

Attachment 1 - IEE Index Proposal DRAFT

AUTM's Proposal for the Institutional Economic Engagement Index

Metrics for public research institution contributions to the economic health of their communities is a central topic among research institutions and state governments. The Association of University Technology Managers (AUTM) has:

- spent the past three years exploring new metrics for technology and knowledge transfer,
- 20 years involvement in producing an annual licensing activity survey,
- developed a partnership with UNICO in the United Kingdom to examine use of metrics in the general field of technology transfer, and
- worked with U.S. higher education associations, governmental organizations and non-profit groups to identify new metrics.

As a result of these actions, AUTM has designed a draft proposal for metrics to describe and assess the ability for a given research institution to make an impact on the community and economy. AUTM recognizes that this proposal is not a finished work. Rather, it is intended to stimulate a discussion which hones proposed metric themes into specific measures suitable for the needs of a broad range of Institutions and stakeholders. Institutions define their goals and communities differently, so while all institutions would answer the same questions, the answers may not be directly comparable. However, an expectation for these measures should be to allow institutions identifying their own goals within a reporting of these metrics to provide community members better information and context through them, and whatever ancillary information an institution would provide.

Suggested Reporting

AUTM's suggestion is that the data from all these proposed measures, in addition to those measures that the institution feels are missing from a comprehensive picture of how that specific institution impacts its community, be combined in one report. A single report, released by a senior administrative officer at a research institution, communicates the union of the institution's efforts in these areas, and also can better place the individual offices / functions which combine to achieve these impacts in context. AUTM has identified certain areas where AUTM would remain active in measurement. However, there are other institutional activities with which AUTM members are not always strongly associated, or do not create (or have access to) the required data. Other associations would be better data "owners" in some cases – if institutions determined that an organization is best to set standards, collect, collate & report data. Institutions may be able to achieve effective reporting for some measures themselves, though this lacks the ability to compare to peers, a request often made by governing boards. The breadth of measurement is important and UNICO's work in the UK has helped to demonstrate that reporting only on licensing activity seriously understates university contribution and that reporting the broader range of activities better demonstrates the knowledge transfer achieved, which occurs through many more channels than simply intellectual property licensing.

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Selection of Categories

AUTM suggests these categories, because research institutions operate within a context. The city; local, regional and national government; business support services and policies; funding; etc. all impact what an institution can do. In addition, once an organization external to the research institution has control over a research institution asset, that external organization's actions are much more critical any potential impact than the institution's activities.

The Innovation Ecosystem

The diagram below seeks to explain the relationship of university research to economic impact and the various channels through which research outputs are transferred to the end-user community who achieve the end impact. Some important elements of the system that must be stressed are:

- the ecosystem is dynamic and 'chaotic'. Outputs from research can go into the system and 'bounce around' for decades through formal and informal transfer mechanisms. This is a key reason why direct monitoring of impact resulting from research is so difficult.
- There is a wide range of channels through which university knowledge flows to end users and it is dangerous to focus too narrowly on formal licensing. UK data would suggest that the volume of knowledge transferred through the other channels is significantly greater than that transferred through licensing.
- The final economic impacts are created by partners of the university, rather than by the university itself. Also, these partners are much affected by other external factors as by the quality of the university's knowledge or technology, so the direct influence of the university on the final economic impact is limited. The university's key role is to help the end-users to achieve impact.

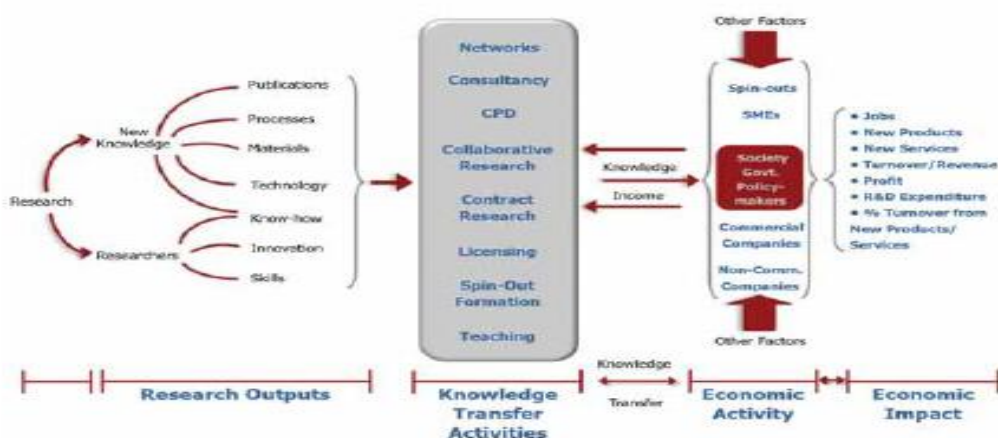


Figure 1 – Model of Knowledge Transfer within the Innovation Ecosystem (Source: University of Glasgow)

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All of these factors mitigate against a simple, direct measure of university economic impact and requires that we develop a basket and a range of measures to capture the key elements and different areas of this complex system. Thus, categories about the institution, the community, as well as the offices and players having specific responsibilities in these areas, are appropriate for inclusion in the metrics.

