

Evaluation of Smart Impact and Process Evaluation

October 2015

R&D

Research and Development is
investigative activities that aim
new products or procedures in
innovations and improvement in
Market research is one of the

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Executive Summary

Context

1. Innovate UK's Smart instrument offers funding to small and medium-sized enterprises (SMEs) across the UK to engage in R&D projects, which may lead to the development of new products, processes and services. Smart is a competitive fund, 'always open' through rolling funding rounds, and available to SMEs in all markets and sectors. Three grant types are available, supporting R&D activity at stages moving progressively towards the commercialisation of R&D: Proof of Market grants, Proof of Concept grants, and Development of Prototype grants. Private match funding is required for all Smart grants.
2. Since 2011 when Innovate UK took on responsibility for Smart¹, around 1,600 projects have been funded with a value of £160m of Smart grants. These 1,600 projects were selected competitively from approaching 7,000 applications. Smart has a well-established rationale, focused on addressing market failures in the investment in R&D activity by SMEs. These market failures relate to funding gaps caused by uncertainties and information asymmetries, and positive externalities associated with the benefits that can be derived from R&D by other parties.
3. Smart operates within a broad landscape of innovation support delivered by Innovate UK and others at a national, sub-national and local level. Within Innovate UK, Smart is positioned as one of the methods of supporting business innovation and growth and is central to Innovate UK's strategic ambitions to help accelerate UK economic growth by nurturing small high-growth potential firms to become high-growth mid-sized companies with strong productivity and export success. Smart complements Innovate UK's sector and technology-based innovation support and other activities which suit later stages of the innovation journey.
4. SQW Ltd, working with Cambridge Econometrics and BMG Research, was commissioned by Innovate UK in September 2014 to undertake an evaluation of Smart. The evaluation involves three elements: an initial retrospective impact evaluation to assess the impact to date of Smart since 2011; a process evaluation to assess the effectiveness of the Smart process from start to finish and identify any scope for improvements; and a longitudinal evaluation to assess the impact of Smart projects over time. The first two elements of the evaluation study (retrospective impact evaluation and process evaluation) are the focus of this Executive Summary and accompanying full report.

Findings of the retrospective impact evaluation

5. The purpose of the retrospective impact evaluation was to provide a robust assessment of the impact of Smart projects delivered since Innovate UK took on responsibility for the instrument. It was focused specifically on Smart projects funded in the 2011/12 and 2012/13 financial years (circa 920 projects and £91m in Smart funding), most of which were completed by the time of the study and from which effects can be estimated, albeit still at an early stage

¹ Replacing the Grants for R&D scheme previously run by the regional development agencies in England, and rolled out to cover the UK as a whole

given the time-paths to commercialisation and economic impact often associated with R&D activity.

