



Kuriame
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VISIONARY
ANALYTICS

EX-POST EVALUATION OF THE MINISTRY OF ECONOMY INSTRUMENT **INNO-VOUCHERS** **LT** IMPACT ON BUSINESS R&D EXPENDITURE

SUMMARY OF FINAL REPORT

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Evaluation objectives and questions

The evaluation was implemented in September 2016 – February 2017 under the contract “Regarding ex-post evaluation of the Ministry of Economy instrument Inno-vouchers LT impact on business research and development (R&D) expenditure services” (contract No. 8-84) between JSC Visionary Analytics and Lithuanian Ministry of Economy signed on the 29th of August, 2016. The contract was financed from the European Social Fund and national budget under the Operational Programme priority's “Technical assistance for communication and evaluation of the Operational Programme” instrument “Evaluation of EU funds” (no. 12.0.2-CPVA-V-203).

The objective is to evaluate the relevance, efficiency, effectiveness and impact of the policy instrument Inno-vouchers LT, implemented in 2012-2014. The evaluation aims to answer the following **evaluation questions**:

- To evaluate if the monitoring indicators are relevant to the intervention logic and are appropriate to measure the benefits of the policy instrument.
- To evaluate the scope of the policy instrument objectives' achievements.
- To evaluate the appropriateness, relevance and quality of the public research and education organisations (PRO) services in all R&D stages for small or medium enterprises (SMEs) of different age and R&D experience.
- To evaluate the relevance and efficiency of the policy instrument's administration processes. To analyse the key problems of the instrument implementation.
- To analyse the policy instrument's impact on productivity, competitiveness, cooperation with PRO, R&D activities and expenditure of financed SMEs. In addition, to analyse the above mentioned impact in the different R&D stages.
- To evaluate the additionality of EU funds allocated to the policy instrument in euros.

The **web scraping** allowed to automatically collect data from a couple of web pages (<http://imones.lrytas.lt/>, <http://rekvizitai.vz.lt/> and [web page of Lithuania Statistics Office](#)). The collected data included SMEs' NACE codes, age, No. of employees, turnover, debt and city of registration. It allowed to analyse SMEs and policy instrument descriptive statistics in various breakdowns.

Four **surveys** were open for four weeks (from the 24th of October to the 21st of November, 2016). Before that the surveys were programmed using Surveygizmo tool and piloted with 2 respondents. In order to achieve higher response rate, five reminders were sent to take participate in the survey; and over thousand reminder phone calls were made. The survey statistics are provided in the table 1 below.

Table 1. Survey statistics

Type of survey	Invitations send	Number of responses
1. Survey for financed SMEs which successfully completed their projects	676	354
2. Survey for SMEs which applied for the policy instrument, but did not get the funding	427	145
3. Survey for financed SMEs which did not manage to complete their projects successfully	37	14
4. Survey for PRO researchers who provided services under this policy instrument	288	149
<i>Total:</i>	<i>1428</i>	<i>662</i>

Source: Visionary Analytics, 2017.

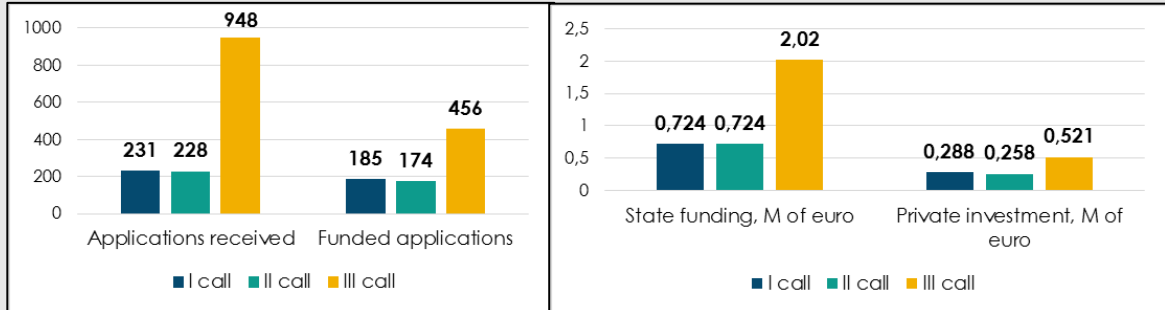
Methodology

The evaluation used theory based impact evaluation and counterfactual impact evaluation methods. The following data collection methods were used: desk research, case studies of four other EU countries, survey, interview, web scraping, statistical and graphical analysis, and two focus groups. The focus groups were held on the 13th of October and on the 15th of December, 2016.



