

# An Evaluation of the Invest NI Innovation Vouchers Programme

A Final Report to Invest NI

11 November 2014

SQW

# Contents

<b>Executive Summary .....</b>	<b>i</b>
<b>1. Introduction .....</b>	<b>1</b>
<b>2. Context, Rationale and Objectives .....</b>	<b>5</b>
<b>3. Inputs and Activities .....</b>	<b>21</b>
<b>4. Gross Outputs and Outcomes .....</b>	<b>30</b>
<b>5. Assessment of Additionality.....</b>	<b>49</b>
<b>6. Impact and Value for Money .....</b>	<b>59</b>
<b>7. Process Perspectives .....</b>	<b>67</b>
<b>8. Conclusions and Recommendations .....</b>	<b>78</b>

---

<b>Contact:</b>	Joe Duggett	Tel:	0161 475 2109	email:	<a href="mailto:jduggett@sqw.co.uk">jduggett@sqw.co.uk</a>
-----------------	-------------	------	---------------	--------	--

---

---

<b>Approved by:</b>	Simon Pringle	Date:	11 November 2014
	Director		

---

## Executive Summary

1. SQW Ltd was appointed by Invest Northern Ireland (Invest NI) in May 2014 to undertake an evaluation of the Innovation Vouchers Programme (the Programme). The evaluation covers the period from Programme launch in May 2008 to February 2014.
2. The Programme aims to help SMEs in Northern Ireland to address a business issue through innovation. It provides SMEs with a voucher, valued at up to a maximum of £4,000, which can be used to purchase practical advice and expertise from Universities and other publicly funded research bodies in Northern Ireland and the Republic of Ireland.
3. The evaluation study adopted a logic chain approach to test the rationale for intervention, the objectives that emerge, the inputs, activities and outputs delivered, and the resulting outcomes and impacts. The evaluation also assessed the Programme's delivery processes. The work involved analysis of monitoring data/documents, a telephone survey of 200 participants, an online survey of 40 non-participants, and consultations with Knowledge Provider co-ordinators/academics, Invest NI staff, and strategic stakeholders.

## Rationale and objectives

4. Northern Ireland has faced long-term economic, productivity, and innovation challenges, lagging behind the rest of the UK. This provides a challenging backdrop for policymakers, but a sound economic case to intervene. The specific case for the Programme has been made consistently on the presence of information and co-ordination failures that inhibit SMEs from investing in innovation. Ex-post, the evaluation finds the rationale to intervene at the start of the evaluation period was valid, and in policy terms justifiable.
5. This said, whilst many Programme participants were 'new to innovation', this did not always hold true, and perhaps up to a half of participants had engaged in some form of innovation previously. Whilst engagement amongst this group with the Knowledge Base was low, where participants may have been innovating in any case, some deadweight is likely to be present.
6. In 2014, and going forward the innovation challenges remain, and accordingly the general case to intervene to address market and other failures in the innovation space for SMEs remains valid. The policy case to intervene is heightened by the recently published Innovation Strategy highlighting the need to address Northern Ireland's continued underperformance in innovation activity, particularly amongst the small business base.
7. The objectives of the Programme evolved over time, and became increasingly targeted and specific, focused on the longer-term fruits of innovation (employment and GVA), rather than immediate impacts (e.g. changed innovation cultures or propensities). As such, the Programme has had a detailed indication of numeric targets, but no explicit statement of strategic objectives. This is notable given that there appears to be variation between what Invest NI and Knowledge Providers (KPs) think the Programme is about (making links, a first step on an innovation journey) and what participants think it is about (delivering tangible results, products and services).

8. A more strategic set of objectives, focused on what the Programme is looking to achieve for its target group, and for the Northern Ireland economy more broadly, is required. This strategic perspective is well understood at Invest NI, and could be addressed quickly and easily to create a clear and unifying sense of what the Programme is trying to achieve strategically. This depiction needs to span delivery periods (updated as appropriate) to provide a longer-term strategic statement of intent for the Programme to work to.

## Inputs and Activities

9. Total expenditure of the Programme covered by the evaluation, including delivery (with Vouchers awarded to a maximum of £4,000, plus 30% overheads) and staff costs, is estimated at £5.9m. The Programme has supported generally full cost recovery at KPs, although in some cases this has become increasingly marginal: the maximum Voucher has remained at £4,000 since launch in 2008 but had it kept pace with inflation by 2013 it would have been £4,650. The financial viability of Vouchers at their current level was regarded by some KPs as unsustainable – this is a risk needs to be watched for by Invest NI.
10. Over 1,000 Voucher projects were initiated over the evaluation period. The number of applications scaled-up over time, indicating on-going demand, although extending eligibility to sole traders/partnerships in 2012 was the most important factor in the increase in applications experienced. Importantly, the application ‘success rate’, and the ‘initiation rate’ of projects remained consistent, suggesting effective management.
11. Of the 39 participating KPs, four (the two universities in Northern Ireland, South West College, and CAFRE) accounted for over 85% of awarded Vouchers, reflecting both demand and the extent to which the supply-side prioritised Vouchers as a ‘service line’. Whilst care needs to be taken by Invest NI to avoid an undue-reliance on too small a number of institutions, the approach taken allowed for operating flexibility, an operating internal market, and for specific project capabilities to develop.

## Outputs and Outcomes

12. In terms of outputs, over the evaluation period c. 950 projects were completed, and c. 840 firms supported (taking into account a modest number of multiple voucher awards). The completion rate of projects, with under 30 initiated projects ‘abandoned’ is positive, and demonstrates the ‘customer journey’ worked well and that appropriate projects were selected at the outset.
13. In terms of outcomes, the Programme:
  - delivered a range of positive business and capacity outcomes including the introduction of new or significantly improved products, improved understanding of the benefits of innovation, and improved technical capability or understanding
  - delivered, or is expected to deliver, employment benefits for around half of its participants and turnover benefits for around two thirds of its participants
  - delivered modest effects in terms of business costs for a significant minority of participants, although these were both reduced and increased costs (at least in the short-term)

- had a limited effect on the exporting profile of participants, although this is a long-term game and a more direct focus on exporting would be counter-productive; other Invest NI supports are in place to drive this activity.
14. A range of positive outcomes for KPs were evidenced, including enhancements to the knowledge and skills of academics/technologists, improved/extended relationships with the business base, and inputs to curriculum development. For some KPs the Programme was also an important stream of business, financially.
  15. Post-Voucher activity, approaching half of participants received subsequent support from Invest NI: the Programme is generally aligning well with other Invest NI supports, although more could be done to maximise the flow. More widely, half of participants surveyed had undertaken innovation activity post-Voucher, but many reported that they would have done so in any case (i.e. without the Programme), and around a third of all participants surveyed had not remained in touch with a KP. More could be done to maintain and on-leverage the business-knowledge base relationships facilitated by the Programme.

### **Additionality**

16. Primary evidence from participants indicated that the Programme delivered additionality, either fully or in part by bringing outcomes forward. Non-additionality – where the same outcomes would have occurred in any case – was present for under one in ten of the participant survey sample. This is a positive evaluation message.
17. Quantitatively, additionality is estimated at 40% for job creation, and 47% for turnover generation, generated by applying participant-level additionality ratios to gross outcomes. Displacement effects are high, although increasing competition in local markets, demonstrator effects leading to other firms engaging in innovation, and adding to the overall scale of the local market are likely to be positive countervailing forces in play here. Programme additionality is within benchmarks from equivalent programmes.
18. Further to the formal additionality assessment, benefits attributed to the Programme were, in many cases, dependent on additional investment by the participant, and/or linked to wider business development activity including implementing new business strategies and plans.

### **Impact and Value for Money**

19. The net impacts of the Programme, through completed projects and accounting for both achieved and expected future effects, are estimated at c. 380 net jobs created, and c. £8.3 million in net GVA generated.
20. In terms of Value for Money, the following judgements are made:
  - **Economy** is judged as sound, with a significant set of activity delivered, through a tight team, and utilising resource and capacity across the KP base.
  - **Efficiency** is judged to be acceptable, with a cost per net job created (recognising this is just one of the outcomes of the intervention) in line with benchmark evidence from elsewhere, including other immediately-comparable Innovation Voucher regimens.

- **Effectiveness** is judged to be positive, and the Programme is on course to meet its objectives although there is scope to better design-in additionality.
21. An assessment of Return on Investment (RoI) yields a 'positive' result, with an estimated £1.42 of GVA impact generated for each £1 of investment by Invest NI (and £1.67 if Invest NI salary costs are excluded). This is in line with the target of £1.39 for the 2012-15 period (that excludes Invest NI staff costs). As such, the Northern Ireland economy has secured more benefit from the Programme's results than the cost of its inputs. However, it is important to re-iterate that private investment will be needed to generate this impact and RoI: the data should be regarded as what the Programme catalysed/leveraged, not what it delivered directly.

## Process Perspectives

22. Programme leadership and management by Invest NI and the central team is well regarded by KPs. The lack of prescription in delivery is seen as important, allowing KPs to play to their strengths and cultures, although there are some downside risks for participants in terms of the consistency of the offer before, during, and after, Voucher delivery.
23. The delivery model works well – and is well regarded by participants – and there is no case for major changes to what the Programme is doing, and how it is doing it. Notably the experience and knowledge of academics is regarded highly by participants, and levels of satisfaction are high. But there is scope for continuous development: there has been limited cross-working between KPs, and there is scope for tightening in performance management.

## Recommendations

24. Based on the findings of the evaluation, the following specific recommendations are made.
- **Recommendation 1:** Invest NI should consider refining the Programme's Application Form to include a specific reference to 'Quality' additionality (alongside the existing references to 'Scale' and 'Timing' additionality), and include a separate question which probes explicitly applicants' 'ability to pay' for their proposed project in the absence of Innovation Vouchers support.
  - **Recommendation 2:** For any future rounds of activity, Invest NI should develop a tighter set of Programme objectives, which capture fully the strategic intents of the intervention, focusing on addressing the underpinning rationale for intervention, and avoiding a level of precision in target-setting that may lead to perverse incentives in delivery.
  - **Recommendation 3:** In revising the objectives for the Programme, Invest NI should develop a set of indicators which capture better the short-term and intermediate benefits of Voucher experience (e.g. beneficiaries' greater openness to innovation, improved understanding by beneficiaries of the role that innovation plays in firm growth and development, improved relationships with the Knowledge Base, investment in in-house innovation activity, etc.). These measures should be used to track the changes in beneficiaries' behaviours and attitudes, as these relate to innovation – this is what the Programme is concerned with principally. The emphasis on counting the long-term fruits of innovation (e.g. employment, profitability, GVA)

should be proportionate – these are consequences, rather than first-line effects, of the Programme.

- **Recommendation 4:** The Programme Team should consider formalising the process for follow-up discussions between Programme beneficiaries and academics involved in projects which have not been completed, this to understand the lessons that can be learned. This should be considered by the Programme Team as a ‘continuous improvement’ action.
- **Recommendation 5:** A firm-level unique identifier, using Invest NI’s central CCMS system, should be used in future programme rounds.
- **Recommendation 6:** Recognising the evidence that participants receiving support in developing their application generally secured more benefits (in terms of qualitative outcomes) than those that did not, Invest NI should consider how greater levels of pre-application engagement with KPs/Invest NI can be facilitated, within appropriate cost and time limitations.
- **Recommendation 7:** The Programme Team should encourage KPs to maintain a relationship with participants following project completion, so providing a more consistent approach to aftercare. The Programme Team should consider developing guidance to facilitate this approach.
- **Recommendation 8:** Invest NI should develop further existing linkages and processes to maximise and encourage the flow of demand from the Programme to other later-stage innovation supports, notably Grant for R&D and Knowledge Transfer Partnerships (KTPs). Any ‘blockages’ identified to greater collaboration should be addressed. Key to this will be to ensure that Client Executives and Innovation Advisers understand fully how/where Vouchers fit in alongside other support regimes operated by Invest NI.
- **Recommendation 9:** Further collaboration between KPs, particularly in Northern Ireland, to embed learning and sharing of good practice on what works in delivery should be promoted. This could include more regular (perhaps bi-annual) ‘network meetings’ of all providers, an online ‘community and resource’ for co-coordinators and academics, and the development of learning case studies disseminated across the Programme on an on-going basis.
- **Recommendation 10:** The Programme Team should work with KPs to investigate further why VAT payment by recipients remains an issue for the Programme, and put in place proportionate measures to address late/non-payment of VAT.
- **Recommendation 11:** The Programme Team should investigate the costs and benefits of putting in place an online application system for Innovation Vouchers for future programme rounds.
- **Recommendation 12:** Invest NI should consider actively increasing modestly the Voucher value, to say £4,500, reflecting inflation since 2008. The maximum numbers of Vouchers provided should remain at three, and the time-period for deployment should remain at nine months.

25. These specific recommendations are made within the overall recommendation from the evaluation that Innovation Vouchers should continue, subject to the standard appraisal, casework, and approval process at Invest NI. In terms of the future scale of the Programme, this needs to respond to demand from the business base, the capacity of the supply side to deliver, and crucially what policy, notably the Innovation Strategy, is calling for. As such, and consistent with the Innovation Strategy's intent that Invest NI should seek to increase investment in Innovation Vouchers, the economic appraisal for the next phase of the Programme should consider the costs/benefits, viability and risks associated with a 'step-change' in its scale over the medium term.



# 1. Introduction

- 1.1 SQW Ltd (SQW), as Lead Contractor, working with QA Research (QA), was appointed by Invest Northern Ireland (Invest NI) in May 2014 to undertake an evaluation of the Innovation Vouchers Programme (the Programme). The evaluation covers the period from the Programme's launch in May 2008 to February 2014 ('the evaluation period').

## Purpose

- 1.2 The purpose of this evaluation, as set out in the original Terms of Reference, was to provide a robust evaluation of the operation, outcomes and impact of Innovation Vouchers over the evaluation period. Specifically, the objectives of the evaluation were to:

- Determine the extent to which the principle objectives and targets of the intervention had been met
- Determine the extent to which the intervention represented good Value For Money (VFM) and appropriate use of public funds
- Assess the performance of Innovation Vouchers in increasing the level of the businesses' innovation and the likelihood of engaging in further innovation activities
- Identify evidence of innovation vouchers driving export activity
- Assess the Programme's criteria and operational activities to determine whether they still remain valid, for example, in relation to the scale of the voucher, the number of vouchers available to firms and the nature of the provider network
- Identify aspects of good practice and lessons learned from similar schemes which could be used to inform the future strategic direction of the Programme.

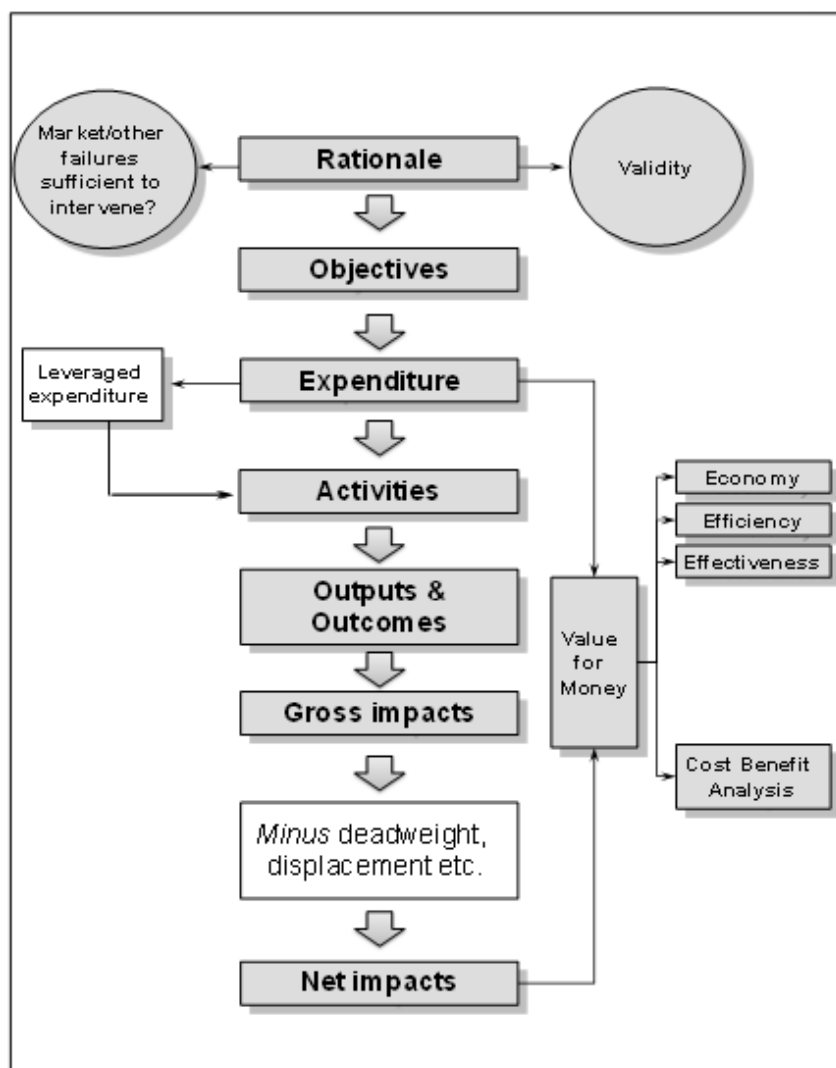
- 1.3 In meeting these objectives, the evaluation was to be compliant with relevant government guidance on evaluation, including HM Treasury's 'Green Book'. Key elements of this assessment included characterising fully the following aspects of the Programme:

- **Rationale for intervention:** testing the extent to which the Programme met (and continues to meet) a genuine need over the evaluation period in terms of market or other failures, and its alignment with the economic and strategic contexts in play.
- **Additionality:** the effects of Innovation Vouchers over and above what would have occurred in any case, taking into account Deadweight, Displacement, and Substitution Effects
- **Net economic impact:** assessing as far as practical the employment and Gross Value Added (GVA) effects delivered, and the overall contribution of the Programme to the Northern Ireland economy over the evaluation period.
- **Value for Money:** in terms of the Programme's Economy, Efficiency, and Effectiveness and overall return on publicly-funded investment.

