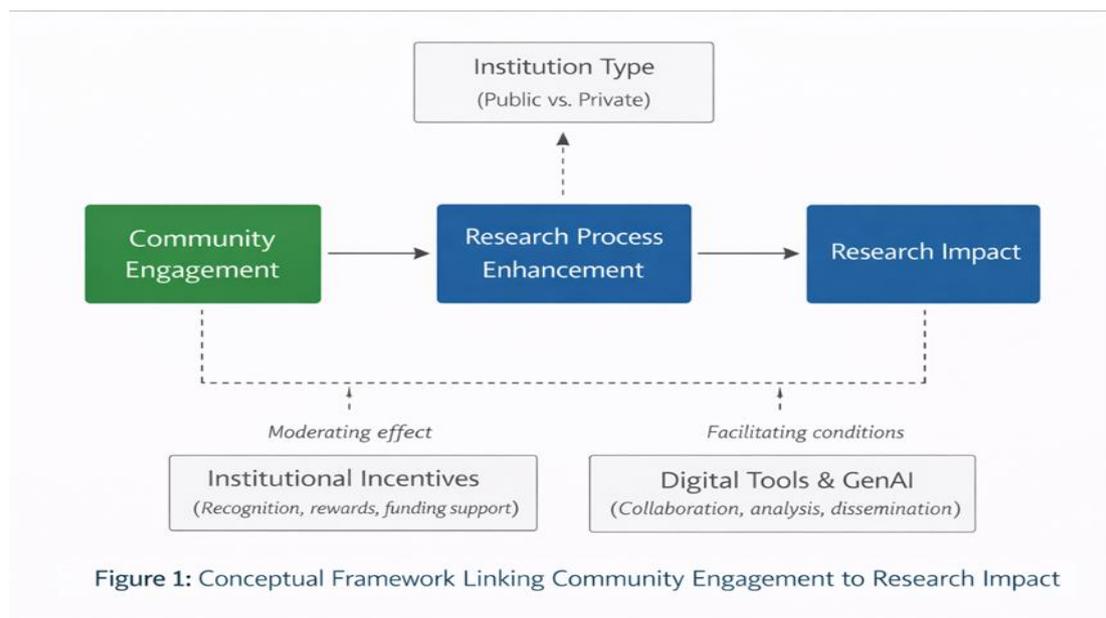


Figure 1: Conceptual Framework Linking Community Engagement to Research Impact

Figure 1: Conceptual Framework Linking Community Engagement to Research Impact (Community Engagement → Research Process Enhancement → Research Impact; moderated by Institution Type)

3.2 Development of Hypotheses

H1: There is a positive relationship between community-engaged research and interdisciplinary research collaboration.

Many of the social problems communities seek to solve are complex and involve issues that go beyond disciplinary perspectives. The interaction of communities and varied community stakeholders facilitates collaboration among academic disciplines, increasing the likelihood of interdisciplinary research designs and methods. Higher levels of community engagement are thus expected to positively correlate with interdisciplinary research collaboration.

H2: Involvement in community-based research has a significant positive impact on practical implications of research results.

Faculty engagement in community-based research increases relevance of scholarship through fitting of research question to the community interests. By engaging in community-based research, research findings are able to become practical by putting it to good use within the community; hence it increases the utilization of research outputs. As such, faculty engagement in community-based research is predicted to influence research application.

H3: Community-engaged research is a stronger contributor to policy formulation and socio-development outcomes in public universities than private universities.

Public universities generally have higher public service obligations and stronger ties to government and policy institutes than private universities. Consequently, community-engaged research that is generated in public universities may be more readily transferable to policy processes and social impact outcomes. For this reason, it is hypothesized that community engagement may have a stronger effect on policy and social impact in public universities than in private universities.

H4: Use of Generative AI will positively moderate the community engagement – research dissemination relation.

The application of Generative AI tools can facilitate communication of, and access to, complex research outcomes. Furthermore, the generation of syntheses of these complex findings is made easier. Community engaged research approaches have the potential to make research findings accessible to a wider audience, as do Generative AI tools. Accordingly, I would expect to see Generative AI positively moderating the community engaged research processes and research dissemination outcomes.

H5: Institutional reward mechanisms will positively moderate the community engagement – long term impact of research relation.

The institutional incentive structure in the form of recognition, awards, and funding influences faculty research behaviour. Formal recognition and reward mechanisms (such as incentives and funding) by an institution positively influence sustained engagement and research impact. It is therefore anticipated that incentives at the institutional level will act as a positive moderator in the community engagement-impact link.