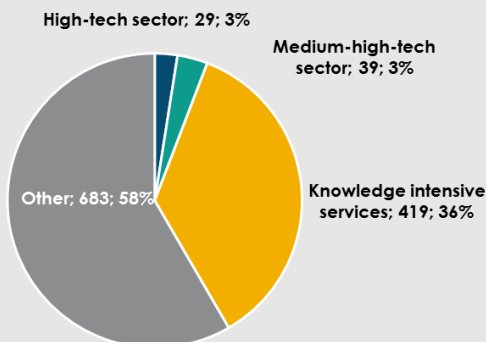
Inno-vouchers LT implementation statistics

❖ MITA launched three calls to apply for funding of Inno-vouchers LT during 2012-2014. In total 815 projects were funded with €3.5M, while 776 of them were completed successfully. The third call received the highest number of applications as the number of applications was not limited. The other two calls were closed after receiving applications for the fixed amount of funding.

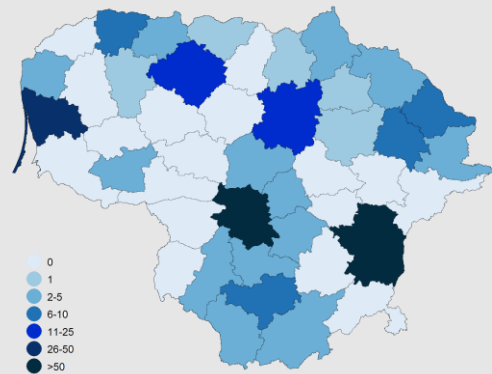


❖ SMEs in the two largest cities (Vilnius and Kaunas) implemented around two thirds of the total number projects.

❖ SMEs in the low technology, medium-high technology, and knowledge intensive services sectors were most active at both applying for funding and implementing the projects. Specifically, wholesale trade, except of motor vehicles and motorcycles, computer programming, consulting and law activities sectors were most active.



The number of SMEs which implemented projects by municipality

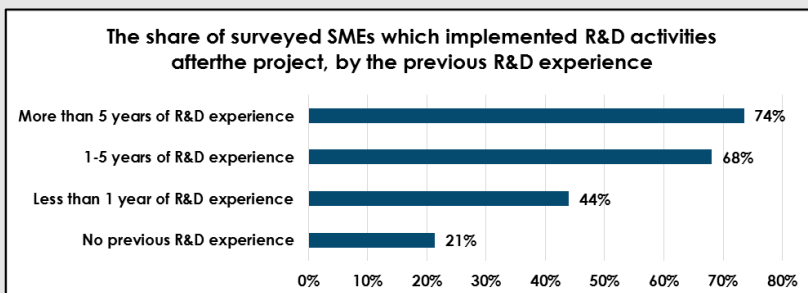


89% of SMEs in the third call had no previous cooperation experience with PRO before applying for the projects. The rest two calls involved 45% of such SMEs.

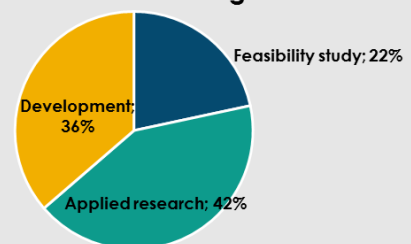
At least 288 researchers provided R&D services. 86% of surveyed PRO researchers had cooperation experience with business before the projects.