## Evaluation Approach and Method

- 1.4 Reflecting its objectives, the study adopted a logic chain approach, designed to enable a robust assessment of (and the linkages between) the rationale for intervention, the objectives that emerge, the inputs, activities and outputs delivered, and the resulting outcomes and impacts. The components of the logic chain are summarised below.

Figure 1-1: Logic model approach



Source: SQW

- 1.5 Against this background, the study comprised a mix of primary research and desk-based analyses. The evaluation comprised seven research elements:

- **Analysis of Programme monitoring data** – covering monitoring data on applications, approvals, and completed projects.
- **Review of key Programme and strategic documents** – including Innovation Vouchers casework materials, previous appraisal and evaluation reports, relevant institutional corporate plans, and wider economic policy documents/statements.
- **Telephone surveys of Programme participants** – the population for the survey covered participants that had secured *and* completed at least one Innovation Voucher

project over the evaluation period (in total 876 participants). Of this group, surveys were completed with 200 participants, each discussion lasting around 20 minutes. The sample provides an overall confidence interval for the survey findings of approximately +/- 6% at a 95% confidence level for participants with completed projects. Participants with projects not completed by the time of the evaluation were not included in the telephone survey.

- **Online survey of non-participants** – an online survey was distributed to 805 individuals/firms that applied to the Programme but were not successful in securing a Voucher<sup>1</sup>, with 40 responses provided (a response rate of 5%) This group does not constitute a formal comparison group, and as such the findings it yields should not be taken too far. However, the findings provide a qualitative input to the assessment of additionality, and further evidence on the ‘process’ of the Programme.
- **Consultations with staff at organisations involved in delivering Innovation Voucher projects** – this included two sets of consultations: co-ordinators of the Programme at each participating Knowledge Provider in Northern Ireland (x10); and academics/technologists involved in delivering Voucher projects x20<sup>2</sup>. Both sets of consultations focused on the experience of the Programme from the delivery side, including the motivation for engagement and benefits, key lessons, and in the light of experience, identify potential changes required going forward.
- **Consultations with Invest NI staff** – consultations were completed with Client Executives/Advisors, staff involved with linked/related programmes, and with senior (Director-level) staff. The focus of these consultations was to understand the role and position of Innovation Vouchers both absolutely, and relatively, within the wider Invest NI support landscape, and how this might be optimised for the future.
- **Consultations with external strategic stakeholders** – this included two groups: consultations with innovation and enterprise stakeholders in Northern Ireland; and consultations with representatives of the parallel innovation voucher programmes in the Republic of Ireland, England and Scotland.

- 1.6 These quantitative and qualitative perspectives were brought together to provide the synthesised assessment of delivery and impact, as required by the Terms of Reference. The evaluation study was overseen by a Client Steering Group comprising representatives from Invest NI and DETI. The Client Steering Group were involved fully throughout the study including providing inputs on research design, and comments and feedback on study outputs. Their perspectives, contributions, and critiques were appreciated.

## Evaluation Context and Challenges

- 1.7 In positioning this evaluation, three points of context, and challenge, are important:

- **Time-paths to impact, and the nature of innovation outcomes.** As discussed in detail later in this report, the core objective of the Programme is to support firms to

---

<sup>1</sup> Note that firms that applied unsuccessfully at one point, but subsequently secured a voucher were not included in the online survey.

<sup>2</sup> 16 from institutions in Northern Ireland and 4 from institutions in the Republic of Ireland

engage with the Knowledge Base, and often to help them take their first step into the processes of innovation. The implicit intention here is that this activity is subsequently followed-up by further innovation activity/investment over the longer term: in many cases, the effects of the Programme are therefore on behaviours and attitudes, not hard quantitative measures, and where these do emerge they are likely to take some time to work through. Put simply, Innovation Vouchers are a policy instrument whose effects are both hard to capture in quantitative terms, and where they are evident, take time to be realised. This needs to be factored into the overall assessment of the impact and Value for Money of the Programme at this stage.

- **Separating-out Innovation Voucher effects from other influences.** Innovation Vouchers have been regularly provided to firms as part of a wider 'package' of assistance from Invest NI. Together with other support and internal changes/developments influencing business performance, this makes unpicking the specific effects of the Programme somewhat challenging. The evaluation has sought to address this issue as far as practical, through primary research on external factors driving performance in the survey, and analysis of data on other support secured.
- **Memory Decay.** The study required participants and consultees to think as far back as six years ago (to 2008), and provide often quite specific and detailed assessments across this time window. Whilst the evaluators have wide experience in these situations, and are confident in the integrity of the material gathered, the generic risk of memory decay, and the specific risk of more recent experience being the more roundly reported, was a significant one, and should be noted.

## Structure

1.8 The remainder of this report is structured as follows:

- Section 2: Conditions, rationale and objectives
- Section 3: Inputs and activities
- Section 4: Gross outputs and outcomes
- Section 5: Assessment of additionality
- Section 6: Impact and Value for Money
- Section 7: Process perspectives
- Section 8: Conclusions and recommendations.

## 2. Context, Rationale and Objectives

- 2.1 This Section assesses the first element of the logic model, reviewing the underpinning contextual conditions economically and strategically, and the rationale and objectives of the Innovation Vouchers Programme.

### Conditions

#### *Economic Conditions*

- 2.2 The challenges faced by the Northern Ireland economy and its business base are well known. A significant body of research has been undertaken to evidence and characterise these challenges.<sup>3</sup> However, it is important to understand the contextual background in which the Innovation Vouchers Programme was first developed, and in which it has continued to operate over the past six years.
- 2.3 Indeed, whilst Northern Ireland's economy witnessed significant change over the period covered by the evaluation, notably with the effects of the global downturn from 2008 and subsequent UK recession just as the Programme was starting to deliver, the core challenges facing the NI economy have not altered fundamentally. These include lower levels of productivity in the business base, an economic structure reliant on low-value sectors and over-reliance on the public sector as a driver of economic growth, compounded by significant skills, enterprise, and labour market engagement deficits.
- 2.4 Innovation performance in NI has also lagged behind other places across the UK, and the EU. Although data indicate that in absolute terms expenditure by businesses on R&D has increased in Northern Ireland over the past decade, two key sets of data provide a summary of the challenges faced by Northern Ireland:
- The recent publication by DETI of the results of the **UK Innovation Survey 2013** for Northern Ireland<sup>4</sup> that identified that 40% of enterprises in Northern Ireland were innovation active during 2010-12 compared to 45% in the UK as a whole. Northern Ireland was identified as the least innovation active region in the UK by this survey.
  - The latest **Regional Innovation Scoreboard** published by the European Commission, that provides data on the performance of regions against a range of innovation measures – the relative performance of Northern Ireland in a UK context is set out below, on a range of measures including levels of SME innovation, and SME collaboration, for which Northern Ireland ranks at or near the bottom of the UK's regions.

---

<sup>3</sup> For example, the very significant Independent Review of Economic Policy undertaken for DETI and Invest NI (available here: <http://www.detini.gov.uk/independent-review-of-economic-policy-2.pdf>)

<sup>4</sup> See <http://www.detini.gov.uk/2013-innovation-survey-statistical-bulletin-11th-july-2014.pdf?rev=0>

**Table 2-1: Northern Ireland ranking on innovation measures relative to other UK regions**

	<b>Rank out of 12 (1 = top)</b>
R&D expenditure in the public sector	7
R&D expenditure in the business sector	8
SMEs innovating in-house	12
Innovative SMEs collaborating with others	9
EPO patent applications	11
SMEs introducing product or process innovations	11
SMEs introducing marketing or organisational innovations	11
Employment in knowledge-intensive activities	12
Sales of new to market and new to firm innovations	11

Source: Regional Innovation Scoreboard, 2014

- 2.5 As such, it is within a challenging recent and longer-term context that Innovation Vouchers has operated; this is important for the rationale and strategic case for the Programme. In headline terms, the economic case for intervention to promote innovative activity amongst businesses in the region is sound.

## Policy Context

- 2.6 The Programme was conceived, and has operated, in a policy context that reflects these economic and innovation contexts. As such, although there have been developments over the evaluation period, as a whole the environment has been one characterised by a policy agenda focused on addressing:
- an ongoing productivity gap between Northern Ireland and the rest of the UK
  - continuing low levels of spending on R&D by the private sector (although this has improved over the period)
  - low levels of innovation activity and knowledge transfer/commercialisation and the constraints preventing firms (in particular SMEs) from investing in innovation.
- 2.7 The Interim Evaluation of the Programme<sup>5</sup> reviewed the evolving policy backdrop to 2012 – we do not rehearse these findings at length here. That said, we note that the Interim Evaluation reviewed documents cited in the original economic appraisal<sup>6</sup> and reported a supportive policy backdrop. It also noted that the Programme was consistent with the objectives of the (then current) DETI and Invest NI Corporate Plans.
- 2.8 Two years on from the Interim Evaluation, the policy context has moved on. However, continuity is evident in the overall strategic direction in play, and importantly for the Programme, there is an *increasing* emphasis on the core role of innovation in Northern Ireland's economic development, evidenced by the development of a specific Innovation

<sup>5</sup> See <http://secure.investni.com/static/library/invest-ni/documents/innovation-vouchers-programme-evaluation-february-2012.pdf>

<sup>6</sup> Including: Northern Ireland Programme for Government 2008-2011; Department for Enterprise, Trade and Investment (DETI) Corporate Plan 2008-2011; Invest Northern Ireland (Invest NI) Corporate Plan 2008-2011; DETI Regional Innovation Strategy 2003; and Science and Innovation Framework 2004-2014

Strategy for Northern Ireland by the NI Executive. An overview of the evolving policy context is set out in more detail in Annex B, however, key policy developments include:

- The **Programme for Government 2011-2015** commits to supporting economic recovery and rebalancing the economy, with an emphasis on growing a sustainable economy and a strong private sector to generate employment and wealth.
- This is echoed in the **DETI Corporate Plan 2011-15**: the Department's goal is to 'promote the growth of a competitive and export-led economy'. A key theme underpinning this goal is stimulating innovation, R&D and creativity, as key drivers for increasing private sector productivity: *'Recognising the strong links between innovation, productivity and economic growth, DETI, working with its NDPBs, will take forward initiatives to deliver increasing expenditure on innovation and R&D across all areas of the economy.'*
- The **Invest NI Corporate Plan 2011-15** aligns with these priorities. To increase wealth creation in Northern Ireland it will *'act as an enabler and catalyst to grow innovation, exports, productivity and employment.'* It aims to put innovation at the heart of NI enterprise. The Plan specifically notes that *'There remains a significant challenge in mobilising individuals and firms, particularly small and medium sized enterprises (SMEs), to increase their capacity and capability to innovate.'*
- The **Northern Ireland Economic Strategy** published in 2012 recognises the need to stimulate innovation as a core element in re-balancing successfully the Northern Ireland economy, with increasing the proportion of innovation active firms by 2023 a key performance indicator.
- The **Innovation Strategy for Northern Ireland** (developed in draft form in 2013, and approved formally in September 2014) highlights the significance of innovation as one of the primary drivers of economic growth, borne out by evidence showing innovative companies grow sales and employment twice as fast as non-innovative competitors. The Strategy recognises that levels of innovation in Northern Ireland have historically been too low, and set an ambitious target that it will rank 6/12 of the UK's regions on innovation by 2020 (and 4 by 2025), compared to the current rank of 12/12. Importantly, the Strategy and its underpinning Action Plan states explicitly that Invest NI should *'seek to increase investment in the Innovation Vouchers programme'* in the medium term. The Strategy also recognises that cultural change will be key in delivering against the ambition to increase innovation and engender noticeable, permanent positive changes to the economy.

2.9 Taken together, the policy alignment and relevance of the Programme remains strong: there is a clear, and growing, recognition of the importance of driving innovation and knowledge exchange across Northern Ireland, as part of a broader process of cultural change to make Northern Ireland an innovation-led economy. This imperative is now set out explicitly in the Economic Strategy and the related Innovation Strategy, providing a sound policy base for the on-going development of the Programme.



### Summary Conclusions

Northern Ireland has faced long-term economic, productivity, and particularly innovation challenges. Although progress has been made in recent years in terms of business expenditure on R&D, overall Northern Ireland continues to lag behind in terms of innovation: too few SMEs in Northern Ireland innovate both absolutely and relatively to the UK. This context provides a challenging backdrop to the Programme, and a sound economic case to intervene.

The Programme's development and delivery spanned three Corporate Plan periods for Invest NI and DETI respectively, as well as sequential high-level Programmes for Government. Across these statements, addressing the innovation deficit is a consistent policy theme. This imperative is now strengthened by the Economic Strategy and Innovation Strategy for Northern Ireland, setting ambitious targets for innovation over the next decade. The Innovation Strategy states explicitly that Invest NI should seek to increase investment in the Programme in the medium term.

Overall, the Innovation Vouchers Programme was, and remains, well aligned to the policy and strategic context, providing a sound policy base for the on-going development of the Programme.

## The rationale for Innovation Vouchers . . .

- 2.10 Government guidance makes it clear that the public sector should only intervene in markets when there is a rationale to do so, often involving a market or other failure. As set out in the Green Book:

*'... Before any possible action by government [or its agencies] is contemplated, it is important to identify a clear need which it is in the national interest for government [or its agencies] to address. Accordingly, a statement of the rationale for intervention should be developed'<sup>7</sup>*

- 2.11 So, alongside considerations of the strategic case for intervening – as evidenced in the economic and policy context – it is also important to test the market and/or other failures that provide the justification for the Programme.

### Market and Other Failures

- 2.12 The case made in market/other failure terms for the Programme – as captured (explicitly or implicitly) in a suite of documents, from the initial evaluation of the pilot scheme, to the case submissions for the 2009-12 and 2012-15 Programme periods, as well as the Interim Evaluation – has been largely consistent, and based on two key observed failures in the market:

- **Information Failures:** where SMEs are not aware of the potential benefits of collaborating with providers in the Knowledge-Base, or engaging more widely in innovation activity, with the consequence that levels of investment in innovation amongst this group of firms are sub-optimal.

<sup>7</sup> The Green Book: appraisal and evaluation in central government  
([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/220541/green\\_book\\_complete.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf))



- **Co-ordination failures:** where firms do not know how to go about accessing expertise from the Knowledge-Base and/or do not have existing links with the research base that can be exploited in order to drive forward business innovation – a graphical depiction developed by Invest NI on the nature of information failures underpinning the Programme, taken from the original evaluation of the pilot scheme back in 2008, is set out opposite.



2.13 Two further market failures are potentially relevant for an intervention such as Innovation Vouchers, both implied in the Programme documentation, albeit not set out formally:

- **Risk Aversion:** on the part of SMEs to growing their businesses generally, and investing in innovation-based activities in particular where benefits and return on investment are uncertain – the Interim Evaluation of the Programme highlighted that firms in Northern Ireland are also regarded generally as ‘risk averse’, meaning that they do not invest their resources in innovation activities.
- **Positive Externalities:** where SMEs fail to invest in activities such as innovation because they will not secure the full benefits of doing so, and may benefit their competitors e.g. becoming more ‘innovative’ may make firms more attractive to acquisition, the benefits of their innovation may be captured by others at no cost, and and/or developing innovation/knowledge capabilities of their staff may make them more attractive in the wider labour market.

2.14 These theoretical issues were tested with delivery partners and firms (both participants and non- participants) as part of this evaluation. The key findings are set out below.

### *Perspectives from the Delivery side . . .*

2.15 Co-ordinators and academics at the Knowledge Providers were asked to identify their perspectives on the case for the Programme in terms of market and other failures. Five key points emerged from discussions:

- Co-ordinators and academics accepted generally the core stated rationale for the Programme as captured in the Invest NI Case – that is, information failures of the benefit of innovation and engagement with the Knowledge Base, and co-ordination failures in accessing innovation services from the research base.
- A consistent theme from the consultations was both that firms did not invest because they were not certain of the benefits (i.e. Risk Aversion), but also that many firms supported by the Programme lacked the finance, or the time (in many respects the same issue given the costs of staff time to business) to invest in innovation activities

without some form of public support. So, the Programme is needed to address a lack of finance, time and knowledge.

- There were also on-going observed barriers related to ‘perceptions’ of the Knowledge Base amongst the SME community, which prevented SMEs sourcing innovation services: perceptions of the ‘Ivory Tower’ of research being distinct from the world of business, and/or the risk of firms feeling intimidated by the notion of approaching a University were both cited as providing a rationale for intervention to facilitate linkages between SMEs and the Knowledge Base. The Programme was seen as important in ‘demystifying’ what academics/researchers can offer firms.
- A range of other specific barriers or issues were identified, for example, that intellectual property issues might be a reason SMEs are reluctant to contract out innovation activities (this may be particularly pertinent to SMEs in certain fields where IP is harder to define and protect such as software development), and the need for firms to access equipment and facilities not otherwise available given scale economies/diseconomies.
- Finally, although there is some risk of memory decay here (and not all consultees had been involved in the Programme from the outset), there was a consistent view from co-ordinators and academics within Knowledge Providers that the issues and barriers faced by firms to engaging in innovation with the research base remained largely consistent over time.