6. The retrospective impact evaluation combined 'self-reported' estimates of impact with a quasi-experimental method, applying difference-in-difference analysis that compared the performance of a group of firms successful in securing a Smart award (beneficiaries) to a comparison group of firms that applied unsuccessfully for a Smart award (non-beneficiaries). The non-beneficiaries were drawn from firms that had scored highly on the Smart application (around or over the 70% mark that is deemed 'fundable' by Innovate UK) but were not funded given budget constraints, in order to provide as robust a comparison group as possible.
7. The core evidence base for both approaches was a survey of 293 beneficiaries and 189 non-beneficiaries, supported by analysis of performance monitoring data provided by Innovate UK. A series of case studies were also completed to provide further insight into the effects of Smart on beneficiary firms.
8. The self-reported evidence indicated that Smart has led to positive effects on beneficiary firms, as perceived by the firms themselves. Whilst the majority (albeit not all) of quantitative effects of Smart in terms of employment and sales remain 'expected' rather than 'realised' by early 2015, this is consistent with the time-paths to commercialisation.
9. Other positive effects of Smart identified by the research, and evident at this stage, included enhanced skills and innovation capacity, filed and secured patents and other intellectual property measures, improved potential or realised ability to access private finance, and an increased propensity to export. Further, around a third of beneficiaries surveyed had introduced a new product/service to the market as a result of Smart, with over half expecting to do so in the future. There was also evidence of spillover effects from Smart, which will be probed and tested more fully in the longitudinal evaluation.
10. There was some deadweight² associated with Smart, both in terms of project and outcome additionality. In terms of project additionality (that is whether the *activity* supported by Smart would have progressed without the award), the evidence from the non-beneficiary cohort is that over half of the firms that applied unsuccessfully (just) for a Smart award took their project forward, particularly following Development of Prototype applications. However, projects taken forward without Smart were generally delayed and of a lower quality, indicating some degree of project additionality.
11. In terms of outcome additionality (that is whether the outcomes associated with Smart would have been delivered without the award), timing effects were most common, meaning that Smart enabled firms to undertake their project sooner than would have been the case. There was also evidence of full deadweight (i.e. all of the benefits would have been delivered without Smart), and full non-deadweight (i.e. none of the benefits would have been delivered without Smart). The overall level of outcome additionality (also taking into account displacement and substitution effects) was on average around one half, i.e. half of the benefits associated with Smart were additional.

² Deadweight means where a policy or intervention supports outcomes which would have occurred anyway (see *The Magenta Book, Guidance for Evaluation*)

12. In aggregate terms, based on self-reported analysis, the net impact by 2017 of Smart grants awarded over 2011/12 and 2012/13 was estimated to be: increased employment in beneficiary firms of between 3,250 and 3,870 jobs; and net additional gross value added (GVA) of £250m to £310m (increasing to GVA of £380m to £470m including multiplier effects). For the £91m in grant funding, these are positive findings, and suggest a positive return on investment for public monies.³
13. At this stage, comparing the performance of firms awarded Smart grants with the comparison group through difference-in-difference analysis indicated that there was no statistically significant evidence that firms awarded Smart grants have performed 'better'. However, segmenting the sample highlights that Smart has had a statistically significant effect on particular sub-groups of firms benefiting from the instrument.
14. Notably, when comparison group firms with R&D projects that went forward anyway are excluded from the analysis, Smart is found to have a positive effect on turnover, employment and R&D expenditure. This finding is linked to the self-reported evidence that a high proportion of non-beneficiaries took their project forward in any case that was noted above. In other words, where non-beneficiary firms did take forward the R&D project anyway there were no statistically significant effects of Smart, but where they did not (because they did not have the finance to do so or were not willing to invest in R&D given the costs/uncertainty of benefits), the effects of Smart are positive, and statistically significant.
15. Further, the econometric analysis suggests that the effects of Smart were most pronounced for Proof of Concept awards (where there was evidence of a statistically significant effect on turnover, employment and the propensity to export), firms supported that were under one year old at the point of application (where there was evidence of a statistically significant effect on employment and R&D expenditure), and firms supported outside of the Greater South East⁴ (though this was restricted to a statistically significant effect on turnover outcomes). These findings have potential implications for the future targeting and operation of Smart.
16. Taken together, the 'self-reported' and difference-in-difference analysis both suggest that engagement in Smart has a positive effect on business performance, including on levels of R&D expenditure, employment, turnover and propensity to export, although the 'self-reported' findings were generally more positive. The self-reported data should therefore be seen as the upper end of the likely scale of impact.
17. Importantly, however, both perspectives suggested that many of the effects of Smart grants in 2011/12-2012/13 remain to be realised, with modest impacts on employment and turnover performance to date. The true effects of Smart grants are not likely to be evident until 2017, and perhaps even beyond that as the products and services developed through Smart are rolled out commercially and start to compete in the market.
18. In this context, whilst it remains too early to be definitive, the retrospective impact evaluation suggests that Smart has performed well since 2011 against its overall strategic aims, supporting firms to engage in R&D activity (a significant portion of which may not have been

³ Return on Investment is discussed in detail in the main body of the report (Section 8), including comparing the findings to an earlier evaluation (applying a different methodology) of the Grant for Research and Development programme, the predecessor to Smart.