89% of SMEs in the third call and 38% of SMEs in other two calls did not have R&D experience while applying for the funding.

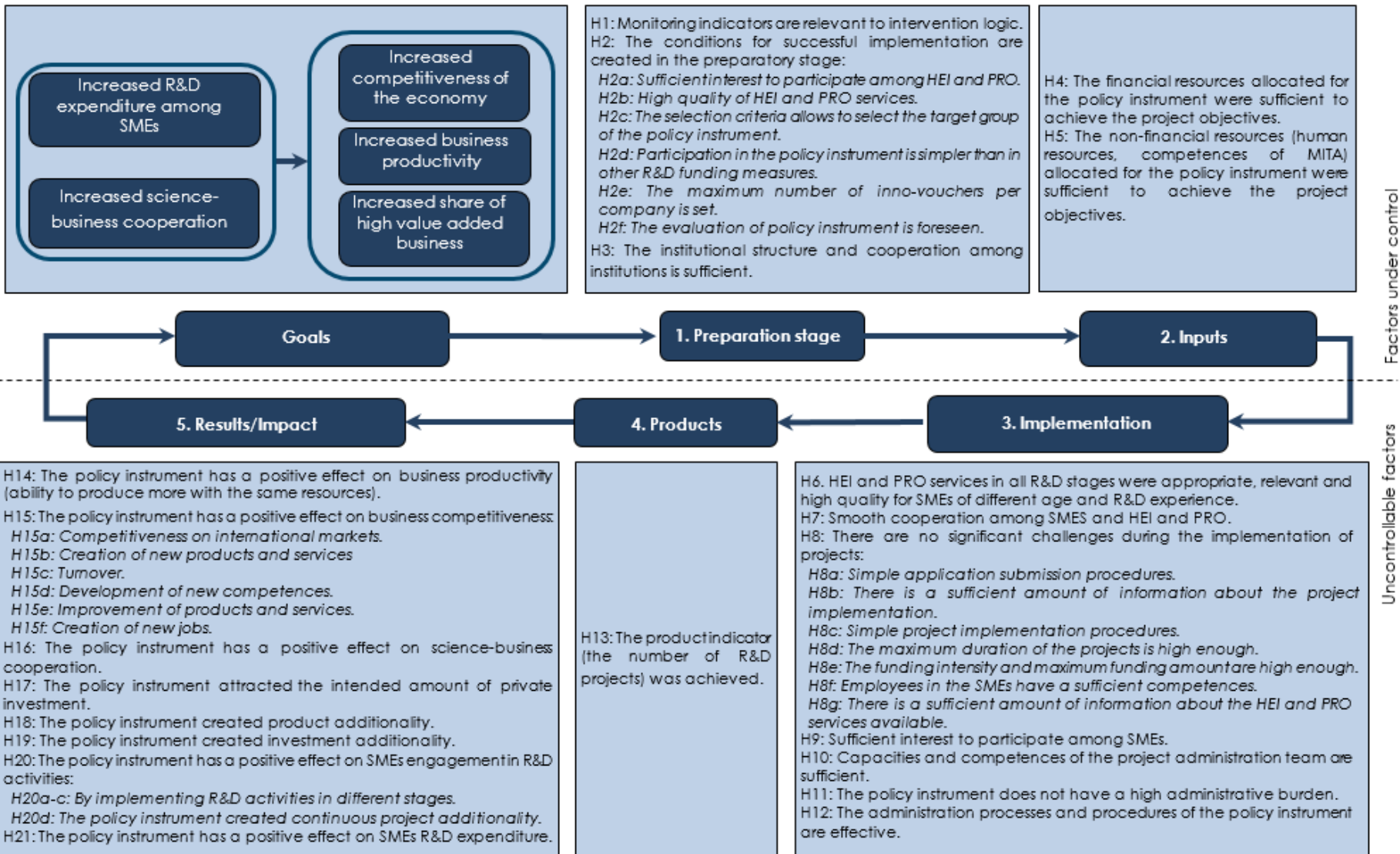
❖ Kaunas University of Technology (KTU) was the leader in providing R&D services (31.45% of total service contracts), followed by Vilnius Gediminas Technical University and Vilnius University.