2.16 A selection of representative quotes from consultees from the research are presented below.

**Selected Knowledge Provider perspectives on the case for the Programme**

*‘There is a lot of innovation going on, people in garages, but they face obstacles: money, expertise, how to access what they need. IP issues. Essentially there are a lot of unknown elements to progressing with their innovation ... (the Programme) reduces the level of risk.’ (Academic consultee)*

*‘Firms don’t access academic and research expertise, and without the IV, firms would not know where to go.’ (Co-ordinator consultee)*

*The ‘key issue for firms is that they have the ideas but not the expertise, and do not have the finance to take forward the research on their own without support’ (Academic consultee)*

2.17 The consistency of the challenges experienced by firms was reiterated in consultations with Invest NI staff and stakeholders, where the underpinning rationale based on information and co-ordination failures was also accepted. Two further important points emerged:

- Whilst the information/co-ordination issues are common, the SME base is not homogenous, and includes firms that are highly innovation active/aware, and may be engaging with Knowledge Providers – the rationale for support here was seen as to de-risk investment in innovation opportunities, ensuring that projects proceed

- Co-ordination failures work both ways, where Knowledge Providers (in this case specifically in Northern Ireland) themselves have few mechanisms to work with, and 'routes into', small firms, thereby justifying the role that an intervention such as Innovation Vouchers can play in opening up these linkages.

### *... and from participants themselves*

- 2.18 Participants are concerned fundamentally with the motivations and barriers in place that prevented the development and growth of their own business. As such, direct probing of market/other failures in the participant survey was not appropriate. This said, the evidence collected through the participant survey (and wider evidence) provides evidence on the extent to which there are implicit failures in play that provide a rationale for the Programme.
- 2.19 Two key issues are evident here. First, did the arguments set out above regarding low levels of engagement in innovation, and lack of engagement with the Knowledge Base hold true for participants? And second, was support in the form of a subsidy for undertaking innovation (paid indirectly) from the Programme specifically required in order to address these issues?
- 2.20 On the first issue, two sources of evidence are important:
- of the 200 participants surveyed for this evaluation<sup>8</sup>, 102 (51%) stated that they *had* engaged in innovation prior to their first involvement with the Programme, 98 (49%) stated that they *had not*.<sup>9</sup>
  - a similar question was asked by Invest NI in the application process in 2012/13 and 2013/14, specifically '*Has the business previously undertaken any previous innovation?*' – for those applicants that were successful in their application, the proportion that responded 'Yes' was 29% in 2012/13 and 26% in 2013/14<sup>10</sup>.
- 2.21 It is not unexpected that the level of self-reported innovation is lower at application stage than evaluation stage: there may be a perceived incentive for firms to under-report previous innovation experience in order to secure support from the Programme; and potentially memory decay in the survey data, with respondents over-estimating the level of their innovation activity prior to the Programme. However, in both cases the data indicate that the information and risk aversion failures may not be as pronounced as the theory suggests. Indeed, for the participants in the evaluation survey that reported they had engaged in innovation pre-Voucher activity, the average annual expenditure was around £10,500 (n=81), and in over 30 cases, *annual* investment in innovation of over £20,000 was reported.
- 2.22 However, three further points are important. First, as shown in Figure 2-1, of those 102 participants surveyed that reported they had engaged in innovation activity prior to Innovation Vouchers, the majority was focused on specific product or service innovation, and in most cases (80 of the 102) this involved in-house R&D. The acquisition of external knowledge (for example from Knowledge Providers) was limited, evident in just 26 cases.

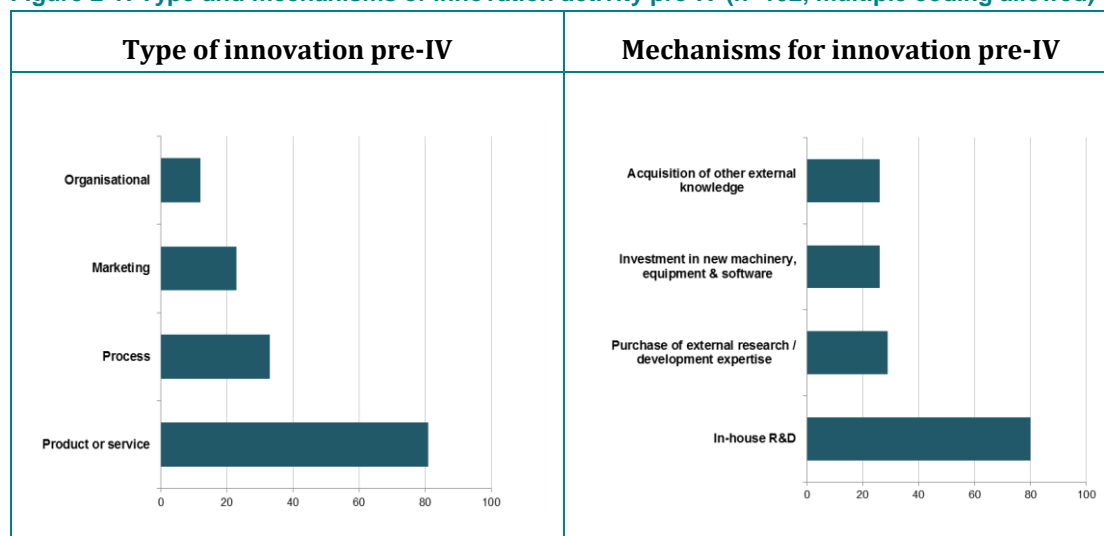
---

<sup>8</sup> Details on the profile of respondents is set out at Annex A

<sup>9</sup> For the purposes of the survey innovation was defined as: '*Investment in new or improved goods or services and/or the processes used to produce or supply goods or services.*' This definition was explained to respondents prior to the question on engagement in innovation activity.

<sup>10</sup> n=354 and n=328 respectively

**Figure 2-1: Type and mechanisms of innovation activity pre-IV (n=102, multiple coding allowed)**



Source: Participant survey

- 2.23 As such, participants may have undertaken specific projects to develop services and products prior to Vouchers, but their engagement with external providers of innovation and knowledge was modest or non-existent. This is consistent with the core focus of the Programme to encourage and facilitate link between SMEs and the knowledge base.
- 2.24 Second, and related to the above, a clear majority, 147 of the 200 (74%) participants surveyed, had no prior links with the Programme's Knowledge Providers before engaging with the Programme. Of those that did (51, 26%) these links were generally with Northern Ireland's two universities (44 of the 51 cases), and were most commonly focused on collaboration in innovation (25 cases), or involvement in education or training (11 cases). As such, whilst evident in some cases, overall, the level of engagement with the Knowledge Base amongst the participant group surveyed was modest.
- 2.25 Third, of the 98 participants surveyed that had not engaged in innovation before the Programme, the reasons for this aligned strongly to the stated rationale. As set out in the Table below, over half identified a lack of finance as a barrier, and around a third stated that the barriers included at least one of the following: difficulty in finding cooperation partners for innovation, lack of information on technology/markets, and uncertainty of benefits.

**Table 2-2: Barriers preventing respondents from undertaking innovation activity pre-IV (n=98)**

Reason	Number of respondents
Lack of finance within the organisation	51
Innovation costs too high	32
Lack of qualified personnel	31
Lack of information on technology	27
Lack of information on markets	26
Difficulty in finding cooperation partners for innovation	27
Uncertain of benefits from innovation activity	29
Other	26

Source: Participant survey

2.26 On the second issue – to re-cap, was support from the Programme specifically required in order to address the barriers faced by firms – four points are made:

- First, the assessment of need was undertaken as part of each project’s assessment and appraisal process – only those applicants that provided a sound innovation project and were judged by the appraisal panel to demonstrate the need for support in their application were approved for support. Notably, the most recent application makes it evident that where an existing solution is readily available from the private sector it is unlikely that a voucher will be awarded.
- Second the data presented in Table 2-2 above indicated that finance – either a lack of it in an absolute sense to undertake innovation, or because the costs of innovation were in relative terms too high – was the most common barrier to engaging in innovation amongst those in the participant survey cohort that had not done so previously
- Third, the evidence from the online survey of non-participants (i.e. those that applied unsuccessfully to the Programme) suggests that where projects were not taken forward without an Innovation Voucher (in 19 out of the 40 cases), the most common reasons were a lack of finance (in 14 cases) and/or because they did not have the relevant technical knowledge/expertise (in 13 cases); this data is consistent both with the participant survey findings and stated rationale for intervention.
- The evidence from the consultations with delivery partners and stakeholders was that although in some cases firms could potentially fund their own project there remained a case for support in order to ‘secure’ this activity, and reduce the potential risk that it was not taken forward. The non-participant survey provides some corroborating evidence here – whilst 21 of the 40 unsuccessful applicants surveyed progressed their project in full or part, for those that did not (n=19), just over half (10) still intended to do so, but the timing of this was uncertain, ranging from within the next three months to at least two years down the line. Given this uncertainty, it is possible that some of this activity may not, in practice, be realised.

### *In the round, a robust rationale?*

2.27 Overall, does the evaluation evidence point to a valid rationale at the outset in 2008, has it remained as such throughout the evaluation period, and does it remain valid going forward?

2.28 The performance of Northern Ireland in 2008 on innovation was below where it ideally should have been, and this context has remained over time. At a strategic level, there has remained an imperative for the public sector, and Invest NI (as the key economic development agency in Northern Ireland) to ‘do something’ about innovation, and particularly to encourage small firms to engage in innovation activity as a first step to levelling up innovation across the business base.

2.29 Further, there is an on-going challenge in linking up the small business base to the Research and Knowledge Bases, with both information and co-ordination failures limiting access. Given their general lack of engagement in innovation, small firms are also uncertain of the benefits that it may bring and are therefore averse to investing. In many cases, as suggested by the

participant (and non-participant) surveys, small firms in Northern Ireland do not perceive they have the financial resources to invest in innovation – as opposed to what they judge as core business – activity. These failures were, and are, well aligned with what Innovation Vouchers fundamentally is about at its core.

- 2.30 As such, the evaluator's assessment is that **the overall case to intervene through Innovation Vouchers at the start of the evaluation period was valid, and in policy terms justifiable. In 2014, and going forward, the innovation challenges remain, and accordingly the general case to intervene to address market and other failures in the innovation space for SMEs remains valid.**
- 2.31 The recognition in the Innovation Strategy of the role of Vouchers as one of many interventions required to bring about sustainable change, further underpins the policy case for continuation. Indeed, over-and-above the direct support provided, the Programme itself demonstrates a visible and durable commitment by Invest NI to promoting the concept and importance of innovation within the SMEs community. It is (now) a longstanding, stable and recognised programme that is well known across the business base: put simply, Innovation Vouchers demonstrates a policy commitment to innovation. As the Innovation Strategy is rolled out, this stability of provision remains important.
- 2.32 Against this broad endorsement, however, two points are important:
- First, whilst in many cases those approaching the Programme are '*new to innovation*', this is by no means always the case – indeed, the evaluation survey indicates that around half of participants that have completed an Innovation Voucher project since launch in 2008 had previous innovation experience, albeit mainly in-house and focused on product/service development. Whilst engagement with the Knowledge Base was low, this does suggest that many of those participating in the Programme have been prepared to invest in innovation; in these cases the rationale is to address failures of access to, and co-ordination with, Knowledge Providers, not information or finance. Whether in all these cases a financial contribution to spur innovation was required is open to question. Where it was not, non-additionality (or Deadweight) is likely to have been evident. This issue is discussed in detail later in the report.
  - Second, although the case for the Programme has been couched (consistently) in terms of information and co-ordination failures, and these issues are probed in the application and appraisal process, there is no equivalent assessment of the ability of applicants/participants to finance their project independently. As such, there is no way currently of testing the extent to which the financial contribution sought is necessary genuinely to trigger the intended action, and so maximise the prospect of Additionality for the taxpayer. Given the scale and nature of the Programme (with hundreds of applications received each year, and explicitly involving a 'tight' application process) a detailed financial assessment (for example, based on review of financial metrics from applicants) is not viable. However, there may be a case for the inclusion of a focused question in the application process to probe the extent to which applicants do or do not have the resource to finance the project independently. This should provide further evidence that firms do not have the resource, or why, if they do, support from the Programme is justified in any case i.e. to unlock, guarantee, or accelerate activity.



- 2.33 It is also important to recognise that the Programme does not operate in isolation in supporting early stage innovation activity in Northern Ireland. Other programmes aligned to Innovation Vouchers (and acting as a potential source of referrals) include the Colleges Employers Support Programme and Connected Programme (both DEL funded), and projects funded through the Local Economic Development (LED) Measure of the EU Sustainable Competitiveness Programme with match funding from Invest NI and the Councils. Within the overall LED Measure across Northern Ireland since 2011, Invest NI has approved projects with a total investment of approximately £38m (including £25m from Invest NI), including seven projects focused on encouraging the promotion and development of innovative products and services.

### **Summary Conclusions**

The case for the Innovation Vouchers Programme has been made, consistently, by Invest NI on the presence of information and co-ordination failures that prevent SMEs from investing in innovation as the benefits are uncertain, and accessing the expertise and skills of the knowledge base.

In headline terms, ex-post the evaluation concludes that the rationale to intervene at the start of the evaluation period was valid, and in policy terms justifiable. In 2014, and going forward the innovation challenges remain, and the rationale remains essentially valid.

Whilst many participants are 'new to innovation', this does not always hold true, potentially for up to half the participant cohort, and whilst engagement with the Knowledge Base was low, many participants have been prepared to invest in innovation, the failure being one of access, not information or finance. Given this, some deadweight in delivery is likely.

Testing formally whether firms do have access to independent finance for their innovation project (or more realistically evidence that they do not) would help to ensure that the deployment of the support is linked more tightly and transparently to the underpinning rationale for intervention.

### **Recommendations**

- R1. Invest NI should consider refining the Programme's Application Form to include a specific reference to 'Quality' additionality (alongside the existing references to 'Scale' and 'Timing' additionality), and include a separate question which probes explicitly applicants' 'ability to pay' for their proposed project in the absence of Innovation Vouchers support.

## **Objectives**

- 2.34 In logic chain thinking, objectives need to flow logically and seamlessly from the rationale for intervention. We note, from the discussion above, that the rationale for Innovation Vouchers is based principally on addressing information and co-ordination failures. These intents should therefore be reflected and developed in its objectives. This sub-section considers the objectives, both those formally stated, and from the perspective of Knowledge Providers and participants.

## The Stated Objectives over time

- 2.35 The formal objectives of the Programme changed over time which is reasonable for an intervention across three distinct phases. The objectives over the two main programme periods (that is 2009-2012, and 2012-2015, following a pilot phase in 2008/09) are set out below. An assessment of the extent to which these objectives have been met is set out in Section 6.

**Table 2-3: Stated objectives of the Programme**

### Objectives for 2009-2012

#### SMART Objectives for the 3 year programme 2009-2012

220 small enterprises involved in innovation for the first time

70 small enterprises carrying out additional innovation as a result of the Programme

100 academics involved in innovation with small companies for the first time

#### Knowledge sharing/networks

320 small enterprises enter into a new collaboration with a knowledge provider

170 small enterprises establish ongoing connections/networks within the Knowledge Base

Increase the level of knowledge of innovation within 364 of small enterprises per annum

Increased awareness within 364 of small enterprises of the skills and expertise residing within the Knowledge Base

10 Northern Ireland based Knowledge Providers to broaden their experience of working with small enterprises in general

#### Progression

50 participating small enterprises to progress to other Invest NI support mechanisms

30 small enterprises progressing to Invest NI client company status

#### GVA Impact per annum

Additional profits arising from output of project

Additional wages in participating small enterprises arising from output of project

Additional wages in Knowledge Providers arising from project

#### Employment Impact per annum

Additional employment arising from output of project

Productivity Impact per annum

GVA/Employment (additional, arising from output of project)

### Objectives for 2012-15

#### Output/Activity Targets

Complete 647 Innovation Voucher projects which are, at a minimum, 'New to the Firm' by March 2016. Each project must include at least one of the following types of innovation: product or service innovation, process innovation marketing innovation and/or organisational innovation

A minimum of 70% of SME participants will not have previously engaged with the same Knowledge Provider as part of a knowledge transfer project (as at March 2016)

A minimum of 30% of SME participants will not have previously engaged with any Knowledge Provider or undertaken an R&D project (as at March 2016)

#### Outcome Targets

Generate a minimum of £10.7m in gross GVA within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)

Generate a minimum of £5.1m in net additional GVA within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)

Generate a minimum return on investment of £1.39 in undiscounted net additional GVA for every £1 in direct NI investment within 4 years of the final Innovation project being completed (March 2020 at latest)

Create a minimum of 169 gross FTE jobs within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)



Create a minimum of 46 net additional FTE jobs within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)

A minimum of 40% of participating SMEs to have engaged in an innovation project on a higher stage of the 'Innovation Escalator' within 2 years of completing their respective Innovation Voucher project (as at March 2018)

Source: Invest NI

2.36 In assessing these objectives from an evaluation perspective three points are made:

- Positively, they provide a very specific and detailed suite of tangible measures for monitoring activity and progress, both for the Programme period and over the longer term. However, despite this specificity, the objectives do not provide a *strategic* depiction of what the Programme is looking to achieve, rather a set of specific measures against which progress can be assessed. A more strategic set of objectives, focused on what the Programme is looking to achieve for its target group in terms of addressing market/other failures is not evident. This strategic imperative is well understood at Invest NI and Knowledge Providers, codifying it in the form of a set of strategic objectives should not prove to be a challenge.
- At the same time, whilst the emphasis on employment and turnover in the objectives is understandable, both because of their 'count-ability' and the emphasis given to such by DETI, they are longer-term fruits of innovation, not its immediate impacts. Thinking about a set of performance measures which better understand the short-term benefits of Voucher experience (for example, managements' openness to innovation, improved relationships with the Knowledge Base etc.) might be considered in the future.
- Further, linked to this, in some cases the most recent objectives are overly specific, providing too fine-grained a level of prescription and focus e.g. a return on investment of £1.39, 46 net additional jobs. Whilst it is recognised these are derived from the economic appraisal, for a programme of the scale and complexity of Innovation Vouchers, such specificity at the level of objectives is arguably not helpful. Rather the focus should be on setting appropriate strategic objectives, with clear mechanisms for measuring their performance, and a set of appropriate targets that provide a planned expected order of magnitude for the outcomes and impacts to be generated.