Proposed metric theme / area	Annual or less regularly?	AUTM measure?	Others measure?
<i>Institutional support for entrepreneurship & economic development</i>			
1. Conflict of interest policy and procedures support institution – community engagement	L		X
2. Sales of goods and services policies and procedures support institution – community engagement	L		X
3. Leave of absence policies and procedures support institution – community engagement	L		X
4. Institution has stated goals, policies and resources which support institution – community engagement. Programs to support faculty – staff interaction / Promotion & Tenure policy	L		X
5. Institution's senior administration has demonstrable support for institution- community engagement	L		X
6. Institution has dedicated staff comparable to peer institutions responsible for enabling the public use of institution works	L	X	
7. Institution's finances are structured to not require or maximize income from community – institution engagement. . . institution has budget to support community – institution engagement	L		X
8. Institution has clearly identified mechanisms on front page of website to engage with institution	L		
<i>Ecosystem of institution</i>			
1. State / city / etc. policies and procedures which enable easy business establishment (nature - fund of funds, investment programs, tax)	L		X
2. Business support services and activities available to local companies (nature of services, number of staff, annual budget, diversity of support – contributors to budget, their key metrics)	L		X
3. Incubator with business support services to support small companies (number of staff, number of clients, annual budget, diversity of support – contributors to budget, sq. ft. space available,)	L		X

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4. Seed funds active locally to support small companies (number, fund size, focus areas, average investment size, annualized number of investments)	L		X
5. Venture funds active locally to support growth of companies (number, fund size, focus areas, average investment size, annualized number of investments)	L		X
6. Mechanisms for connecting professionals active in area to entrepreneurial activities	L		X
7. Creative Class Ranking of Metropolitan Area	L		X
8. Number of specialized events or community-based organizations for entrepreneurial activity and support			
Human Transfer Activities			
1. Number of students enrolled / graduated / year	A		X
2. Number of graduate students enrolled / year	A		X
3. Number of graduates who remain within 60 miles of alma mater upon graduation	A		X
4. Former institution staff who remain within 60 miles of former employer	A		X
5. Internships	A		x
6. Community work projects (as part of class)	A		x
7. Courses / year designed for external community audience	A		X
8. Continuing professional development class enrollment	A		X
9. Number of students and companies engaged in "capstone" or other experiential learning opportunities	A		X
Technology Knowledge Transfer Activities			
1. Number of agreements signed by institution to enable external use of institution technology	A	X	
2. Number of companies within x miles (or State) of institution who have a contractual relationship with institution regarding technology use or development	A	X	X
3. Number of new companies / year who have new contractual relationships with institution	A	x	X
4. Number of recurring companies / year who have contractual relationships with institution	A	x	X
5. Number of consulting agreements / year with faculty or staff from institution	A		X
6. Number of faculty involved in consulting / research / other knowledge transfer activities with community	A		X
7. Number of companies launched / year associated with institution technology (as evidenced through some type of contractual relationship)	A	x	X
8. Number of start-up companies still in business, and their employment, associated contractually with institution	L		
9. Institution research projects which have strategy for	A	X	

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distribution of research assets			
Network Creation Activities			
1. Community engagement events for increasing economic interactions held by institution designed for community	L		X
2. Number of people met by institution senior officials from community	L		X
Value Creation Activities			
1. Licensing income	A	X	
2. Research income by source type (Federal, Industrial, other)	A		X
3. Other Knowledge transfer income - Consulting income - professional training income - income from economic development agencies - SBIR awards - Investment in spin-out companies.			
4. Gift income from a. private sector companies b. private sector companies with research relations	A		X

AUTM's Role

AUTM's role will be to continue to measure key technology transfer indicators and activities as well as work with other organizations to define new appropriate measures. In addition, AUTM will continue to coordinate with other organizations representing stakeholders within the innovation ecosystem to create a comprehensive set of interlocking measures which are necessary to place not only AUTM measures, but broader university measures, into context within that ecosystem. While we expect organizations to continue to report independently it may be desirable for those organizations which ultimately participate, to create a clearing house or portal to ease access to such independent reports.

AUTM welcomes both your comments on these measures as themes and your suggestions on detailed metrics associated with them. Please **send to** Dana Bostrom at bostrom@pdx.edu.

Note

Community – institution engagement. Mechanisms institutions use to interact with their communities, both formally and informally. Examples are student hiring and internships; company use of institution intellectual property; company use of institution faculty as consultants.