The share of projects in different R&D stages



Intervention logic of the Inno-vouchers



Source: Visionary Analytics, 2017.



Conclusions about Inno-vouchers effectiveness and impact



€1.03M of private investment attracted. The additionality of this investment was between €0.4 and €0.7M.



66.5% of surveyed SMEs either continued to cooperate with PRO or intended to do so after the project.



Positive impact on SMEs engagement in R&D activities. ~20% of surveyed SMEs without R&D experience before the projects already started new R&D activities.



SMEs without cooperation experience with PRO are more positive about such cooperation in the future than SMEs which did not get the funding.



No evidence of positive significant impact on SMEs R&D expenditure.



No significant impact on SMEs business productivity and competitiveness indicators.

- ❖ Inno-vouchers LT projects attracted €1.03M of private investment (118% of initial value). According to the survey, approx. half of the projects would not have been implemented without State funding. The rest of the projects would have been delayed or implemented at a smaller scope. Hence, **the investment additionality of the projects was between €0.4 and €0.7M.**
- ❖ **Inno-vouchers LT allowed SMEs to start implementing new R&D activities.** Positive impact on SMEs engagement in R&D activities was found using counterfactual impact evaluation, while comparing the share of funded and not funded SMEs which implemented R&D activities before and after the projects (using difference in difference technique). Approx. 20% of surveyed SMEs without R&D experience have already started R&D activities. On average, each of these SMEs invested €17,000 in R&D in 2015-2016.
- ❖ **The counterfactual analysis did not find any positive significant impact on SMEs R&D expenditure in 2015-2016. SMEs which were not funded had higher R&D expenditures than the funded SMEs after the projects.** The reason for that - the selection criteria of the third Inno-vouchers LT call. SMEs without R&D experience were prioritised, hence they had lower R&D expenditure than the SMEs which were not funded before the projects.
- ❖ **Inno-vouchers LT had a positive impact on science business cooperation.** Funded SMEs were more likely to cooperate with PRO in the future than SMEs which did not get funding. This impact was rated between 0.44 and 0.62 on the scale of 7 or 8. In addition, 66.5% of surveyed SMEs have either continued to cooperate with PRO or have intended to do so after the project. The share of such SMEs which did not get funding were approx. 20% lower.
- ❖ **Inno-vouchers LT created behavioural additionality and had a positive impact on new science business cooperation links.** According to the survey, SMEs without cooperation experience with PRO are more positive about such cooperation in the future than SMEs which did not get the funding. 8% of funded SMEs without cooperation experience with PRO before project have already started to cooperate with PRO after innovation voucher projects.
- ❖ The share of funded SMEs which cooperated with PROs before the project and have already continued such cooperation is 19% higher than the share of not funded SMEs which have already continued such cooperation.
- ❖ **The counterfactual impact evaluation found no evidence of Inno-vouchers LT impact on SMEs business productivity and competitiveness indicators.** This outcome was expected before the evaluation as the amount of funding for innovation voucher is relatively small to have an impact on such business indicators. In addition, externalities may have even greater impact on business productivity and competitiveness than the innovation voucher funding. However, according to subjective perceptions of Inno-vouchers LT impact, the policy instrument had a positive effect on the development of new products (for 67% of respondents), development of new competences (for 67% respondents), creation of new products or services (for 63% of respondents), business competitiveness (for 56% of respondents) and business productivity (for 40% respondents). These results should be interpreted carefully and cannot be considered as hard evidence.