### **Perspectives from the Delivery Side . . .**

2.37 Within this context, the understanding of the objectives of the Programme were tested in consultations with Knowledge Providers. Two clear messages emerged:

- The general view among Knowledge Providers was that the Programme is (or should be) concerned fundamentally with 'de-risking' the innovation process for SMEs, by guiding them to providers of innovation services, and providing the financial resource that they could not otherwise access. Essentially, as one Knowledge Provider said, it allows an SME to '*dip a toe into innovation waters*', with the expectation that fuller immersion would follow.
- Linked to this, Knowledge Providers perceived consistently the Programme to be focused principally on supporting participants to embark on an 'innovation journey',

with attendant benefits such as building contacts, increasing networks, learning about innovation services, and the possibilities offered to businesses being key outcomes. From a Knowledge Provider perspective tangible outputs and outcomes are important, but the objective should be on promoting the intangible, rather than concrete aspects, of the innovation journey.

### ... and Participants?

- 2.38 Do the objectives of participants align with these delivery side perspectives? To some extent yes. However, perhaps not unexpectedly the survey of participants highlighted their focus on more 'tangible' factors. As summarised in Figure 2-2, when asked to identify their motivation for seeking an Innovation Voucher, nearly half identified developing their innovation capacity, developing a relationship with a Knowledge Provider was also common. However, tangible factors such as supporting new product/service development, growing markets, and improved product/service quality were the most common.
- 2.39 Notably, when asked to identify the 'most important' motivation for approaching the Programme, developing a new product or service was by some distance the most commonly cited factor, in well over half (127) of the 200 respondents.

Figure 2-2: Motivation for applying for an innovation vouchers (n=200)



Source: Participant survey

- 2.40 This perhaps is not surprising. For participants seeking to innovate, the intent to secure tangible and direct benefits is expected. However, the data do suggest a disconnect between what participants want from the Programme (tangible results), and what Knowledge Providers think they want (a first step in an innovation journey). This disconnect is important given there is, currently, no strategic depiction of what the Programme is seeking to achieve that can be communicated consistently/transparently to both delivery and participant sides.

### So, SMART Objectives?

- 2.41 Based on the assessment above, it is evident that whilst objectives are evident in tangible output/outcome terms, from a strategic perspective there is some ambiguity (at least in terms of the formal stated objectives) over what Innovation Vouchers is fundamentally seeking to achieve, and crucially how these link back to the rationale for intervention. And with no stated *strategic* objectives, there is variation between what Knowledge Providers and participants think the Programme is seeking to do. In this context, a common theme from consultations with Knowledge Providers (co-ordinators and academics), was the importance of ‘managing expectations’ of firms on what can be achieved for £4,000, and a general over-expectation from the participant perspective. A clearer statement of strategic objectives may help to manage this process.
- 2.42 As such, there is a need for Invest NI to review/revise the objectives, setting out in SMART, but strategic terms, what the Programme is seeking to achieve for its target group, and for the Northern Ireland economy more widely (including delivering against key strategic intents such as the Innovation Strategy). It should also avoid a level of precision in target setting that may lead to perverse incentives in delivery – as is ever the case with public sector performance regimes, what is measured is what gets done, and so making sure performance indicators flow naturally from the strategic objectives is critical from the get-go. The strategic objectives should be drafted with the long term in mind, so that they can span different delivery ‘rounds’ and provide long-term strategic focus.

#### Summary Conclusions

The objectives of the Programme have evolved over time, and become increasingly targeted and specific, and on the longer-term fruits of innovation, not immediate impacts. This has provided a detailed indication of what the Programme is looking to deliver in numeric terms, but less so strategically. With no explicit strategic objectives, there is variation between what the delivery side thinks the Programme is seeking to do (linkages and enabling the first step on an innovation journey), and what participants want to get out of it (tangible products and services).

A set of strategic objectives, focused on what the Programme is looking to achieve for its target group in terms of addressing market/other failures is required. This perspective is well understood at Invest NI and the Knowledge Providers: it should be codified formally to guide and steer Programme activity.

#### Recommendations

- R2. For any future rounds of activity, Invest NI should develop a tighter set of Programme objectives, which capture fully the strategic intents of the intervention, focusing on addressing the underpinning rationale for intervention, and avoiding a level of precision in target-setting that may lead to perverse incentives in delivery.
- R3. In revising the objectives for the Programme, Invest NI should develop a set of indicators which capture better the short-term and intermediate benefits of Voucher experience (e.g. beneficiaries’ greater openness to innovation, improved understanding by beneficiaries of the role that innovation plays in firm growth and development, improved relationships with the Knowledge Base, investment in in-house innovation activity, etc.).

These measures should be used to track the changes in beneficiaries' behaviours and attitudes, as these relate to innovation – this is what the Programme is concerned with principally. The emphasis on counting the long-term fruits of innovation (e.g. employment, profitability, GVA) should be proportionate – these are consequences, rather than first-line effects, of the Programme.

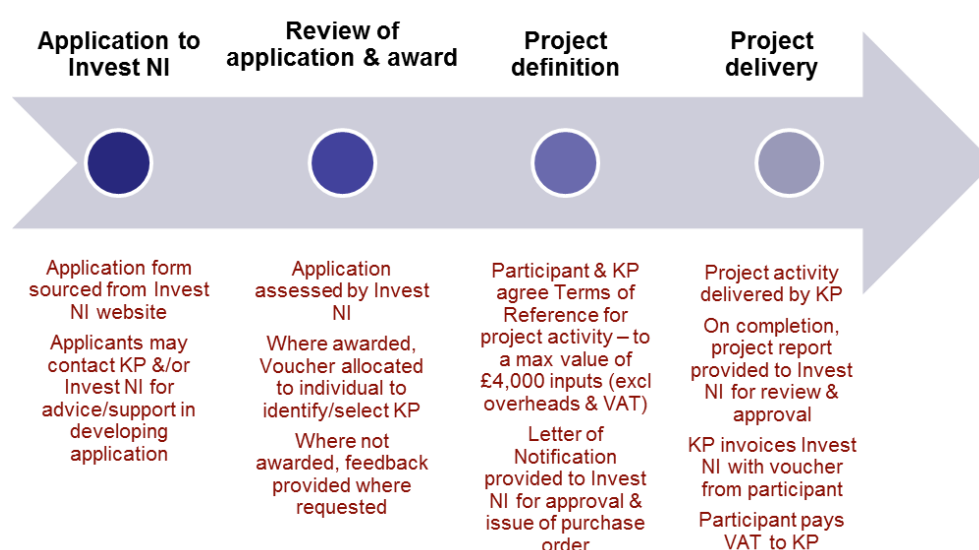
## 3. Inputs and Activities

- 3.1 This Section turns to consider the inputs and activities of the Programme over the evaluation period. For context, it begins with an overview of the delivery model and customer journey.

### Overview of the Innovation Voucher Model and Customer Journey

- 3.2 The Programme is coordinated and managed centrally by Invest Northern Ireland. The core team (involving a Programme Manager and Officer, plus senior management oversight) is responsible for a set of core functions including programme management, overview of central marketing and PR, centralised customer engagement, the application and appraisal process, and programme monitoring. The core team is supported by other Invest NI staff including Technical Advisers and Sector Experts for project appraisal and selection, and separately, marketing. All decisions on project applications are made by Invest NI.
- 3.3 Delivery of Innovation Voucher activity is undertaken by academics/technologists at 39 participating Knowledge Providers – covering all higher and further education institutions in Northern Ireland, and universities/institutes of technology in the Republic of Ireland. The Knowledge Providers provide the core activities of the customer journey to applicants. An overview of the customer journey – from application to completion – is set out below.

**Figure 3-1: Overview of the Innovation Voucher customer Journey**



Source: SQW, based on Invest NI information

- 3.4 Applications are invited in calls, of which there have been on average four per year. When awarded, each Voucher is 'valid' for up to nine months as of 2012/13, prior to this the period of validity was 12 months. Participants can only have one 'live' Voucher at a time, with up to a maximum of three eligible for any participant, although each voucher must be for a different project. Payment (up to £4,000, plus overhead of 30%) is made to the Knowledge Provider on project completion with participants responsible for paying any VAT chargeable<sup>11</sup>.

<sup>11</sup> 20% of the costs may be subcontracted to a third party if skills/expertise are not available at the Knowledge Provider

## Parameters and Coverage

- 3.5 Data on applications, approvals, and project status were provided to the evaluators for the period from the launch of the Programme in 2008 through to end-March 2014. The data were detailed/extensive – containing records for c.2,900 applications, and aggregated data providing information across time, place and Knowledge Provider. Invest NI also provided aggregate data on the customer journey, from application through to approvals take-up and completed projects (cut by Knowledge Provider), as well as associated financial information.
- 3.6 Note that the data collected by the Programme changed over the evaluation period, including in response to the recommendations of the Interim Evaluation. For example, assessments of the innovation type, degree of novelty, and nature of innovation of proposed projects, and whether firms had engaged in innovation previously, was captured over 2012/13 to 2013/14 only, and data on sectors was not captured consistently across the period. This is not unreasonable over a six year period, but it does mean that there is not in all cases a consistent time-series of data across the evaluation period.

## Inputs

- 3.7 Inputs refer to the financial and other resources (staff time, in-kind support, etc.), expended in delivering the Programme. The inputs do not cover participants' time (or cost) associated with progressing projects. It is worth noting however, that the feedback from academics/technologists working with firms on delivering projects highlighted the varied nature of the level of input and buy-in to the process by participants; ranging from in-depth and on-going engagement, through to a largely transactional relationship, where the academic/technologist completed the work independently. These differences in the customer journey are discussed in greater detail in the sub-section later in this chapter on activities, and Section 7 (Process Perspectives).

## Invest NI Expenditure

- 3.8 The programme has operated over three phases, with *planned* expenditure identified at each stage, rather for the evaluation period as a whole, and overlaps between phases given the nature of the Programme (where expenditure is made on project completion, not approval). Note that the current financial approval runs to March 2015, outside the period covered by this evaluation.
- 3.9 However, the total approved budget for the Programme (including voucher costs, overheads, marketing, evaluation and appraisal costs) over the 2008-2015 period is £6.6m, broken down as follows:
- Pilot (2008-09): 200k
  - Phase 1 (2009-12) : £2.7m
  - Phase 2 (2012-15): £3.7m.
- 3.10 Turning to *actual* expenditure, the expenditure by Invest NI to support the delivery of projects completed over the evaluation period to date (with payment made by Invest NI to the

Knowledge Provider on project completion), was c.£4.7m. Annual and cumulative expenditure over the evaluation period is summarised in Table 3-1.

**Table 3-1: Invest NI expenditure over the evaluation period**

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Projects completed p.a.	28	120	143	176	228	252
Projects completed cumulative	28	148	291	467	695	947
Expenditure p.a. (£k)	115	647	782	940	1,124	1,124
Expenditure cumulative (£k)	115	762	1,544	2,484	3,608	4,732

Source: Invest NI monitoring data Note: 2013/14 data exclude March 2014 i.e. the data cover 11 of the 12 months in the F/Y

3.11 The £4.7m covers the direct costs of delivery (a maximum of £4,000 per Voucher, plus a 30% overhead contribution). Taking into account the tiered costs of Vouchers<sup>12</sup>, and that not all projects were to the maximum of £4,000, the average direct cost per Voucher to Invest NI over the evaluation period was c.£5,000 (specifically £4,997). Other costs included:

- **Staff costs:** for the core Innovation Vouchers team and associated staff, including for panel assessments, central programme marketing activity<sup>13</sup>, and senior management and oversight. Data provided by Invest NI indicates an annual staff cost to Invest NI for managing/delivering the Programme of c.£140-150k per annum. Over the course of the Programme period we have therefore assumed a cost of £850k.
- **Marketing, evaluation and economic appraisal costs:** including promotional activity, the Interim and (this) Final Evaluation, and Economic Appraisals undertaken for the two main phases of the Programme. Based on the Interim Evaluation and the latest Case Work, marketing costs are estimated at £200,000 over the course of the Programme, and evaluation/appraisal costs at £75,000.

3.12 **Total expenditure by Invest NI over the evaluation period is estimated to be c.£5.9m.**

**Table 3-2: Total expenditure by Invest NI**

Expenditure category	Expenditure (£k)
Voucher delivery	4,732
Staff costs	850
Marketing, evaluation and economic appraisals	275
Total	5,857

Source: Invest NI data and SQW assumptions

3.13 It is worth noting that these costs exclude the 'committed' expenditure on projects approved and initiated in the evaluation period but not completed at the time of the evaluation (113 projects). Indicatively, this provides an additional 'committed' expenditure of a further £565k<sup>14</sup>, bringing the total expenditure of the Programme over the evaluation period to c. £6.5

<sup>12</sup> Where a second voucher uses the same individual at the Knowledge Provider to the first voucher, the second voucher is worth 90% of the project cost. A third voucher is worth 80% of the project cost, up to a maximum of £4000,

<sup>13</sup> Invest NI take the lead role in terms of the general promotion of the Programme and promoting the annual calls for applications e.g. press advertisements, e-mail flyers, and social media promotion. Knowledge Providers undertake their own marketing of the Programme at their own institution (to different degrees), involving no further cost to Invest NI.

<sup>14</sup> This committed expenditure has not been included in the Value for Money assessment as it has not yet been delivered



million; this against the total planned expenditure of £6.6m over 2008-15 (although the latter excluded staff costs).

### **Knowledge Providers' Inputs**

- 3.14 The costs covered by Invest NI and paid to Knowledge Providers cover the direct staffing and other costs such as the purchase of materials (and in some cases contracting out to private providers of up to 20% of the value), as well as overheads at a maximum of 30%.
- 3.15 Consultations with the Co-ordinators at Knowledge Providers indicate that generally the Programme supported full cost recovery i.e. the costs of delivery are covered by the finance provided by Invest NI. However, the consultations indicated that the financial viability of the Programme has become increasingly marginal over the evaluation period for some providers, as costs have increased including for materials and staff costs. Going forward, this could mean the level of support that institutions are able to offer to participants is reduced to enable institutions to 'break even' on the Programme, or potentially (as raised in consultations) that some providers may choose to not participate in the Programme. This does provide a risk to the Programme that Invest NI will need to watch for.
- 3.16 To be clear, Knowledge Providers were *not* calling for a qualitatively different voucher value – the common view was that the original £4,000 value remains 'about right'. However, the majority (though not unanimous), view from Knowledge Providers is that the Voucher value should increase to reflect rising costs, reflecting the costs of delivery in 2014, and beyond, rather than 2008. Contextually, if the Voucher's value had kept pace with inflation, by 2013 it would have been approximately £4,650<sup>15</sup>. We return to this in Section 7.
- 3.17 Four other important messages regarding inputs by Knowledge Providers are made:
- The level of resource and staff time allocated to the management and administration of the Programme varied considerably across the delivery network in Northern Ireland; the co-ordinator role ranged from those who spent limited time on the Programme, to those where it formed a significant proportion of their responsibilities (albeit in some cases this was not a formal 'role' and operated essentially as a 'top-up' to other responsibilities)
  - Related to this, there was a range of delivery and management models at Knowledge Providers in Northern Ireland, with formal target setting and financial modelling of the role of Vouchers in some cases, compared with a much more responsive and reactive approach in others. Levels of marketing and monitoring in support of Vouchers also varied across the Knowledge Provider network
  - The practical delivery of Vouchers was varied, and taken on a 'case by case' basis – that is, there was no 'standard' Voucher project. This variation included: the number of staff involved (delivered by individuals or teams, determined largely by the complexity of the project), the role of project delivery staff (from academics who with teaching/research responsibilities to technologists/advisors who worked

---

<sup>15</sup> Using the Bank of England's Inflation calculator for 2008-2013 (using RPI measure)  
<http://www.bankofengland.co.uk/education/Pages/resources/inflationtools/calculator/flash/default.aspx>



routinely/exclusively on business/knowledge transfer activities; and the level/experience of those delivering the projects.

