The Italian experience in the evaluation of the socio-economic impact

G7 working group on research assessment

Rome, 9th November 2017
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Evaluation path

how to evaluate Third Mission (TM)?
ONE FINAL INDICATOR FOR THIRD MISSION
VQR 2004-2010

- amounts of third party contracts
- number of granted patents owned by the university
- number of spin-out companies
- presence of incubators
- number of technology transfer consortia and associations
- number of archaeological excavations
- presence of museums
- number of other third mission activities

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TM group of experts (data, evaluation, indicators)

international workshops

consultation of the academic community
VQR 2004-2010

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THIRD MISSION EVALUATION MANUAL & DATABASE
VQR 2004-2010

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ONE FINAL INDICATOR FOR THIRD MISSION

VQR 2011-2014

• Adoption of ANVUR TM Manual
• Broad definition of TM (valorization of research & production of public goods)
• Institution of a TM Evaluation Panel

THIRD MISSION EVALUATION MANUAL & DATABASE

FINAL EVALUATION REPORT ON THIRD MISSION
TM Evaluation Manual

• Classification of activities (what is there inside TM?)
• Evaluation methodology
• Criteria, indicators & questions
Inside Third Mission

the degree of openness of the University towards the socio-economic context through the valorization and transfer of knowledge
valorization of research
transformation of goods supported by public funding (public research) into private goods (economic and commercial applications)

production of public goods
the impact of universities on society at large, through the production of public goods of social, cultural and educational nature
Inside Third Mission

valorization of research

INTELLECTUAL PROPERTY
- inventive activity, portfolio management, exploitation

ACADEMIC SPIN-OUT COMPANIES
- revenues, job creation, demography, growth rate, collaboration with the university, exit strategies

THIRD PARTY FUNDING
- third party research, service and teaching, institutional funding, industry funding

COLLABORATION WITH INTERMEDIATION AGENCIES
- promotion of territorial networking, use and coordination of internal resources, use of external structures

production of public goods

CULTURAL HERITAGE
- museums, archaeological excavations, historical buildings (conservation and access)

CONTRIBUTION TO PUBLIC HEALTH
- clinical experimentation, bio-banks and clinical research centers

LIFELONG LEARNING
- volume of LLL provided, use of the potential teaching body, impact on the population

PUBLIC ENGAGEMENT
- non-profit activities with educational, cultural and social value (clarity of objectives, entity of the committed resources, impact)
<table>
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Evaluation approach & methodology

• Evaluation takes place area by area
• Universities are evaluated only if active in one area
• The presence of the university in each area is motivated by the institutional strategy and associated resources
• Evaluation is carried out by informed peer review, analysis of quantitative indicators through expert judgement
Criteria, indicators & questions
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**EXAMPLE:**

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<tr>
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ability to strategically choose the inventions to be valorized through assignments, licenses, options and spin-out constitutions
**Criteria, indicators & questions**

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<th>INDICATORS</th>
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<tr>
<td>1. number of assignments, licenses, options contracts / total number of university patents</td>
</tr>
<tr>
<td>2. number of spin-out companies using university patents / total number of university patents</td>
</tr>
<tr>
<td>3. total revenues / total number of university patents</td>
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**Criteria, indicators & questions**

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<td>QUESTIONS</td>
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<tr>
<td>1.</td>
<td>Has the university developed a policy on intellectual property management and exploitation?</td>
</tr>
<tr>
<td>2.</td>
<td>Is the intellectual property portfolio able to attract the interest of the economic world and obtain a flow of revenues?</td>
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For the 8 TM areas, standardized and comparable data related to all the universities have been collected.

Data are often drawn directly from official databases (European Patent Office for patents, Chamber of Commerce for spin-out companies):

- quality, homogeneity and continuity in data collection
- reduction of the burden & costs for universities

On this base, 90 TM indicators have been produced and used by the VQR evaluation panel.
TM in VQR 2011-2014

• The evaluation of TM has been inserted in the 2011-2014 Research Evaluation Exercise (DM 458/2015, art. 2 c. 6):
  • Adoption of the Manual definition and methodology
  • TM evaluation is independent from research performance
  • It is based on informed peer review: institution of the Evaluation Panel
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<td>Monitoring of the TM</td>
<td>85%</td>
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<td>Presence of a manager of the TM</td>
<td>74%</td>
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<tr>
<td>Integration of the TM-related functions</td>
<td>53%</td>
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TM in Italian Universities at a glance 2/4

valorization of research

- 2011-2014: 2989 academic patents
- Total revenues of patents published in 2011-2014: €1,75 million
- 30% of universities in incubators/science parks
- Third party funding: 945 million €
- In 2014: 823 active spin-out companies
- Total revenues of all the spin-out companies in 2011-2014: 615 million €
valorization of research

• on average 8 patents per 1,000 researchers from STEM
• on average 1 patent out of 3 is owned by the university
• on average 8 protected plant varieties per 1,000 researchers from Agricultural Sciences
• in ten years constant increase in the creation of spin-out companies (same definition in VQR1 and VQR2)
• increase in the economic and occupational impact of the spin-out companies and in the share of acquisition (exit)
TM in Italian Universities at a glance 4/4

production of public goods

- In 2014: 115 university museum systems
- 414 archaeological excavations
- 118 clinical research centers and bio-banks
- 3,000 Life Long Learning courses
- 96% of universities report Public Engagement activities
- 2,300 clinical trials
Critical issues and future perspectives

• Need for data quality improvement:
  • New connection to official databases for further areas (better quality and less costs for universities)
  • Clear definitions within the TM areas
  • Improvement in the monitoring processes by universities
Thanks for your attention

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This work has been done in collaboration with Sandra Romagnosi