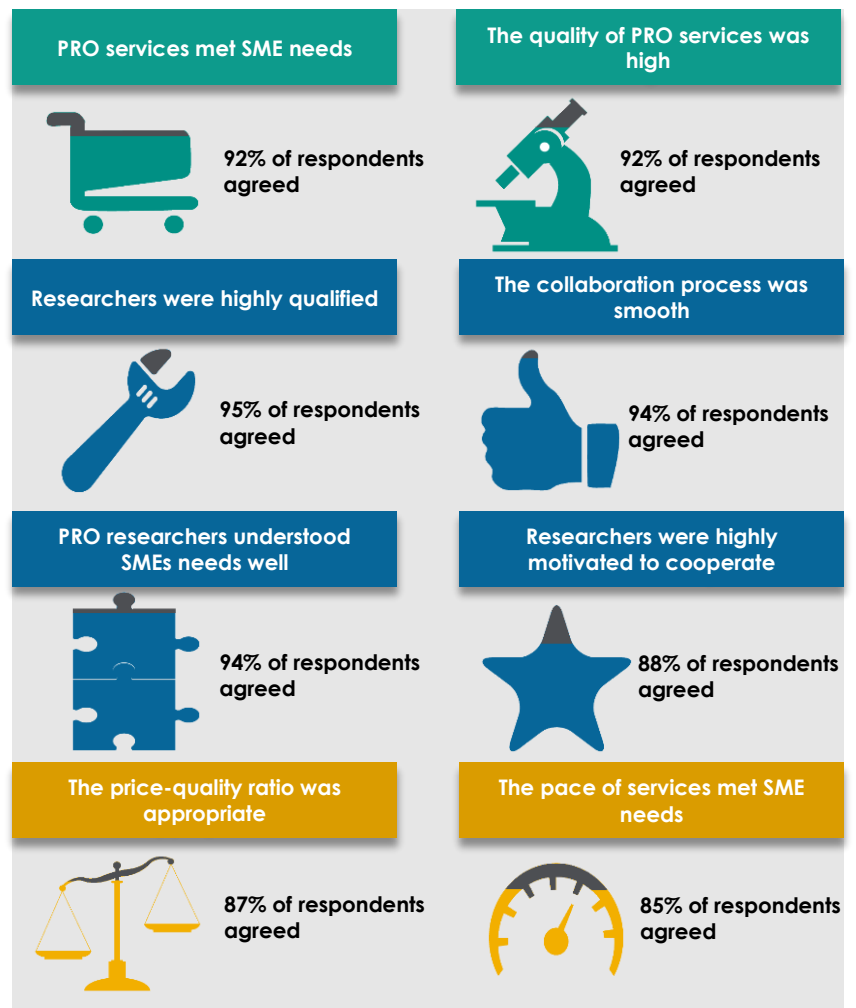
Recommendations

1. **Differentiate policy instrument for different target groups**, according to the R&D and cooperation with PRO experience:
 - a. Launch different calls for two above mentioned groups.
 - b. Use criteria of higher impact and innovativeness in the call for more experienced SMEs in order to select ideas with high potential.



Conclusions about the relevance of services provided by PRO

- ❖ **The supply of PRO services is sufficient. However, the process of finding a service provider is imperfect.** PRO offered 1812 appropriate services for the third call of Inno-vouchers LT. According to the survey, 92% of funded SMEs agreed that PRO services met their needs. More specifically, they managed to find the service they needed on the list. Despite this positive opinion, the list of services is very long and the descriptions of the services are not detailed enough. In addition, the services in the list do not necessarily meet business needs as PRO define the services for the list based on their own interests. These disadvantages may be especially relevant to inexperienced SMEs.
- ❖ **The quality of PRO services and cooperation process met SME needs.** SMEs younger than one year were the most satisfied with PRO services and cooperation. This may be related to lower SME resources, competence and expectations, and even a little help from PRO seemed significant. These may be among the reasons SMEs with lower R&D experience were more satisfied with the PRO services.