- Although most co-ordinators at the Knowledge Providers were confident that overall the scale of time inputs and financial recompense were matched evenly, on a case-by-case basis there was anecdotal evidence from academics (both in Northern Ireland and the Republic of Ireland) that there is 'over-delivery' on Voucher projects, where academics/technologists delivered greater than the number of hours agreed formally. This does mean that the true costs of the Programme may be greater than suggested by the data above, and carries the potential risk of non-sustainability into the future. Set against this, evidence from Invest NI is that the feedback sheets completed by academics at the close of projects generally indicate no additional days have been necessary. As such, over-delivery is likely to be an individual rather than systemic issue, for example, where academics are interested in the project and content to over-deliver. We return to the consistency of delivery in Section 7.

#### **Selected Knowledge Provider perspectives on the voucher inputs**

*'The value of the voucher should be increased from £4k as the costs of delivery have gone up since the start of the intervention', if the value is not increased the provider 'will have to think hard about future involvement with the Programme' (Co-ordinator consultee)*

*'Recently firms are grasping at every penny, to get as much as they can get – so we might in some cases slightly over deliver to make sure that the project is completed for both sides' (Academic consultee)*

*Projects often 'involve "off the books" support, and this can be important in building rapport and a good relationship with the client'. (Academic consultee)*

#### **Summary Conclusions**

Expenditure on Vouchers completed over the evaluation period was c.£4.7m. Taking into account the wider delivery costs, the total expenditure of the Programme covered by the evaluation is estimated at c.£5.9m.

The programme generally supports full cost recovery at Knowledge Providers. However, in some cases this is becoming increasingly challenging, as the costs of staff time and other goods and services increase: the financial viability of Vouchers at their current level was regarded by some Knowledge Providers as unsustainable. The majority view from Knowledge Providers is that the Voucher value should increase to reflect rising costs; contextually, if the voucher value had kept pace with inflation, by 2013 it would have been c.£4,650.

## **Activities**

- 3.18 With over 1,000 Voucher projects initiated, and over 900 completed, within the evaluation period, the range of activity delivered through the Programme was extremely broad, with projects being generally highly specific to the firm involved. This sub-Section provides an

overview of project activity over time, and across Knowledge Providers, drawing on both the central monitoring information and the survey of participants.

### Overview of Activity

- 3.19 An overview of programme activity is set out in Table 3-3 covering initial application, award, and project initiation. Consultations indicate that where projects were not initiated (in 310 cases) this was generally owing to a rational business decision on the part of the participant not to progress with the innovation idea. Two points are important regarding this data. First, the number of applications scaled-up over time, indicating positively, strong and increasing demand for the Programme over the evaluation period, although the most significant factor in the increase in the volume of applications was opening the Programme to sole traders/partnerships in the February 2012 call. Second, excluding the pilot year (2008/09), both the application 'success rate', and the 'initiation rate' of projects remained generally consistent, at 45-60%, and 65-80% respectively: indicating a general consistency in the scoring and application quality.

**Table 3-3: Overview of programme metrics**

Year	Applications Received	Awarded	Unsuccessful	Projects Initiated
2008/09	353	211	142	77
2009/10	354	166	188	146
2010/11	353	164	189	115
2011/12	552	330	222	241
2012/13	549	345	204	226
2013/14	729	328	401	258
Total	2,890	1,544	1,346	1,063

Source: Invest NI monitoring data

### Knowledge Providers

- 3.20 The distribution of Vouchers initiated by Knowledge Provider is set out in Table 3-4. The two universities in Northern Ireland, South West College, and CAFRE were the most prominent providers. Some 60 projects were delivered outside Northern Ireland, over half accounted for by Letterkenny Institute of Technology, St. Angela's College, Sligo, and Dundalk Institute of Technology (all geographically proximate to Northern Ireland).<sup>16</sup>

**Table 3-4: Projects initiated and completed by Knowledge Provider**

	Projects initiated	Projects initiated - %
AFBI	18	2%
Belfast Metropolitan College	24	2%
CAFRE	164	14%
North West Regional College	10	1%
Northern Regional College	8	1%

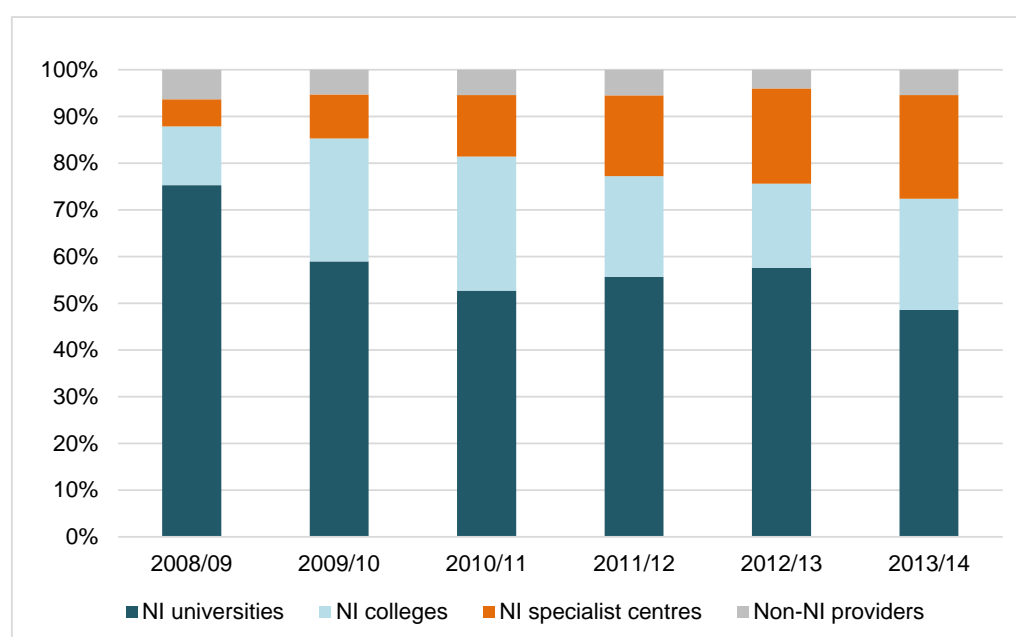
<sup>16</sup> 59 of the 60 projects were delivered by providers in the Republic of Ireland and one in Scotland.

	Projects initiated	Projects initiated - %
Queen's University, Belfast	272	24%
South Eastern Regional College	7	1%
South West College	154	14%
Southern Regional College	36	3%
University of Ulster	387	34%
Republic of Ireland/other providers	60	5%

Source: Invest NI monitoring data Note: the data provided identified 1,040 projects by Knowledge Provider, this varies slightly to the 1,063 set out above from the overview information provided.

- 3.21 The pattern of IV activity amongst Knowledge Providers was generally consistent over the evaluation period. However, as shown in Figure 3-2 (grouping providers by NI universities, NI colleges, NI specialist centres, and Non-NI providers), the proportion of voucher projects accounted for by the two NI universities reduced over the course of the evaluation period, from three quarters in the 2008/09 to around half in 2013/14. The two specialist institutions, AFBI and in particular CAFRE, became more prominent, reflecting in part a targeted call on Food and Drink during the evaluation period.

**Figure 3-2: Proportion of projects initiated by institution-type over the evaluation period**



Source: Invest NI monitoring data

- 3.22 The pattern of projects is reflective both of the demand for services from these institutions, and the extent to which the supply-side has prioritised vouchers, the level of alignment with strategic priorities, and marketing effort. Put simply, the Programme is an important financial and strategic focus for some, for others less so.
- 3.23 This flexibility and lack of prescription in the approach is valued by Knowledge Providers, enabling them to deliver the scale of Vouchers that their capacity and expertise allows. However, a reliance on a small number of institutions – with Queen's, Ulster, CAFRE and South West College accounting collectively for over 85% of projects – also represents a potential delivery risk to the Programme, as noted in the Programme's economic appraisals. Should

one of these providers chose to re-prioritise their innovation and business engagement activities away from the Programme (or decided that it was no longer financially viable), the capacity of the other institutions to take-up this demand, and for the Programme to sustain its current level of activity, could be compromised seriously.

- 3.24 Setting voucher quotas/targets centrally for institutions would not, in the evaluator's mind, be appropriate. The current arrangements allow for operating flexibility, an operating internal market, and for specific project capabilities to develop. However, care needs to be taken by Invest NI to avoid an over-reliance on a small number of institutions, and to ensure that institutions do not take on too much work, with potentially detrimental effects on project quality and completion rates. Encouraging a greater number of the 39 island of Ireland providers to participate fully in the Programme should be a priority going forward.

### ***Types of Innovation Undertaken***

- 3.25 Data was not categorised by Invest NI for the first four years of the Programme on the type of innovation proposed and undertaken by projects, nor was this data captured manually in the previous evaluation. Such data was collected following the Economic Appraisal for the second main phase of activity from 2012/13 onwards. As such, it is not possible to provide a comprehensive assessment of the type of innovation support by the Programme over the totality of the evaluation period.
- 3.26 However, monitoring data where available and the participant survey for this evaluation indicate that product/service innovation was the most common type of activity supported by the Programme. Specifically, the monitoring data indicate that of the 544 projects approved in 2012/13 and 2013/14, 525 (or 97%) were focused principally on product/service innovation; and of the 200 respondents to the participant survey, 163 (82%) indicated their first/only innovation Voucher involved product/service innovation, 54 (27%) identifying process innovation, 19 (10%) marketing innovation, and 7 (4%) organisational innovation.<sup>17</sup>. The pattern for participants that received second/third Vouchers was similar, and the pattern was also consistent over time.
- 3.27 This is not perhaps surprising, notably given the explicitly 'entry-level' nature of innovation supported by the Vouchers, and given that product/service development was the core motivating factor for the majority of the participants surveyed.

### ***Multiple Vouchers***

- 3.28 Participants may apply for a maximum of three Vouchers, for different innovation projects, at different times. The monitoring data indicate that of the 1,544 vouchers awarded, the vast majority (1,466) were single vouchers, with 64 instances of participants securing a second voucher, and 14 instances of participants securing a third voucher. Whilst the scope for second/third vouchers is helpful flexibility in the Programme's design, it is encouraging that the majority were single users. Given the relatively modest use of repeat vouchers, there is no case for change – either to reduce the number of vouchers for which participants are eligible owing to 'dependency', or increase owing to 'demand'.

---

<sup>17</sup> Note that respondents were able to identify more than one form of innovation for their project(s)

- 3.29 There was some feedback from strategic consultees and Knowledge Providers that there may be a case for allowing second/third vouchers to be focused on the next stage of the *same* project. In principle, this may be valid, but in practice it might feed through to excessive demand, and/or may impact on other innovation supports such as Grant for R&D (which though generally of a higher level financially can be used flexibly at the sub-£10k value). As such, this option is not proposed. We return to the number of Vouchers on offer in Section 7.

## Profiling Programme Participants

- 3.30 Data on the profile of participants is set out in Annex A. Key points are as follows:

- Spatially, participants came from across Northern Ireland's regions, and the fit between the spatial distribution of the business base and voucher award was generally good; the data indicate that the Programme has been delivered generally in a balanced and spatially equitable fashion across Northern Ireland's geographies.
- Around half of participants were Invest NI client managed firms, although the proportion of client managed firms reduced over time; this suggests that the demand-base widened as the Programme became better known and marketed, including sole traders from July 2012 onwards may also have been a factor here.
- Participants were generally micro-businesses with under 10-employees and a turnover of under £100k, although the variation in scale was quite wide – notably, participating firms were operating mainly in Northern Ireland or UK markets
- Around half of the participants were firms that had been established for around five years, and a further quarter had been established pre-2000; as such, the business age distribution highlights that the Programme has supported innovation in well-established firms, as well as new-starts and early-stage firms

### Summary Conclusions

Over a thousand Voucher projects were initiated over the evaluation period, and over 900 completed. Given this scale, the range of activity delivered was extremely broad, albeit focused principally on product/service innovation.

The number of applications scaled-up over time, indicating positively, strong, increasing and on-going demand over the evaluation period, and both the application 'success rate', and the 'initiation rate' of projects have remained generally consistent, at 45-60%, and 65-80% respectively.

The two universities in Northern Ireland, South West College, and CAFRE were the most prominent providers, together accounting for over 85% of awarded Vouchers. This reflects the level of demand and the extent to which the supply-side prioritised the Programme. The current model allows for operating flexibility, an operating internal market, and for specific capabilities to develop. However, care needs to be taken by Invest NI to avoid over-reliance on a small number of institutions.

The great majority of the Programme has been focused on single Voucher users. Whilst repeat use of Vouchers is a helpful flexibility in the Programme's design, it is encouraging that Voucher 'dependency' is not a major issue at present.

## 4. Gross Outputs and Outcomes

- 4.1 This Section turns to the gross outputs and outcomes of the Programme, including evidence on the post-Voucher activity of participants, covering follow-on innovation and wider business development activities.

### Outputs

- 4.2 Outputs refer to the direct and countable effects of an intervention, that are (or should be be) monitored. In this case, formal outputs are limited owing to the nature of the intervention which focuses on the provision of research and advice/support through the medium of an innovation project. For example, jobs and turnover created are outcomes of these activities, rather than direct outputs.
- 4.3 The principal output of the Programme is the number of Voucher projects completed. The number of firms supported is also reported below.<sup>18</sup>

#### *Voucher Projects Completed*

- 4.4 Aggregate data from Invest NI indicate that 948 Voucher projects were completed over the evaluation period, from a stock of approximately 1,060 initiated. The flow of annual and cumulative project completions is at Table 4-1, indicating a significant uplift in numbers over the second three years of the period, as Vouchers initiated in previous years came to a close. Note that the time period for which an awarded Voucher remained eligible changed over the evaluation period – from twelve to nine-months. Note that over 100 projects initiated in the evaluation period remained on-going at the time of writing.

**Table 4-1: Projects completed over the evaluation period**

Year	Projects Completed p.a.	Projects completed cumulative
2008/09	28	28
2009/10	120	148
2010/11	143	291
2011/12	176	467
2012/13	228	695
2013/14	253	948

*Source: Invest NI monitoring data*

- 4.5 Positively, the level of project non-completion was low over the evaluation period. Data provided by Invest NI indicated 28 projects initiated but did not complete, a non-completion rate of 3%. It is reasonable that a small number of projects will not be completed, as participants choose to pursue other options, or if the relationship between the relevant parties to the innovation project does not pan out as anticipated. The evaluators understand that the Programme Team at Invest NI do currently follow-up with those participants that do

<sup>18</sup> Note the term firm is used in the broad sense to include both formal businesses and sole traders i.e. all those participants supported by the Programme

not complete their Voucher project to understand the attendant issues, but that this process is not formalised. Going forward, it should be, to ensure that lessons are learned, and inform consistently on-going programme delivery. This should be considered as a 'continuous improvement' action.

- 4.6 The completion-rate was consistent across the Knowledge Provider network (where sample sizes are sufficient to discern patterns), and Vouchers delivered by Knowledge Providers outside Northern Ireland were just as likely to be completed. In fact, over 2008/09-2012/13 (excluding the latest year where there are on-going projects), *all* of the Voucher projects initiated in institutions in the Republic of Ireland (and one in Scotland) were completed.

### **Firms Supported**

- 4.7 The detailed data provided to the evaluators identified 962 completed projects<sup>19</sup>, however, this includes firms with two/three vouchers, and there do appear to be some modest issues in the data with firms recorded more than once for apparently 'single ' vouchers.<sup>20</sup> The evaluation estimates that approximately 840 firms were supported by the Programme over the evaluation period to undertake innovation projects.
- 4.8 Given the scale and timing of the Programme it is not unexpected that there may be some modest discrepancies in the historic monitoring data. However, as the volume of participants increases over time ensuring that good practice in performance management is applied through the use of a unique identifier for programme participants (based on a unique code, rather than firm name) will be important. The Invest NI CCMS system provides such a unique identifier and should be used going forward.

#### **Summary Conclusions**

The direct outputs of the Programme are completed projects and firms supported. Over the evaluation period, some 950 projects were completed, and an estimated 840 firms supported (the latter taking into account multiple vouchers and duplications in the data).

The IV project completion rate, at around 95% is positive; it is reasonable that some projects do not complete formally, where firms choose to pursue other options, or if the relationships between the relevant parties to the innovation project do not run smoothly. The completion rate was broadly consistent across main providers, although was lower at CAFRE – this should be monitored closely by Invest NI.

#### **Recommendations**

- R4. The Programme Team should consider formalising the process for follow-up discussions between programme beneficiaries and academics involved in projects which have not been completed, this to understand the lessons that can be learned. This should be considered by the Programme Team as a 'continuous improvement' action.

<sup>19</sup> This database is a live system updated continually. This explains the slight variation on the number of projects completed to that reported from the aggregate data above.

<sup>20</sup> There are approaching 30 cases in database provided where participants are listed as receiving single Vouchers, but where the firm appears to be listed on more than one occasion. For example, where the firm name is recorded slightly differently (e.g. Ltd as opposed to Limited).



R5. A firm-level unique identifier, using Invest NI's central CCMS system, should be used in future programme rounds.