3.3 Brief Summary of Conceptual Model

In the conceptual model for the present research, the concept of community engagement is hypothesized to be the central explanatory variable impacting research outcomes in social science departments of Indian universities. In the present model, the explanatory variable community engagement is theorized to improve the quality of the research processes; these research processes (interdisciplinary knowledge sharing, contextual relevance and research dissemination) are expected to mediate the relationship between community engagement and research outcome. Hence engaged scholarship is presumed to lead to applied, policy oriented and social impacts.

Institution type (public/private universities) is theorized to be a moderator that moderates the relation between community engagement and policy and social development outcomes. Because public universities have public service missions and closer connections with governments and societies than do private universities, the association between community engagement and the impact on policy and development is presumed to be stronger in public than in private universities. Lastly, the conditions that facilitate the relationship between community engagement and research outcome also exist in the conceptual model. The presence of Generative Artificial Intelligence tool is assumed to facilitate dissemination and communication which are expected to maximize the visibility and usability of research outcome. Moreover, institutional incentives mechanism is assumed to ensure long term engagement and impact-oriented scholarship.

SECTION 4. RESEARCH METHODOLOGY

4.1 Research Design

The research design that is followed in this study is the quantitative cross-sectional research design to assess the linkage between community involvement and research impact in Indian universities' social science departments. In order to gauge perceptions of and experiences of faculty, researchers and top academic administrators at a particular time a survey approach was used. A cross-sectional design is a feasible research approach to exploring patterns, relationships, differences and comparisons across institution types when large-scale data from a longitudinal approach are not readily available, in the context of an exploratory investigation. Multiple levels of research impact and moderators are examined in one study, using this design.

4.2 Population and Sampling

The sample of respondents consists of academic administrators, researchers and faculty members belonging to the social science faculties at Indian universities. The respondents belong to four regions in India to cover the variability in terms of geographic location and types of institution. They are selected from public and private universities. Purposeful sampling has been employed in order to ensure that respondents participate in research or are involved in or administer research activities or community outreach programs.

Out of a total of 312 valid responses from 22 public and private universities the size of the sample can be deemed suitable for purposes of multivariate analysis, such as factor analysis and moderation-based regression analysis (models). We also study institutional type differences by including both public and private universities.

4.3 Data Collection Instrument

The data was gathered using a fixed response questionnaire distributed to the sample of respondents selected above. The questionnaire was developed through a thorough literature review on community-engaged research, research impact and governance in higher education. Similar questionnaire was used previously in studying factors for community engagement; however, for this paper, only variables regarding the outcomes of research impact and facilitation condition were selected for this analysis.

This questionnaire consists of several sections covering participant's characteristics, intensity of community engagement, the multidimensionality of research impact, organizational incentives, and utilization of digital and Generative AI technologies in research activities. The responses were recorded on a 5-point Likert-type scale ranging from strong disagreement to strong agreement, and the questionnaire was pre-tested and validated.

4.4 Measurement of variables independent variable

Independent Variable

Community Engagement was operationalized through an index, which was developed to represent two dimensions of the independent variable: (a) how intense a faculty member's activities associated with community engagement are; and (b) how acquainted the faculty member is with engaged scholarship research practices. The index used several items to measure faculty members' participation in partnerships, co-creation of knowledge, and interaction with partners in and out of academia.

Dependent Variables

Research impact was operationalized along multiple dimensions: Interdisciplinary research collaboration was designed to assess the breadth of researchers' participation in interdisciplinary collaborations. Real-world application of research was developed to assess the actual utilization of research in real-world and professional domains. Policy development and social contribution was designed to assess the extent of faculty members' impact on policy-making processes and social development. The contribution of the research to a better quality, more real-world relevant, and more usable research was designed through the item concerning researchers' perception of increased research quality, relevance, and usability.

Moderating Variables

Three moderating variables were included in this study: Institution Type was measured as public vs. Private university. Institutional Incentives, measured using various items that assessed the amount of formal recognition, reward, funding, and support for engaged research a faculty member is provided with by his/her university. The use of Generative Artificial Intelligence was developed to measure how and how much a researcher utilizes generative AI in research collaboration, analysis and diffusion.

4.5 Data Analysis Methods

Statistical analyses were descriptive, reliability, and multivariate. Descriptive statistics included frequencies, percentages, means, and standard deviations to describe respondents and main study variables. Cronbach's alpha was used to test internal consistency reliability for each multi-item scale on community engagement, research impact, institutional incentives, and usage of Generative Artificial Intelligence tools.