Recommendations

2. **To ensure a user-friendly system for SMEs to find appropriate PRO services:**
 - a. Enable SMEs to get funding for the services that are not on the initial list but meet the eligibility criteria. Such services must be offered by PRO, which is included in the list of services and must match the smart specialisation priorities and R&D activity criteria.
 - b. Publish basic data of the previous Inno-voucher project results on the MITA website, including the information about services provided and how the project results were applied. In addition, there is a need to motivate PRO to provide more detailed information about their previous cooperation with businesses and the results of that cooperation in their websites, including client reviews (they can be anonymous).
 - c. Businesses that have a specific problem, but are not aware of an R&D solution yet, should be able to formulate their needs and find alternative solutions through R&D services exchange, and they should be provided opportunity to search for the service they need through the platform e-science gateway. This would diminish the need for the PRO services list.








Conclusions about the Inno-vouchers LT implementation problems

Key Inno-vouchers LT implementation problems, according to the survey results:

-  The maximum amount of available state funding was identified as a key factor limiting successful implementation of the project by 48.5% of funded SMEs and 77.5% of PRO researchers.
-  73.4% of PRO researchers are not satisfied with the administrative fee asked by their PRO. According to the researchers, this fee varies from 20% to 40% of the total value of the inno-voucher.
-  34% of SMEs, especially small and micro enterprises, identified the requirement to pay for the PRO services before receiving state funding as an important problem.
-  Short duration of the project was considered by 25% of SMEs and 61.2% of researchers. This factor is fostered by other researchers' obligations in their institutions.
-  Half of the projects suffered from various misunderstandings of what needed to be achieved. This problem often occurs when experienced researchers are working with unexperienced SMEs. 44.9% of researchers identified differing understanding of intended project results as a significant problem.

Researchers are interested to work with businesses, but their working conditions diminish this interest. The following factors could increase their motivation to work with businesses:

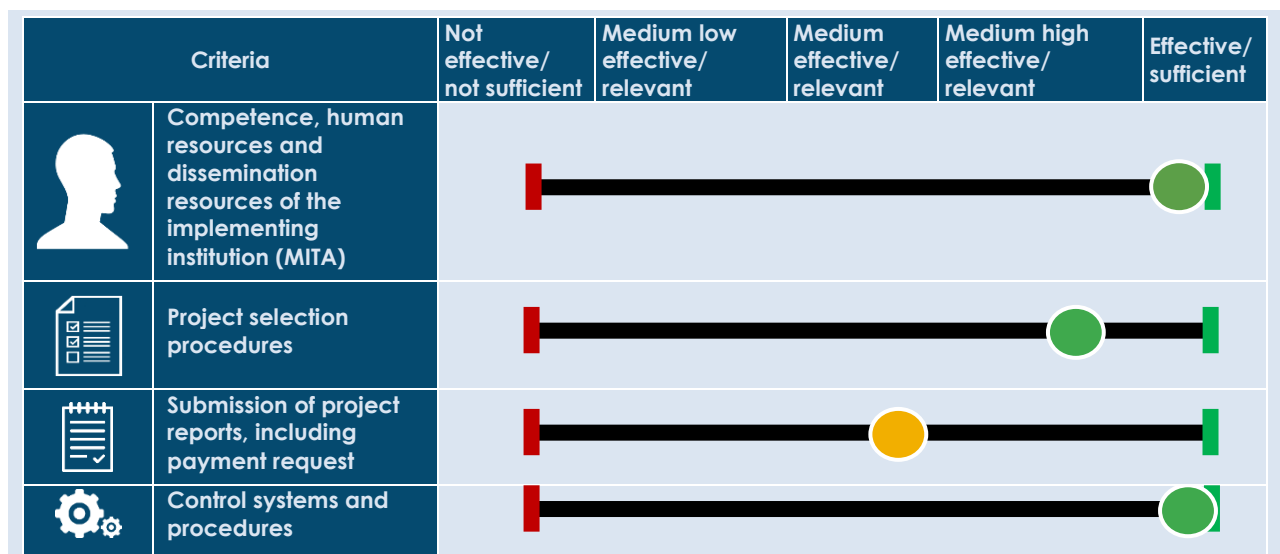
-  Interesting research topics (identified by 83% surveyed researchers). This implies that researchers are more motivated to work with experienced SMEs.
-  Adjustment of researchers' career criteria by giving more weight to R&D activities with commercial potential (identified by 77%).
-  Lower teaching hours and other obligations (identified by 54%).
-  Better availability of young researchers (identified by 68%).
-  Professional knowledge management services in PRO (identified by 65%). This would reduce the administrative workload and simplify the search for business partners.