## Outcomes for Firms . . .

- 4.9 Following outputs, outcomes are the resultant effects of an intervention on the performance and behaviour of participants. The focus here is on the effects of the Programme on the participating firms, although outcomes for Knowledge Providers have also been captured.
- 4.10 Given the nature of the Programme and time-paths to impacts, outcome data has not been monitored by Invest NI. As such, the paragraphs below draw on the participant survey. Three types of participant outcomes are considered:
- Effects on business performance and capacity, innovation measures and financing
  - Effects on employment, turnover, and wider business costs
  - Effects on exporting behaviours.
- 4.11 It should be re-emphasised that the survey captured the perspectives of participants that had *completed* at least one Innovation Voucher project. Outcome data for those participants that had a project approved and then did not take it forward, those participants that started but did not finish an Innovation Voucher project, and those participants with on-going projects are not captured.<sup>21</sup>
- 4.12 In analysing the survey responses a number of consistent cross-tabulations were undertaken, covering whether participants: were client managed, received support in preparing their IV application; had engaged previously in innovation activity; subsequently secured other support from Invest NI. Findings of the cross-tabulation analysis are set out in Annex B, and highlighted below where relevant.

### Outcomes on Business Performance and Capacity

- 4.13 The participant survey identified a wide range of positive outcomes from the Programme related to business performance and capacity. As set out in Table 4-2, the outcomes were most pronounced in terms of the introduction of new or significantly improved products, generating an improved understanding of the benefits of innovation, and improving the technical capability or understanding in the business. Further, half of the participants surveyed (51%) stated that the Innovation Vouchers programme had improved the profitability of their business. A relatively modest number of respondents to the survey (16, or 8%) reported that they had not experienced any of the potential outcomes probed for. These findings are encouraging, with the nature of the outcomes well aligned with the Programme's intent.

---

<sup>21</sup> Outcomes for this final group will need to be identified in subsequent evaluations



**Table 4-2: Business performance and capacity outcomes for participant firms (n=200)**

Type of outcome	Number experienced	Proportion experienced
Improved technical capability or understanding	134	67%
Improved understanding of the benefits of innovation	133	67%
Introduction of new or significantly improved products	130	65%
Improved product quality	127	64%
Improved profitability	101	51%
Introduction of new or significantly improved services	82	41%
Reduced environmental impact	52	26%
Introduction of new or significantly improved management practices	51	26%
No benefit	16	8%

Source: Participant survey

- 4.14 Two further points are worth noting. First, the cross-tabulation analysis indicated that positive outcomes were more evident for participants that received support in the development of their application, from Invest NI, the Knowledge Provider, or a private consultant/advisor. For example, 57% of participants that received support in developing their application reported improved profitability, compared to 41% that did not receive support. A range of factors may be in play here – including selection bias where those projects that are in any case ‘better’ are more likely to seek and secure support – but the data do suggest that assessing pre-application support may relate to better outcomes for participants. See Annex B for further detail.
- 4.15 Second the timing of support did not have an effect on these outcomes, with no consistent pattern that firms, for example, supported earlier in the evaluation period (and where more time has passed for the benefits to flow through) were more likely to have experienced positive outcomes.
- 4.16 The data from the participant survey are consistent with findings from consultations with Knowledge Providers (including academics) and Invest NI staff in their perceptions of the benefits for participants of the Vouchers programme. Four key points emerged;
- Knowledge Providers and academics reported consistently that Vouchers supported the development of tangible products (and in some cases services) which had significant potential for the businesses going forward, although in most cases the Voucher was explicitly a ‘first step’, with further work and investment required down the line to realise these benefits.
  - There was anecdotal evidence that the very fact of receiving an Innovation Voucher can be important, improving the confidence and raising the profile of the participant. In this sense, securing a Voucher can in and of itself be important to firms’ acceptance of the benefits of being innovation-active, over-and-above the tangible effects that projects can give rise to downstream.
  - Linked to this, making firms ‘take innovation more seriously’ was a theme to emerge from the consultations – although buy-in varied, Vouchers were reported to provide

the opportunity to embed innovation practice as ‘the norm’, and provide an ‘open door’ to academics over the longer term.

- In some cases, Vouchers were reported to have played an important role in enabling participants to take an ‘honourable withdrawal’ from a proposed product or service, where the project showed that the idea/concept was not viable. Although such effects are unlikely to show-up in quantitative terms, preventing businesses from incurring further costs on non-viable products/services is important.

4.17 These types of effects are hard to quantify, but important given the underpinning rationale and objectives of the Programme. At this point, however, it is also worth noting that there is relatively limited consistency at an institutional level in tracking the performance of firms, post-completion. Some Knowledge Providers have formal systems for such monitoring, others do not. This may be an area where further standardisation is warranted in the future.

### **Effects on Innovation Measures and Financing**

4.18 Participants surveyed were also asked to identify whether the Programme had led (in this case, directly or indirectly), to a range of wider, and potentially longer-term outcomes related to innovation behaviours/activities, and access to finance. As set out in Table 4-3, the outcomes to this point are modest for these factors, notably in terms of supporting firms to access finance (equity or bank), and generate patents and IP.

**Table 4-3: Innovation and finance outcomes of the Programme (n=190)**

	<b>Yes - directly</b>	<b>Yes - indirectly</b>	<b>No</b>
Increased internal investment by the organisation in R&D/innovation activity	75	23	92
Non-patentable IP or knowledge produced	49	31	110
Patents applied for or registered	25	20	145
Securing of new licencing deals	14	17	159
Equity finance secured from external investors	13	13	164
Bank finance secured	9	10	171

*Source: Participant survey*

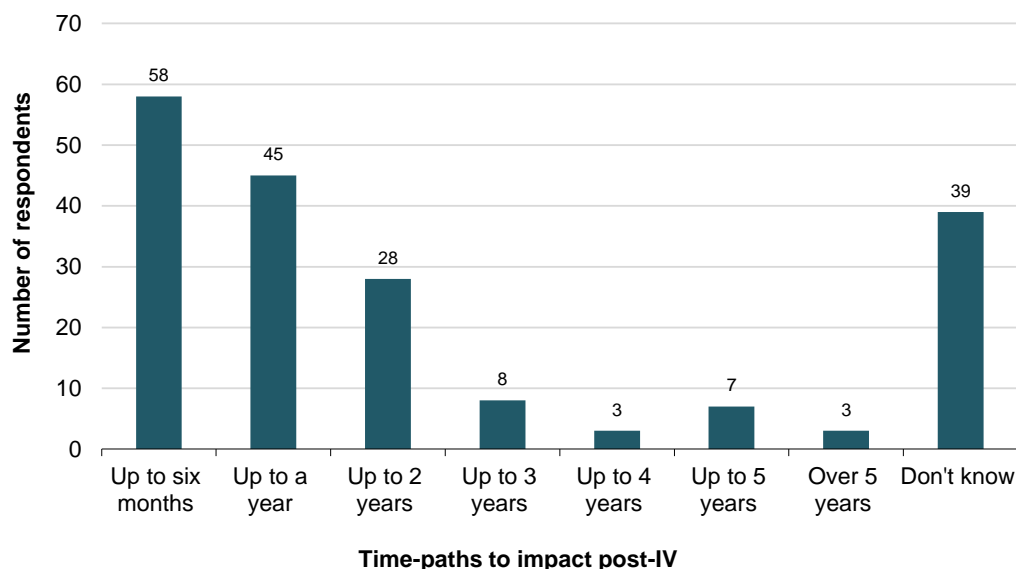
4.19 To a large extent, this is not unexpected, given that the purpose of the Voucher regimen is to introduce firms to innovation, rather than to progress sophisticated innovation issues. And this said, 98 of the 200 survey respondents (so, essentially half) stated that the Programme had led directly or indirectly (most commonly the former) to increased levels of internal investment in R&D/innovation activity. This again is an encouraging finding given the focus of the Programme on supporting firms to undertake early-stage innovation activity as a precursor to more substantive and significant forms of innovation.

### **Timelines to Impact**

4.20 Participants that identified business performance or innovation/finance outcomes were also asked to identify how long it took for these outcomes to be realised following the completion of their project. As set out in Figure 4-1 below, in most cases the outcomes were realised between six months and a year after project completion. This said, in a good number of cases

the time-paths to impact were somewhat longer, and there was a high level of uncertainty, the latter reflecting the complex and often time-extended routes to impact arising from early-stage innovation activity.

**Figure 4-1: Timelines to impact for business outcomes (n=191)**



Source: Participant survey

### Summary Conclusions

The participant survey indicates that the Programme delivered a range of positive business performance outcomes including the introduction of new or significantly improved products, improved understanding of the benefits of innovation, and improved technical capability or understanding.

Outcomes in supporting firms to access equity finance and deliver tangible innovation results such as patents and IP appears to be more limited at this stage. This is not unexpected, given the focus of Vouchers on introducing firms to innovation, rather than progressing sophisticated innovation issues.

Other effects include improved confidence, supporting 'honourable withdrawals' from innovation ideas, and making innovation part of 'normal' business. These effects are hard to quantify, but important given the underpinning rationale and strategic goals of the Programme.

### Recommendations

- R6. Recognising the evidence that participants receiving support in developing their application generally secured more benefits (in terms of qualitative outcomes) than those that did not, Invest NI should consider how greater levels of pre-application engagement with Knowledge Providers/Invest NI can be facilitated, within appropriate cost and time limitations.

## Effects on Employment, Turnover, and Business Costs

### Employment

- 4.21 Creating employment is not a necessary, or indeed necessarily constructive, effect of innovation. Innovation can lead to employment reductions as well as increases, and positive productivity effects can be made by stripping out employment costs. However, as discussed in Section 2, the objectives of the Programme include a focus on job creation. Data on employment *creation* is not captured in the Programme's monitoring system (although baseline data is captured in the application stage). For the purposes of the evaluation, it was necessary to use the participant survey to provide an indication of the employment effects with survey findings grossed up to the participant population.
- 4.22 Using this approach, of the participants surveyed: 26 (13%) stated that the Programme had led directly to changes in their employment levels, 84 (42%) that they expected a change in employment in the future, and 103 (52%) that they had experienced/expected no change in employment.<sup>22</sup>
- 4.23 Survey respondents were then asked to provide data on the scale of employment effects. These data have been used to provide an aggregate assessment of the employment effects of the firms surveyed. Four points are important in reviewing these data:
- The data on employment effects are self-reported, and have been taken as accurate by the evaluators. We have no reason to doubt the information provided by firms, but at the same time, it has not been checked and or formally verified.
  - The aggregate data are influenced heavily by one firm which identified employment effects of over 50 jobs (achieved and expected) associated with the Programme. Whilst these data should not be discounted, the majority of firms reported significantly more modest employment effects.
  - The employment data are gross – they do not take into account additionality factors or displacement. The net employment effects (once these issues have been taken into account) represent the more important indicator of employment contribution.
  - Given the uncertainty of the timing of future employment effects, data are presented as 'achieved' and 'expected'. Importantly, it is not possible to be confident when 'expected' employment benefits may arise. Indeed, when asked when future effects (of all kinds) were expected to be realised, there was wide variation.<sup>23</sup> To account for this, Optimism Bias of 25% has been applied to 'expected' employment.<sup>24</sup>
- 4.24 The key findings from the survey are summarised in the Table below.

---

<sup>22</sup> Note that 13 respondents identified both employment change to date and expected for the future

<sup>23</sup> Specifically: 24% stated this year (i.e. 2014), 37% next year, 19% in two years, and 12% in three or more years.

<sup>24</sup> Guidance on optimism bias is available mainly in the field of regeneration rather than innovation support. It could be higher (or lower) than 25%. Evidence from the RDAs in England with respect to outputs suggested optimism bias of around 20%. Given the nature of innovation activity, 25% is considered by the evaluators to be a realistic assumption.

**Table 4-4: Assessment of the gross employment effects for survey respondents**

	Data	Notes
<b>Achieved employment effects</b>		
Number of firms reporting benefits	26	
Number of firms providing data	21	Five firms not able to provide quantitative data
Aggregate jobs created - achieved	131	
<b>Expected employment effects</b>		
Number of firms reporting benefits	84	
Number of firms providing data	60	Twenty four firms not able to provide data
Aggregate jobs created - expected	143	25% optimism bias applied
<b>Total employment effects</b>		
Total effects from survey	274	219 excluding outlier
Average jobs created where evident	3.7	74 firms provided data, including firms reporting both achieved and expected data; 3.0 excluding outlier
Average jobs created across the survey cohort	1.4	From the survey cohort of 200; 1.1 excluding outlier

Source: Participant survey and SQW analysis

- 4.25 The survey suggests that the average employment effect (achieved and expected) is 3.7 FTEs per participant, *for those that identified employment benefits*. The average baseline employment pre-Innovation Vouchers for these participants was 5.7 FTEs. It should be noted that these quantifiable employment effects were reported for approximately a third of participants surveyed – employment effects were not reported for the majority of those surveyed.
- 4.26 To provide an indicative of the total gross employment effect of the Programme, the data from the survey has been applied to the participant population in Table 4-5.

**Table 4-5: Assessment of total gross employment effects of the Programme**

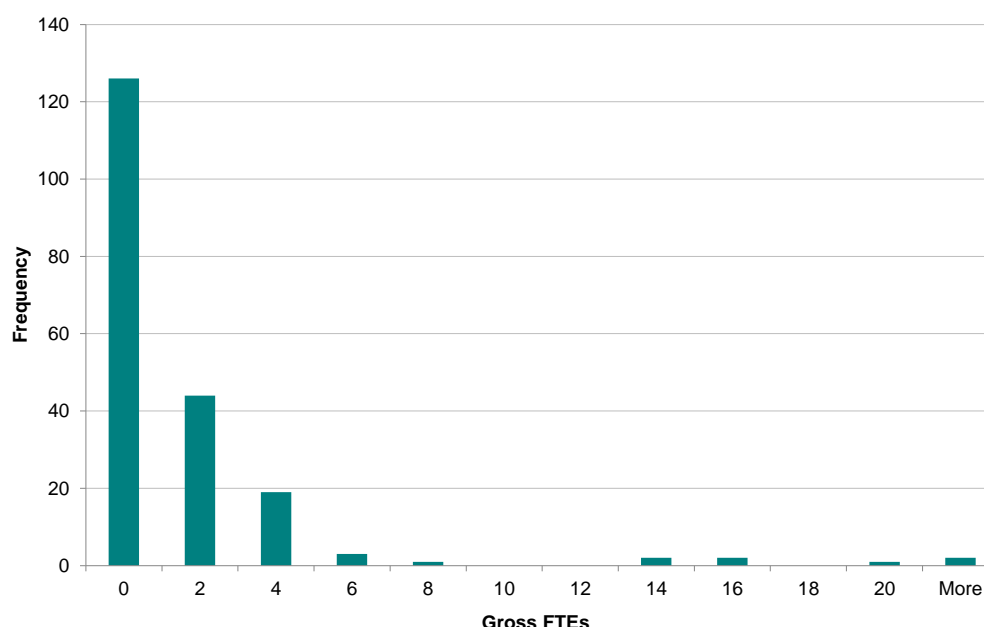
Survey firms with quantifiable employment effects	74
Proportion of firms with quantifiable employment effects	37%
Average gross employment effect per firm (excluding outlier, FTEs)	3.0
Total firms with completed Innovation Voucher projects (best estimate)	840
Total firms with employment effects	311
<b>Total gross employment (FTEs)</b>	<b>931</b>
<i>Achieved</i>	451
<i>Expected</i>	480

Source: Participant survey and SQW analysis

- 4.27 The data suggest approximately 930 gross jobs created by the Programme over the evaluation period (from completed projects) – half achieved, and half expected for the future.
- 4.28 It is important that the aggregate findings do not obscure the uneven distribution of employment effects for participants. As illustrated in Figure 4-2, the survey indicates that that

the majority of participants experienced no effect on employment associated with the Programme. And, where employment effects have been experienced they have been (or will be) in absolute terms generally modest. This is not unreasonable – as noted above, innovation is not really about employment.

**Figure 4-2: Distribution of gross employment effects for survey respondents**



Source: Participant survey

### Turnover

- 4.29 Alongside employment effects, survey respondents were also asked to provide data on the effects of the Programme on their turnover. Of the 200 participants surveyed: 53 (27%) stated that the Programme had led directly to changes in the turnover of their business/organisation, 113 (57%) that they expected changes in turnover in the future, and 71 (36%) that they had experienced/expected no change in turnover as a result of the Programme.<sup>25</sup>
- 4.30 Therefore, approximately two-thirds reported actual or expected turnover effects associated with the Programme. As such, turnover effects were more commonly identified than employment effects; this is to be expected given the nature of innovation activity, and consistent with the overall rationale and case for the intervention.
- 4.31 Again, participants were asked to provide quantitative data on the turnover effects. The general caveats/issues raised above at 4.22 apply here. Three other points are worth noting:
- The data are derived from single-figure gross turnover contributions per participant, that is, all of the turnover generated or expected reported from projects completed over the evaluation period, *not* annual figures. This is particularly important when considering future turnover: owing to uncertainty on when these benefits will occur,

<sup>25</sup> Note that 37 respondents identified both change to date and expected for the future

a single value for ‘future turnover’ was derived.<sup>26</sup> This may underestimate potentially the effects of the Programme in some cases, but it also guards against an over-estimation of its contribution where turnover effects may not be realised in a single year, and/or may not persist over time.

- In 22 cases, participants identified an up-lift in turnover, but did not provide baseline data – in these cases an assumed baseline turnover of £250k was applied<sup>27</sup>.
- A significant proportion (61 of the 113) of the participants identified expected future turnover effects but could not quantify this. Of this group: 21 stated they expected their turnover to be ‘a lot higher’, and 23 ‘a little higher’. The data below may therefore underestimate the true gross effects of the Programme going forward.