To evaluate the structure of the constructs, Exploratory Factor Analysis (EFA) was conducted to discover the factor structures of study constructs and investigate the dimensionalities of engagement and research impact variables. Subsequently, Confirmatory Factor Analysis (CFA) was performed on the measurement model and construct validity evaluated with common goodness-of-fit indices and factor loading. Regression analysis was then employed to examine the direct impact of community engagement on the different types of research impact.

Moderation analysis was conducted to test if the impact of community engagement on research impact outcomes would vary depending on institutional type (public vs. Private universities), institutional incentives, and the use of Generative Artificial Intelligence. Group differences between public and private universities were tested using parametric tests (or non-parametric tests when necessary) based on the distribution.

SECTION 5. DATA ANALYSIS AND RESULTS

5.1 Sample Profile

Table 1: Demographic Profile of Respondents

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	189	60.6
	Female	123	39.4
Age Group (years)	25–35	78	25
	36–45	112	35.9
	46–55	79	25.3
	56 and above	43	13.8
Institution Type	Government University	168	53.8
	Private University	144	46.2
Occupation	Researcher	64	20.5
	Faculty	214	68.6
	Senior Leadership	34	10.9
Years of Experience in Academia	0–5 years	71	22.8
	6–10 years	89	28.5
	11–15 years	83	26.6
	16 years and above	69	22.1

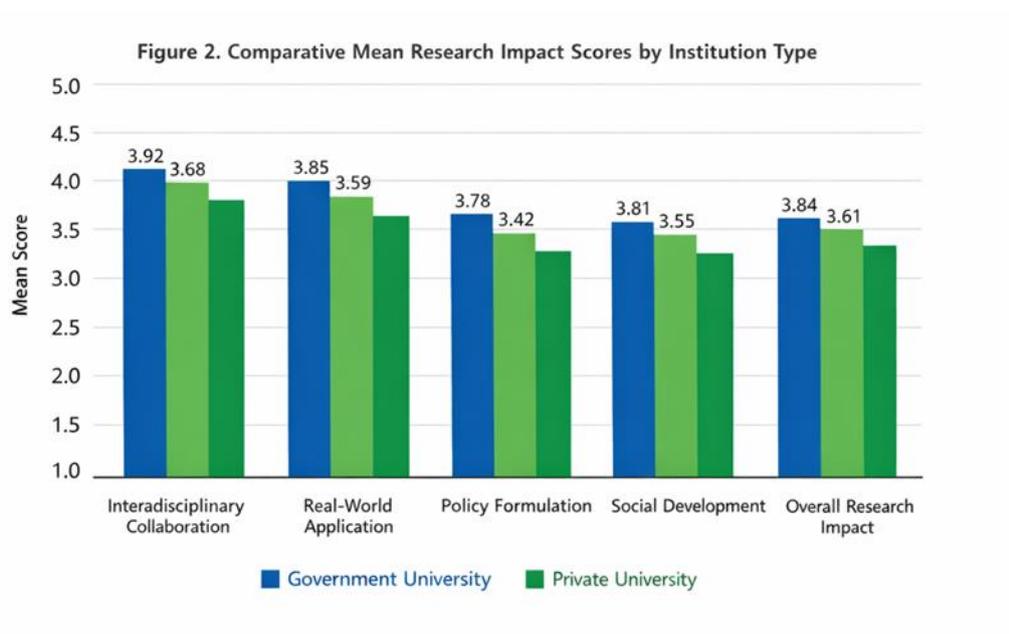
5.2 Descriptive Statistics of Impact Constructs

Table 2: Means and Standard Deviations of Research Impact Variables by Institution Type

Research Impact Variable	Institution Type	Mean	Standard Deviation
Interdisciplinary Research Collaboration	Government University (n = 168)	3.92	0.71
	Private University (n = 144)	3.68	0.76
Real-World Application of Research Findings	Government University	3.85	0.74
	Private University	3.59	0.78
Contribution to Policy Formulation	Government University	3.78	0.69
	Private University	3.42	0.73
Contribution to Social Development Initiatives	Government University	3.81	0.72
	Private University	3.55	0.75
Overall Research Impact	Government University	3.84	0.67
	Private University	3.61	0.71

Table 2 summarizes the descriptive statistics of research impact variables by types of institutions and Figure 2 visually compares the means across institution types, revealing contrasts of research impact among public and private institutions.