⁴ The Greater South East is defined as the South East, London, and East of England.

taken forward otherwise or would have been delayed or of a lower quality), and in doing so delivering positive behavioural change and stimulating further investment in R&D.

Process evaluation

19. The purpose of the process evaluation was to test how the Smart process may affect the impacts that it has, and whether any improvements can be made. The process evaluation was focused on the full period of the delivery of Smart by Innovate UK from April 2011 through to late 2014/early 2015 when the research was undertaken. The process evaluation also sought to test Smart's role in the innovation support landscape across the UK.
20. The process evaluation drew on a mixed-methods approach that included qualitative consultations with beneficiaries and non-beneficiaries focused specifically on the Smart process, consultations with Smart assessors who are responsible for reviewing and scoring project applications, consultations with stakeholders both inside and outside Innovate UK, and a review of Smart documents and monitoring data. The process evaluation also drew on evidence from the beneficiary and non-beneficiary surveys that included questions on the application/assessment and delivery process.
21. The research found that the Smart process as a whole was broadly effective. Smart was found to be meeting an established rationale, and well positioned and understood in the innovation landscape (by firms and those delivering innovation activity). The application, assessment and project delivery processes were also found to be working well overall. Further, there appeared to be clarity amongst firms on which Smart award to apply for, and the evidence suggested that the grant type applied for has been driven by the needs and nature of the R&D project/idea rather than the intervention rate associated with different Smart grants.
22. Nonetheless, the research also identified some areas where there may be a case to consider making changes to improve the process. Notably the evidence suggested that firms supported by Proof of Market awards were 'less satisfied' generally with the process than those of the other grant types. Whilst Proof of Market accounted for a small proportion of the aggregate *value* of Smart grants, they accounted for a broadly equal share of the aggregate *number* of Smart grants as Proof of Concept and Development of Prototype, and were seen to be important as sources of potential demand for later stage awards and wider innovation support programmes inside and outside of Innovate UK.
23. Further, the closing stages of the customer journey, involving the project close-out meeting and aftercare offer, appeared to be working less well and adding less value than the application and delivery stages, and there was some evidence to indicate inconsistencies in the role undertaken by project monitoring officers. Efforts to address these issues identified by beneficiaries may be helpful.
24. Innovate UK may also wish to consider some tweaks to the application and assessment process: feedback from firms indicated a significant amount of time was needed to complete applications (although this will vary, and the time requirements will be less onerous where applicants have a well-developed business plan, which aligns with the increasing intent for Smart to target those with established business plans and so with greater chance of growth); there was a high use of consultants (even though this does not appear to lead to more successful project applications) which can result in a loss of ownership and understanding of

the process; and whilst the rigour of the assessment process appeared to have improved over time a more staged and flexible approach may be helpful to make the process both simpler for applicants and less resource intensive for Innovate UK.

25. Finally, reflecting on Smart's place in the innovation support landscape, the process evaluation found that the instrument was securing a good level of demand from firms that have been engaged with other public sector programmes. It was also recognised as a core part of the offer by firms and stakeholders, on its own merits, and working as part of wider a 'cocktail' of support used by firms to undertake R&D and business development activities. Smart was also seen as a 'stepping stone' to the next stage of support, as firms look to secure additional funding relevant to the stage of project development, both from other publicly funded sources (including other Innovate UK schemes), and from private sources in the form of equity investment focused on the commercialisation of the products/services.
26. In this respect, Smart is playing an important role in Innovate UK's offer, involving products appropriate to firms at different stages of development, and helping firms to access support from other sources, including the market, to bring forward innovative new business ideas, products and services.