4.32 Key findings are set out in the Table below. The average turnover effect, where reported (both achieved and expected) is approximately £305k, although this reduces to £196k when a major outlier is excluded. The £196k gross turnover effects is set against a baseline average turnover of these firms when approaching the Programme of approximately £320k.

**Table 4-6: Assessment of the gross turnover effects for survey respondents**

	Data	Notes
<b>Achieved gross T/O effects</b>		
Number of firms reporting benefits	53	
Number of firms providing data	33	20 firms not able to provide quantitative data
Gross T/O achieved (£)	17.1m	
<b>Expected gross T/O effects</b>		
Number of firms reporting benefits	113	
Number of firms providing data	52	61 firms not able to provide data
Gross T/O expected (£)	3.4m	25% optimism bias applied
<b>Total gross T/O effects</b>		
Total gross T/O effects (£)	20.5m	13.0m excluding outlier
Average gross T/O where evident (£)	305k	67 firms provided data, including firms reporting both achieved and expected data; 196k excluding outlier
Average gross T/O across the survey cohort (£)	102k	From the survey cohort of 200; 65k excluding outlier

*Source: Participant survey and SQW analysis*

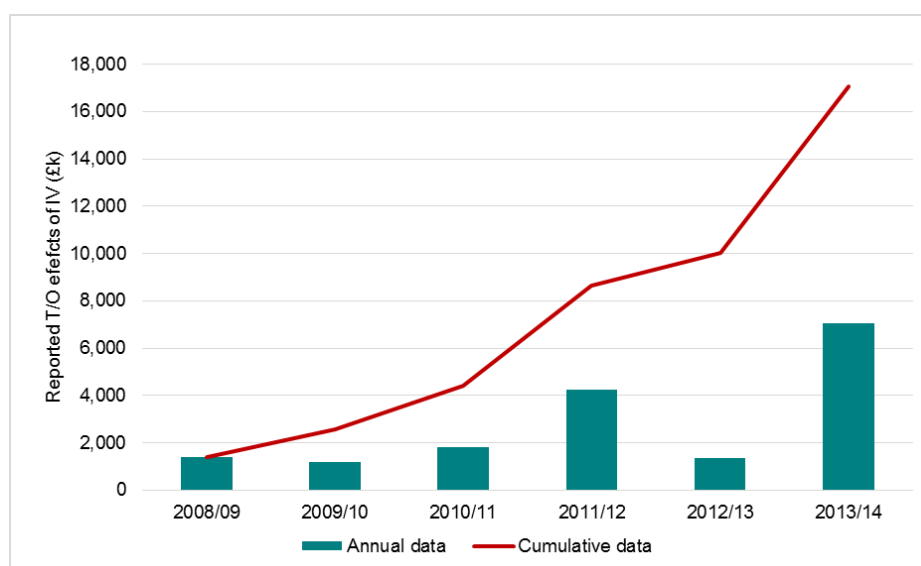
4.33 The flow of achieved turnover over time from the survey cohort is summarised in Figure 4-3, growing reasonably steadily over time, in line with the expansion of the Programme. The data are based on the returns of all 200 participants, although the actual data refers to the 33 respondents that quantified the turnover effect.

<sup>26</sup> For example, where a firm reported that they expected their turnover to increase by (say) £10,000 in the future, £10,000 is the value of turnover captured in the data. Note that this approach means that the data are undiscounted: as the timing of turnover effects is not known with any certainty.

<sup>27</sup> The median baseline turnover for participants across the survey, excluding a number of major outliers



Figure 4-3: Reported aggregate turnover effects over time (n=200)



Source: Participant survey and SQW analysis

- 4.34 The survey data have been grossed up to provide an indication of the estimated gross turnover outcomes associated with the Programme. As set out below, the gross turnover is estimated at £55m.

Table 4-7: Assessment of total gross turnover effects of the Programme

Survey firms with quantifiable turnover effects	67
Proportion of firms with quantifiable turnover effects	34%
Average gross turnover effect per firm (excluding outlier)	196k
Total firms with completed Innovation Voucher projects (best estimate)	840
Total firms with turnover effects	281
<b>Total gross turnover</b>	<b>£55.3m</b>
<i>Achieved</i>	<i>£40.8m</i>
<i>Expected</i>	<i>£14.5m</i>

Source: Participant survey and SQW analysis

### Business Costs

- 4.35 Survey participants were also asked to identify the effects of the Programme on business costs. The effects on costs may be 'positive' or 'negative'; on the one hand stripping out costs through more efficient processes and procedures, or on the other, increasing costs through supporting the development of new products/services.
- 4.36 In terms of effects on business costs, of the 200 survey respondents: 32 (16%) stated that the Innovation Vouchers programme had led directly to changes in the costs of their business/organisation, 78 (39%) that they expected changes in costs in the future, and 114 (57%) that they expected no change in business costs as a result of the Programme.<sup>28</sup>

<sup>28</sup> Note that 24 respondents identified both changes to date and expected for the future

- 4.37 Where evident, respondents were asked to quantify the effect. However, only a small number of participants were able to provide data, meaning it is not possible to gross-up the findings to the population as a whole. However, of the 78 firms identifying that they expected changes in costs *in the future* as a result of the Programme:
- 16 stated that they expected their costs to decrease as a result of the Programme
  - 62 stated that they expected their costs to increase as a result of the Programme.
- 4.38 These increased costs do need to be set against the turnover benefits in order to provide an overview assessment of the net-financial effects of the Programme on its participants, although data limitations preclude a quantitative assessment.

#### Summary Conclusions

The survey evidence indicates that the Programme has delivered, or is expected to deliver employment benefits for around half of its participants. Where evident, the average gross employment effect, achieved and expected was 3.7 FTEs per firm, on an average base employment of 5.7 FTEs: so, where there are employment effects they can be substantial, but they are not evident for the majority.

Approaching two thirds of survey respondents identified actual or expected turnover effects as a result of the Programme. The average effect, where evident, was c.£196k gross turnover effect, against a baseline turnover of c.£320k. Again, the data are encouraging, albeit in gross terms and based on a modest sample.

Grossing-up the findings of the survey to the 840 participants with completed projects provides an estimate of c.930 jobs created (gross, of which around half are expected rather than achieved) and £55m in additional turnover (gross, where most is achieved), by the Programme over the evaluation period.

The programme has delivered modest outcomes in terms of business costs for a significantly minority of participants (c.40%), often in terms of *increasing* business costs, either in the past or expected for the future.

#### Effects on Exporting Behaviours

- 4.39 The Terms of Reference identified explicitly the requirement for the evaluation to test the role of Innovation Vouchers in driving export activity. This issue was probed in the participant survey. Contextually, however, it is important to reflect that in the same way that employment and turnover effects are longer-term fruits of the Programme, so is exporting propensity. Further, export promotion, whilst a strategic priority for Invest NI is not, fundamentally, what Innovation Vouchers are about.
- 4.40 With this context in mind, Table 4-8 sets out the extent to which the participants surveyed reported that the Programme had led to changes in their exporting behaviour, or expected it to do so in the future. As shown, approaching two-thirds of respondents stated that the Programme has had no effects on the exporting profile at this juncture. This is not unexpected.

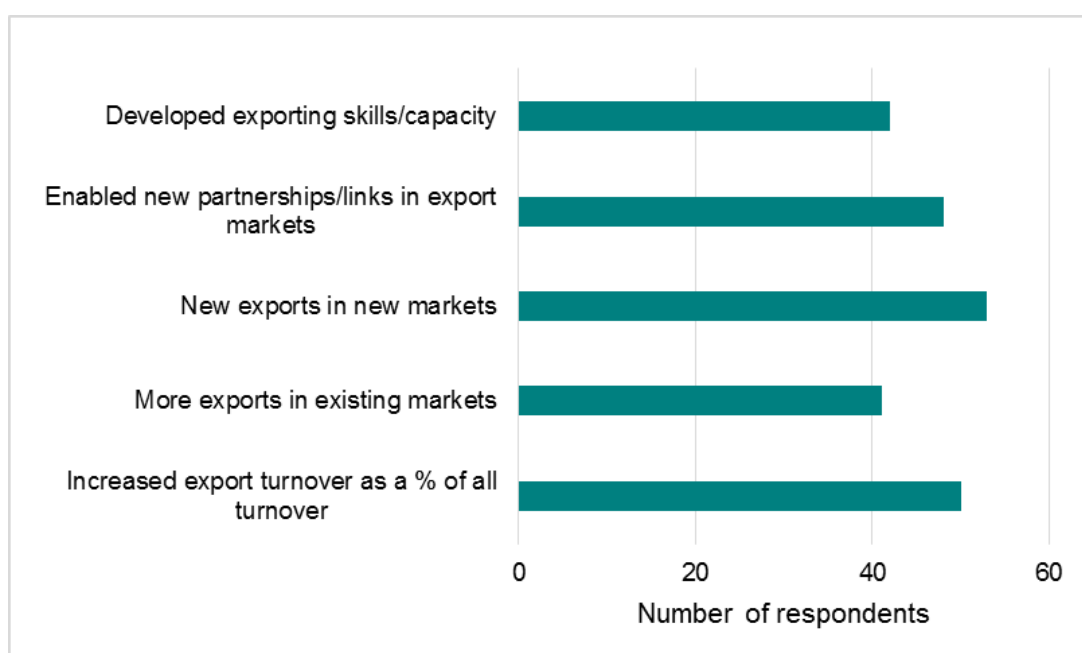
**Table 4-8: Response to ‘Has the Innovation Voucher project(s) led to any changes in the export behaviour of your organisation?’ (n=200)**

	Number	Proportion
Yes - changed exporting profile to date	23	12%
Yes - will change exporting profile in the future	49	25%
No effect on exporting profile to date	128	64%

Source: Participant survey

- 4.41 For those participants that identified effects on actual or future exporting behaviour, the nature of these effects was probed in more detail. As shown in Figure 4-4, the effects were both absolute (i.e. more or new exports) and relative (i.e. increased exports as a proportion of turnover).

**Figure 4-4: Nature of reported effects on exporting behaviour (n=72)**



Source: Participant survey

- 4.42 These data are broadly encouraging – Innovation Vouchers are having some effects on exporting, although in most cases this has yet to flow through. But the export promotion contribution of the Programme should be viewed from a long-term perspective, with effects on exports coming as part of a broader process of business development and innovation stimulation that Vouchers helps to promote. A more direct focus on exporting through the Programme would be counter-productive; other Invest NI supports are in place to drive this activity.

### Summary Conclusions

Around two-thirds of respondents to the participant survey stated that the Programme had had no effects on their exporting profile at this juncture. However, in a third of cases, effects on exports were either achieved or, more commonly, anticipated for the future, both in terms of absolute effects (i.e. more or new exports) and relative effects (i.e. increased exports as a proportion of turnover).

Impacting on the export activity of participants should be regarded as a long-term game as innovation activity is embedded and firms grow their markets. A more direct focus on exporting through the Programme would be counter-productive – the Programme should leave direct export promotion to other Invest NI supports.

### ... and Knowledge Providers

4.43 The principal outcomes of the Programme are those for participants. However, consultations with Knowledge Providers identified a range of qualitative outcomes on the delivery-side which are important for understanding programme performance in the round. Five key outcomes were evidenced:

- **Enhancements to the knowledge and skills of academics/technologists.** A consistent theme was the opportunity that the Programme afforded for academics/technologists to ensure their knowledge and skills remained relevant and ‘up to date’ through direct engagement with active businesses.
- **Improved relationships with business and industry,** with both the direct and indirect effects of this helping to build the profile of the Knowledge Base in the SME community more widely. This was seen as being particularly important for a number of FE organisations, who typically had operated with lower profiles in the business community. Vouchers also provided an important ‘seed’ for on-going innovation activity, with the majority of Knowledge Providers identifying further work that had been undertaken with Voucher participants. This said, the consultations also indicated that the scale of follow-on work was varied, and there are few systems in place at Knowledge Providers to track formally the progress of firms once they have completed their IV project. This has two implications:
  - Knowledge Providers are potentially not maximising the scope of the Vouchers programme to generate sustainable linkages with business base
  - the Programme is potentially missing an opportunity to ‘lock-in’ the Knowledge Base’s on-going engagement in innovation and relationships with the SME community, which is a key objective of the Programme.

A more consistent approach to ‘aftercare’ by Knowledge Providers would be a useful improvement to the operation of the delivery model, and enable the Programme to evidence better its effects on addressing the coordination issues it aims to address.

- **Curriculum development,** around half of the academics consulted identified that the Voucher engagement had informed subsequently their teaching activity. Linked to the first point above, an important theme here was the ability for Voucher activity to provide ‘real world’ examples which were transferable to the teaching arena. In a number of cases, academics reported that participants had been invited to their institution as guest speakers, and indeed some firms had subsequently offered opportunities for work placements amongst the institution’s student population.
- **Financial contributions.** Whilst the aggregate scale of Voucher activity varied across the network, the funding stream that the Programme provides was unequivocally

important for most, if not all, of the Knowledge Providers. The extent to which Vouchers are a core funding stream was mixed, but it is clear that in a number of cases the Programme provided a significant proportion of income, and represented one of the key business engagement innovation interventions delivered.

### Summary Conclusions

The programme has generated positive outcomes for Knowledge Providers including enhancements to the knowledge and skills of academics/technologists, improved/extended relationships with the business base, inputs to curriculum development, and (for some in particular) an important financial contribution.

The scale of follow-on work to retain involvement with participants varied across the delivery network, and there are few systems in place at Knowledge Providers to track formally the progress of participants once they have completed their project. A more consistent approach to aftercare by Knowledge Providers would enhance the Programme offer.

### Recommendations

- R7. The Programme Team should encourage Knowledge Providers to maintain a relationship with participants following project completion, so providing a more consistent approach to aftercare. The Programme Team should consider developing guidance to facilitate this approach.

## Life after Innovation Vouchers?

- 4.44 The objective of the Programme is to facilitate links between participants and Knowledge Providers as a first step in an innovation process, with the intention that ‘post-voucher’ participants will move upwards and onwards on the ‘innovation escalator’, including accessing support from Invest NI’s wider suite of products. Data on the use of other Invest NI support, and wider feedback from the participant survey on the post-Voucher innovation activity has been used to evidence the contribution of the Programme to this process.

### Other Invest NI support

- 4.45 Invest NI’s central monitoring system provides data on the support that participants received *following the completion* of their Vouchers project. Note that there is no single unique identifier between the Innovation Vouchers programme and the central monitoring system to allow a cross-referencing to the Voucher database and the survey results. Data has also been provided separately for links to Knowledge Transfer Partnerships and Propel.
- 4.46 In this context, the data indicate that of the firms who completed an Innovation Voucher project by the end of the evaluation period, 43% (374) received subsequent support from Invest NI<sup>29</sup>. In total, over 2,600 instances of additional support were received by these participants – this includes financial assistance of over £28m in total. This is a significant body of support received post-Voucher.

<sup>29</sup> Some companies that received subsequent support have also received subsequent Innovation Vouchers. The analysis here specifically relates to support that has been received after the completion of the first Innovation Voucher received.

- 4.47 The additional support came from a variety of Invest NI initiatives, in all some 93 different forms of support are identified in the data. However, five interventions are very prominent, and in the 'top 10' for frequency of deployment and financial value: Technical Development Incentive, Growth Accelerator Programme, Grant for Research and Development, Management Information Scheme, and Selective Financial Assistance. These interventions accounted for three quarters of the financial value of assistance received post-Voucher.

**Table 4-9: The 'top 10' types of support subsequently used by companies having completed an Innovation Vouchers project, by frequency of support**

Type of support	No instances of support	% instances of post-IV support
Technical Development Incentive	316	12%
Technical Advisory Unit Project	200	8%
Business Information RDS	196	7%
Growth Accelerator Programme	158	6%
Industrial Symbiosis	133	5%
Grant For Research And Development	120	5%
Management Information Scheme	109	4%
People Solutions Advisor	103	4%
Irish Manufacturing Services – Trade Advisory Service	97	4%
Selective Financial Assistance	92	4%
Other	1,092	42%
<b>Total</b>	<b>2,616</b>	<b>100%</b>

Source: Invest NI

**Table 4-10: The 'top 10' types of support subsequently used by companies having completed an Innovation Vouchers project, by value of support**

Type of support	Value of instances of support (£)	% value of post-IV support
Grant For Research And Development	8,758,782	31%
Selective Financial Assistance	6,307,484	22%
Growth Accelerator Programme	4,594,765	16%
Management Information Scheme	870,375	3%
Technical Development Incentive	814,449	3%
Collaborative Grant for Research and Development	789,793	3%
BITp	740,067	3%
Project Definition	731,109	3%
Interim Managers	477,136	2%
Co-Investment Fund	340,000	1%
Other	3,992,126	14%
<b>Total</b>	<b>28,416,086</b>	<b>100%</b>

Source: Invest NI

- 4.48 Further, many of the participants received *multiple* further instances of support: 78% secured more than one post-Voucher support, and in 23% of cases at least 10 different forms of support were provided, although it is worth noting that the nature of support ranges widely from substantial finance grant support (for example through SFA or Grant for R&D) through to advice and non-financial support via, for example, Technical Advisory Unit.
- 4.49 The central data do not capture fully the relationship between the Innovation Vouchers Programme and the Knowledge Transfer Partnerships (KTPs) programme<sup>30</sup> or Propel. Data was therefore provided separately by Invest NI, including:
- 38 participants in the Programme have participated in KTPs, equating to 26% of all KTPs in Northern Ireland
  - 42 participants in the Programme have also been involved in Propel, equating to 27% of all participants in Propel.<sup>31</sup>

### Reflections

- 4.50 In reflecting on these data, it is important to note that it is not possible to claim direct causation for the Voucher Programme i.e. it is not possible to know if firms that received other support may have done so in any case, without Innovation Vouchers. However, this noted the following two points are made:
- The scale of firms 'moving-on' to other Invest NI innovation and R&D supports is broadly encouraging, with 120 securing Grant for R&D (so, on average around 20 a year), over 300 supported by TDI, and Voucher participants involved in over a quarter of KTPs in Northern Ireland over the 2008-2014 period. Participants have also moved on to a broader range of business support interventions, such as Selective Financial Assistance. This said, consultations suggest that there may be scope to enhance further the links between the Programme and other supports through optimising internal linkages between teams, ensuring there is clarity on exactly where the Programme 'fits' with the wider innovation-offer. Whilst there is no perfect system, thinking through how these interventions could work better together is recommended
  - Whilst it is positive that some firms supported by Innovation Vouchers are moving on to other public-funded innovation/enterprise support, there is also a broader economic imperative for firms to become self-reliant, moving away and on from the temptation of 'dependency' on public support, and particularly 'repeat' support (as appears to be the case for a good number of Innovation Voucher participants). Clearly, this is an issue broader than Innovation Vouchers, and the need to reduce reliance on public innovation funding is recognised in the Innovation Strategy. However, ensuring the Programme is channelling firms onto both other public support mechanisms (that may be beneficial to them) *and* market provision (broadly cast, and where appropriate through sign-posting/guidance) is important, and should be re-emphasised to Knowledge Providers. With greater consistency in follow-up

<sup>30</sup> KTPs are no longer recorded in the Invest NI database as the Programme is led by Innovate UK (formerly the Technology Strategy Board). The evaluator's understand that KTP data is to be incorporated in the near future.