Figure 2



5.3 Factor and Reliability Analysis

Table 3: Factor Loadings and Reliability Statistics for Impact Constructs

Construct	Measurement Item	Factor Loading	Cronbach's α
Interdisciplinary Research Collaboration	Community engagement has increased collaboration across disciplines	0.78	0.82
	Engagement activities have facilitated joint research projects	0.81	
	Community involvement has broadened research perspectives	0.74	
Real-World Application of Research Findings	Research findings are applied in real-world contexts	0.77	0.84
	Community engagement improves practical relevance of research	0.83	
	Research outcomes address societal challenges	0.79	
Policy Formulation Impact	Research contributes to policy formulation	0.8	0.86
	Engagement enhances policy relevance of research	0.84	
	Research findings are used by policymakers	0.78	
Social Development Outcomes	Research supports social development initiatives	0.81	0.85
	Community engagement strengthens social impact	0.86	
	Research contributes to community well-being	0.79	
Overall Research Impact	Community engagement enhances overall research impact	0.88	0.88
	Engagement improves visibility and usefulness of research	0.84	

5.4 Regression and Moderation Analysis

Table 4: Regression Results – Community Engagement and Research Outcomes

Dependent Variable	Independent Variable	β	t-value	p-value	R ²
Interdisciplinary Research Collaboration	Community Engagement	0.41	7.82	< .001	0.17
Real-World Application of Research Findings	Community Engagement	0.44	8.36	< .001	0.19

Policy Formulation Impact	Community Engagement	0.38	6.94	< .001	0.15
Social Development Outcomes	Community Engagement	0.4	7.51	< .001	0.16
Overall Research Impact	Community Engagement	0.46	8.89	< .001	0.21

Note. β values are standardized coefficients. All models control for institution type, years of academic experience, and occupation

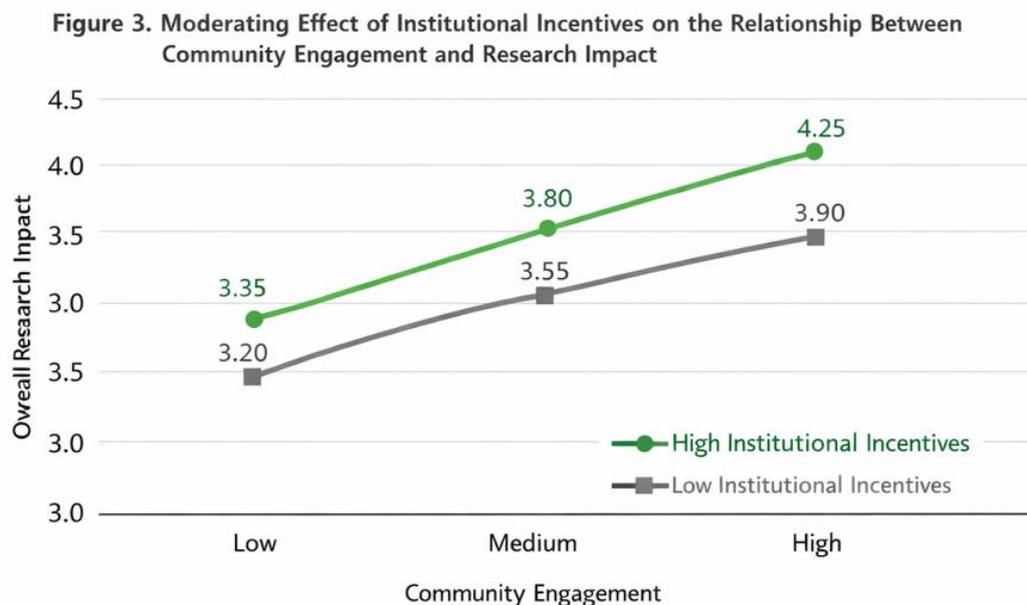
Table 5: Moderation Effects of Institution Type, Incentives, and GenAI

Moderator	Interaction Term	β	t-value	p-value	ΔR^2
Institution Type (Public vs Private)	Community Engagement \times Institution Type	0.18	3.21	0.001	0.03
Institutional Incentives	Community Engagement \times Institutional Incentives	0.22	4.08	< .001	0.04
Use of Generative AI	Community Engagement \times GenAI Use	0.15	2.87	0.004	0.02

Note. β values are standardized coefficients. Each model controls for institution type, years of academic experience, and occupation. ΔR^2 represents the change in explained variance due to the interaction term.

Table 5 contains the results of the moderation analysis regarding institutional incentives on research impact of community engagement. Figure 3 shows this interaction effect, in that predicted research impact is estimated at different values of both community engagement and institutional incentives.