Recommendations

3. **Raise the maximum available state funding** at least to €10 thousand.
4. **Extend the maximum project duration** to 12 months.
5. **Strengthen the incentives for PRO researchers to work with businesses by overlooking researchers' career criteria, e.g.:**
 - a. Allow researchers to choose between the R&D research (with less teaching hours) and academic career path. Apply rules tailored for these two alternative career paths.
 - b. Review researchers employment contracts by allowing them to spend more time on research with businesses and to have a reward system for successful commercial projects.
 - c. Allow researchers to adjust their teaching schedule after getting involved in the project with businesses.
6. **Ensure professional knowledge management services in PRO.** This would help to ensure high quality service and project pipeline. e.g.:
 - a. Ensure sufficient resources for qualified and competent human resources in technology transfer and innovation centres who would be responsible for relations management and cooperation with businesses. PRO should be more proactive instead of waiting for business to order their services.
 - b. Equip open innovation centres with high quality human resources competent to work with the up-to-date equipment, which if necessary could be loaned to business together with the equipment.
 - c. Ensure high quality communication provision about the services available and how they can be applied in business contexts. In addition, provide information about previous cooperation with businesses, the results of that cooperation with feedback from business.
7. **Create working environment favourable working environment for young researchers, most importantly, ensuring a competitive salary system.**



Conclusions about the Inno-vouchers LT administration process



- ❖ **Competence, human resources and information dissemination resources of the implementing institution were appropriate.** 92% of project implementers were satisfied with the quality of MITA's assistance. MITA services and competence were rated lower among financed SMEs which did not manage to complete their projects successfully. However, none of them provided an explanation for low ratings. Hence this can be explained by the disappointment of unsuccessful project implementation.
- ❖ **Project selection procedures**, e.g. preparation, submission, adjustment of application were medium-high effective. Effectiveness was diminished by:
 - a. **Irregular schedule of calls for applications.** This makes it hard to plan resources and cooperation with PRO.
 - b. **Administrative burden.** Quarter of funded and one third of not funded surveyed SMEs stated that application procedures had high administrative burden.
 - c. **Selection criteria and justification for rejecting applications.** Majority of SMEs trusted that the selection process was transparent. However, 22% of unfunded SMEs and 11% of funded SMEs disagreed that the selection process was transparent and/or had clearly defined criteria.
- ❖ **Submission of project reports, including payment request, was rated as medium effective.** Only approx. 20% of surveyed SMEs stated that submission of project report had high administrative burden and detailed evaluation whether project activities were R&D complicates the implementation of projects. However, compared to the similar policy instruments in the Netherlands administrative burden in Lithuania was 27 times higher (30 minutes in the Netherlands¹ compared to 13.6 hours in Lithuania). Hence, Inno-vouchers LT is considered as a policy instrument with low administrative burden compared to other policy instruments in Lithuania, but in the context of similar measures in other EU countries the administrative burden is high.
- ❖ **Control systems and procedures** were effective. Only in rare cases SMEs were unhappy with them, e.g. when the control (company visit) procedures were postponed. Most of the complaints came from SMEs with no previous R&D or cooperation experience.

Recommendations

8. **Reduce the administrative burden** for MITA and SMEs:
 - a. Allow to submit applications online.
 - b. Shorten project report to 1-3 pages. This can be done by requiring to report only implemented activities and project expenditures without detailed assessment of R&D criterion (it is already performed at the application assessment stage).
9. **Announce calls for funding in advance and according to stable schedule. Launch one or two calls every year.**

¹ Maarten Comet, Björn Vromen, Marc van der Steeg, „Do innovation vouchers help SMEs to cross the bridge towards science?“, CPB Discussion Paper nr. 58, 2006.