Figure 3



SECTION 6: DISCUSSION

Results of this study echo institutional approaches that identify a university's organizational inducements and governance mechanisms as having an effect on scholarly behaviour and research outputs (Slaughter & Rhoades, 2004). When a university is formalized to recognize, compensate and incentivize engagement activities then engaged activity translates

into research outcomes. Hazelkon, 2015; As observed above, engagement-policy linkages were stronger for public universities which are theoretically more sensitive to their public service mandates and their accountabilities to society (Marginson, 2016) and therefore, it is plausible that the institutional logic and support for public universities leads to greater ability of researchers to translate engagement into policy impact.

The moderator effect of institutional inducements reinforces that tangible reward structures are key to making impact-oriented research a sustainable practice. Faculty who felt more institutional support for the work that they do through modified workloads, financial opportunities and tenure/promotion policies had a more effective link between their engaged work and outcomes. This is consistent with institutional theory in that the individual researcher acts and produces work in a manner prescribed by organizational norms and inducements.

The findings suggest that it is not just through the engagement process itself that research outcomes will materialize for the researcher; they are more tied to the degree to which an engaged endeavour is embedded into the community and into support structures within a university that support a model of impact extending beyond just publications and citations. If research rewards are driven solely by citations and publications, the impact of an engaged endeavour has boundaries.

Lastly, the enabling effects of generative AI (GenAI) for the linkage between engagement and policy must be considered. The use of GenAI by faculty for tasks such as analysis of data, communication of results, and dissemination of research will have a stronger linkage between engagement and outcomes (e.g. Interdisciplinary partnerships, and community engagement efforts). GenAI is not a substitute for the engagement process itself but instead it will serve as an enabler of the engagement-policy linkage by increasing research and coordination efficiencies and decreasing communication costs and allowing for higher and faster levels of communication. Nevertheless, ethical guidelines for GenAI use must be considered.

The results support the claim that engagement is a multi-dimensional construct that impacts research outcomes through various linkages such as collaboration, relevance, and dissemination. And the differences between the outcomes for public and private institutions further demonstrate that engaged scholarship will be a function of the faculty member, as well as the type of institution.

SECTION 7: CONCLUSION AND IMPLICATIONS

In this paper, we go beyond conceptual and normative scholarship regarding engaged scholarship and the role of higher education in society (Boyer, 1996; Checkoway, 2013) by providing evidence of the link between engagement and impact. Our paper offers the first empirical evidence for the claim that community engagement contributes to the impact and relevance of social science research given the enabling conditions within institutions.

We show how all university types benefit from engaged scholarship, but through different mechanisms and to different extents—our study shows that public universities are better tied between engagement and policy while private universities perform better on impact measures of both collaboration and dissemination. This further shows the importance of institutional logics and governance on research engagement.

7.1 Theoretical Contributions

This paper adds to scholarship on engaged scholarship and research on higher education in three ways. First, we establish the linkage between engagement and research outcomes empirically in a developing country which is absent in current literature. Second, we incorporate university type as a moderator thereby showing how the impact of engagement is subject to internal incentive structures and governance arrangements. Third, we incorporate GenAI as an enabler of engagement to reflect its role in the research environments that have been impacted by digitalization.

7.2 Policy and Institutional Implications

Our study provides practical policy and institutional implications. For policymakers in national research assessment mechanisms for the social sciences, attention should be paid to measuring engagement and impact. It is important for universities to implement reward structures that recognize engaged scholarship as a legitimate form of academic work alongside traditional disciplines.

University leaders should invest in capacity building, both in terms of enabling research practices, and promoting ethical use of digital technologies such as GenAI for the purposes of communication and dissemination and stakeholder engagement. When implementing these policy approaches, attention must be paid to individual types of institutions to leverage strengths while considering different institutional needs of both public and private universities.

7.3 Limitations and Directions for Future Research

Our study faces a few limitations. We used cross-sectional survey data thereby the possibility for common respondent bias exists. Our study does not allow us to examine longitudinal trends or the different parts of the research lifecycle with longitudinal or mixed methods approaches.

Different social science disciplines and the perspective of the community members provide a rich avenue for future research along with the use of new digital technologies such as GenAI and ethical implications of these new tools. Our study offers an initial cross-section of public and private institutions in an Indian setting, but future research could compare other nations.

7.4 Concluding Remarks

The relevance of scholarly work to society will only be enhanced through the work that is conducted via engagement. This paper provides empirical evidence that engagement and impact are closely linked under an appropriate institutional structure and incentive scheme in Indian universities. Through examining mechanisms by which engagement affects research outcomes, this paper offers a foundation for future research in creating a more participatory research environment.

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