<sup>31</sup> The data for KTPs and Propel includes participants involved with these interventions both prior to and after receiving an Innovation Voucher.



activity (as recommended above), a clearer picture of how participants are 'graduating' to private provision should emerge, which could be used to identify where further support/guidance may be beneficial, and links optimised.

### Survey evidence on post-Voucher activity

- 4.51 As noted above, the participant survey probed on the extent to which firms had moved-on to other forms of innovation activity, including, but not limited to Invest NI support. Positively, half of survey respondents (101) stated that they had undertaken subsequent innovation activity following the completion of their Innovation Voucher project(s)<sup>32</sup>. This involved engagement with a Northern Ireland university or college in around a third (37%) and a fifth (21%) of cases respectively. The type of innovation activity progressed post-Voucher was typically around product/service innovation, as summarised in the Table below.

**Table 4-11: Type of post-Voucher innovation activity**

Type of innovation post-Voucher	Number of respondents
Product or service Innovation	90
Process Innovation	23
Marketing Innovation	12
Organisational Innovation	7

Source: Participant survey

- 4.52 A related intent of the Programme – and important strategically in the context of delivering against the aspirations of the Innovation Strategy – is to support firms moving-up Invest NI's 'innovation escalator'<sup>33</sup>. Encouragingly, of the survey respondents that stated they had engaged in subsequent innovation activity (n=101), many stated that this involved 'higher' levels of innovation including product development, R&D activities, and in some cases collaborative industry-led research, as set out in the Table below.

**Table 4-12: Level of post-Voucher innovation activity (n=101)**

Level of innovation undertaken	INI innovation escalator stage	Number of respondents
Early-stage activity to build innovation awareness	Stage 1	40
Developing innovation capacity and exploring how it can drive business growth	Stage 2	42
Implementing innovation e.g. product development, technology transfer and technical solutions	Stage 3	68
R&D to exploit new technologies and processes	Stage 4	63
Collaborative industry-led research in emerging technology areas	Stage 5	33

Source: Participant survey

- 4.53 These findings are encouraging. However, two further points are important:

<sup>32</sup> The definition of innovation was consistent with that described above (see Footnote 9)

<sup>33</sup> See <http://secure.investni.com/static/library/invest-ni/documents/corporate-plan-2011-2015.pdf> p6. Note that the level of innovation was 'self-defined' based on the categories in the survey, and respondents were able to identify multiple levels of innovation undertaken

- Of the 101 survey respondents in view, over half (55) reported they would have undertaken this subsequent innovation activity in the absence of support from the Programme. As such, whilst there is a high level of post-Voucher innovation activity, much of this may have happened in any case. Of course, this does need to be counterpoised with the risk for participants to report in theory that they would have acted more assertively on issues than in practice would have been the case.
- When asked whether firms had remained in contact with their Voucher Knowledge Providers(s), over a third (69, 35%) stated that they had not. There does appear to be scope to enhance the extent to which the Programme is facilitating sticky, sustainable and durable linkages for the longer term between SMEs and the Knowledge Base. This, alongside the evidence discussed previously regarding the systems in place, and later in the report that satisfaction with follow-up activity is lower than for the Programme as a whole, does further emphasise the need for a more focused approach to post-Voucher activity to maintain these initial relationships.

4.54 These issues aside, more broadly, of the full participant survey cohort, a significant majority (168, 84%) stated that they were *more* likely to engage in innovation activity in the future as a result of their engagement with the Programme. This should contribute to raising levels of engagement in innovation in Northern Ireland over the longer term, and is a positive finding.

### Summary Conclusions

Of participants who completed an Voucher project in the evaluation period, 43% received subsequent support from Invest NI, with Grant for R&D, SFA, the Growth Accelerator Programme, Management Information Scheme, and Technical Development Incentive the most prominent 'next steps' for voucher participants. The scale of on-going support suggests the Programme is generally well aligned with other Invest NI interventions, albeit more could be done to optimise the linkages.

Positively, half of survey respondents stated that they had undertaken subsequent innovation activity, typically product/service innovation, and this regularly involved work with a Northern Ireland university/college. But, of this group half reported that they would have done so in any case without the Programme.

Around a third of participants surveyed had not remained in touch with their Knowledge Provider(s) post-Voucher: more could be done actively to maintain these business-knowledge base relationships.

A significant majority of survey respondents stated they were more likely to engage in innovation activity in the future because of their engagement with the Programme. This is positive, and should contribute to raising innovation levels long- term.

### Recommendations

- R8. Invest NI should develop further existing linkages and processes to maximise and encourage the flow of demand from the Programme to other later-stage innovation supports, notably Grant for R&D and Knowledge Transfer Partnerships (KTPs). Any 'blockages' identified to greater collaboration should be addressed. Key to this will be to ensure that Client Executives and Innovation Advisers understand fully how/where Vouchers fit in alongside other support regimes operated by Invest NI.

## 5. Assessment of Additionality

- 5.1 With the *gross* outputs and outcomes of the Programme identified, it is now necessary to consider the additionality of Innovation Vouchers.

### Purpose and Approach

- 5.2 Evidencing the additionality of an intervention, to move from gross to net outputs/outcomes, is core to robust evaluation. Within the timing/budget for this study, the approach is based on self-reported data from surveyed participants who were probed on whether the claimed benefits generated by their Voucher project(s) may have happened in any case (*Deadweight*), and whether it reduced their ability to do other things and/or secure other benefits (*Substitution*). Survey data were also used to estimate the extent to which benefits may have occurred at the expense of non-participants (*Displacement*).
- 5.3 The additionality analysis has been undertaken at two levels, and for two distinct purposes:
- first, for *descriptive* purposes, the findings are based on the frequency of responses to questions on additionality for the participant sample as a whole
  - second, for *quantitative analysis* purposes, additionality has been identified at participant-level so that the additionality metrics used in grossing-up the findings of the survey to the population take into account the varied range of project outcomes, and to enable a sensitivity analysis of additionality by cross-tabulation.
- 5.4 The approach to additionality takes a direct, but subjective, perspective on how effects are perceived on the ground. There are no reasons to doubt the sincerity or integrity of responses provided, but they are likely to include significant Optimism Bias – that is effects (whatever these are) are likely to be remembered as being more significant than was probably the factual reality. This should be borne in mind when reviewing this material.

### Descriptive Additionality

- 5.5 The headline findings on self-reported additionality are set out in Table 5-1.

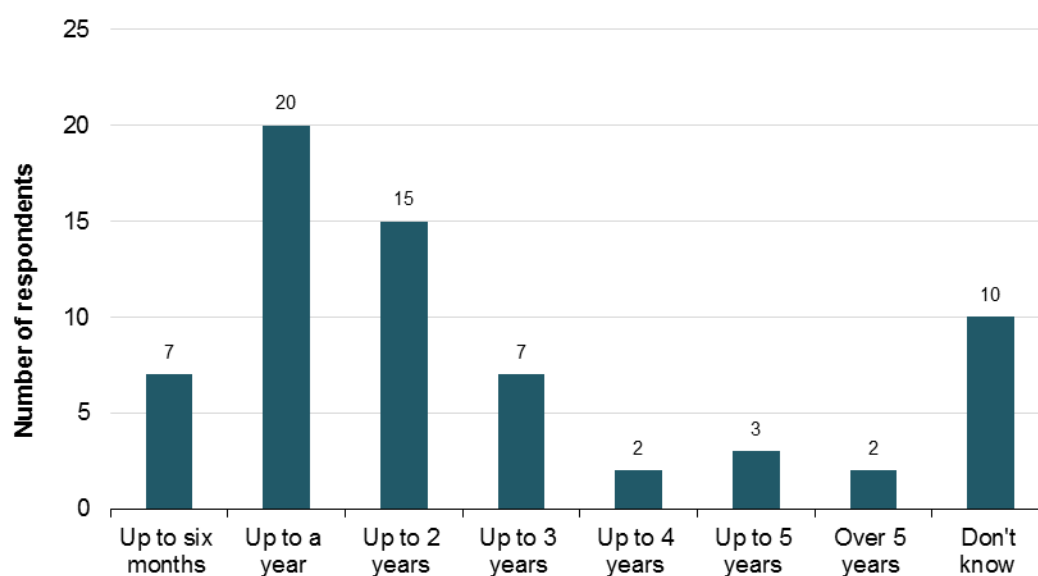
**Table 5-1: Self-reported findings on deadweight and types of additionality (n=200)**

	Number of respondents	% Respondents
<i>We would have achieved the outcomes anyway, at the same speed, scale and quality</i>	12	6%
<i>We would have achieved the same outcomes, but not as quickly</i>	66	31%
<i>We would have achieved the same outcomes, but not at the same scale</i>	22	10%
<i>We would have achieved the outcomes, but at a lower quality</i>	20	9%
<i>We probably would not have achieved the same outcomes</i>	46	22%
<i>We definitely would not have achieved the same outcomes</i>	45	21%

Source: Participant survey

- 5.6 Positively, 94% of survey respondents reported some form of additionality, with full self-reported deadweight evident for just 6% of respondents. As is typical with interventions such as Innovation Vouchers, a high proportion of respondents reported partial additionality, notably in terms of timing, where the Programme brought forward outcomes that would have otherwise taken longer to realise.
- 5.7 Looking at this in more detail, a majority of respondents that reported timing additionality stated that the Programme brought forward the outcomes by up to a year or up to two years. However, in some cases the Programme catalysed outcomes substantially, up to or over five years. This acceleration is an important effect, given 'Social Time Preference' (i.e. that society values things more 'now' than in the future), and in enabling businesses to innovate more promptly and access markets more quickly.

**Figure 5-1: Response to 'Approximately how much longer would it have taken for you to achieve these outcomes in the absence of the Innovation Voucher project(s)?' (n=66)**



Source: Participant survey

- 5.8 Scale and quality additionality were less common amongst the survey cohort, with approximately 20 respondents (around one in ten) identifying additionality of these types. Where scale additionality was identified, the proportion of outcomes that would have been achieved in any case varied, from less than a quarter to over three-quarters.
- 5.9 Where quality additionality was identified, firms were asked to provide a narrative description of how this additionality was realised. Common themes included improved product quality, and increased internal capacity and competence ('human capital') around innovation issues. There was also some overlap with other forms of additionality, notably in terms of timing. Selected responses from the survey are set out below:

**Table 5-2: Quality additionality examples from the participant survey**

*'We wouldn't have been briefed on the range of software options. Particularly advantageous was the signposting towards free software usage.'*

*'We wouldn't have been able to invest in top quality equipment, and if we did have the money, it would not have been for a long time'*

*'In the sense of our understanding of the wider market and the wider significance of what we were already involved in. It also gave us a massive amount of data about tourism, the types of visitors, and data on potential visitor types.'*

*Without the Voucher we 'would not have adhered to industry best practices'.*

*'Our design detail would have been done in-house and not to the same standard.'*

Source: Participant survey

### Substitution

- 5.10 Substitution tests the extent to which engagement with Innovation Vouchers reduced a firm's/individual's ability to do other things and/or secure other benefits. The survey indicated limited evidence of substitution: of the 200 survey respondents, 16 (13%) identified substitution was evident, with the corollary that no substitution was evident for 87% of participants. The data indicate the substitution effects of the Programme were low – put another way, it did not prevent participants from progressing other opportunities.

**Table 5-3: Response to: Did your participation in the Innovation Vouchers Programme mean that you could not engage in other organisation development activities? (n=200)**

	Number of respondents	% respondents
Yes - substantially	8	4%
Yes - a little	18	9%
No	167	87%
Don't Know	7	4%

Source: Participant survey

### Other Factors and Investment contributing to Benefits

- 5.11 Two further points are important in providing a rounded overview of the additionality (and as a result, net contribution) of the Programme: the extent to which other investment had been required to secure the benefits reported; and allowing for any wider external or business factors that may have contributed to the outcomes reported.
- 5.12 In terms of additional investment, as set out in Table 5-4, approaching three-quarters of respondents to the participant survey that identified that quantitative benefits<sup>34</sup> had been delivered by the Programme (n=147) reported that they would need to invest additional resources *in the future* in order to realise these benefits. Further, 30% (44) of these participants stated that they *had already* invested additional resource alongside the Innovation Voucher to realise these benefits.

<sup>34</sup> Covering effects on employment, turnover, and business costs

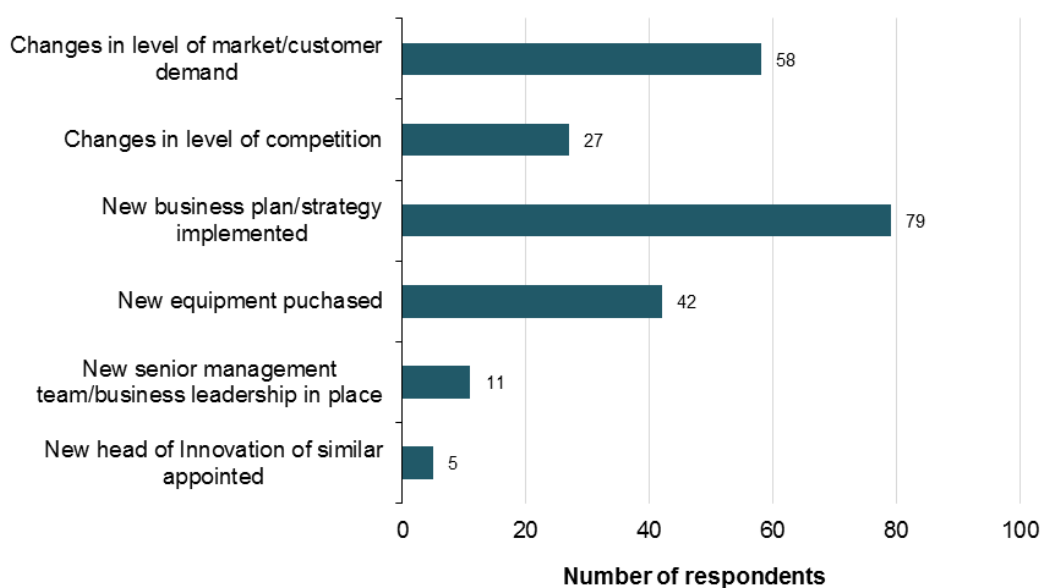
**Table 5-4: Response to ‘Have you, or will you need to, invest any additional resource (financial and/or in-kind) in order to realise these benefits identified over and above the Innovation Voucher(s)?’ (n=147)**

	Number	Proportion
Yes - to date	44	30%
Yes - expected for the future	107	73%
No	33	22%

Source: Participant survey

- 5.13 This additional investment had been, or is expected to be, by most respondents their own resource. Where respondents were able to provide an estimate of the level of investment required, the average (n=75) was approximately £30,000.<sup>35</sup>
- 5.14 Turning to other external factors that may have contributed to the achievement of the outcomes (be these in terms of quantitative effects or qualitative ones) associated with the Innovation Vouchers programme, as set out in Table 5-3, approximately 40% (79) of all respondents reported that the implementation of a new business strategy or plan may have played a part in delivering the reported outcomes. Changes in market demand, and the purchase of new equipment, were also commonly cited as factors that could, in part, have contributed to the achievement of outcomes attributed to Voucher activity.

**Figure 5-2: Response to ‘Are there any other factors that may have contributed to the achievement of the benefits realised by your IV project(s)?’ (n=200)**



Source: Participant survey

- 5.15 It is not possible to quantify the effects of these wider factors. However, the findings are important and suggest that Voucher activity is often part of a wider set of business development activities and factors driving performance. This is not a ‘problem’, and to a significant extent it is encouraging that Voucher activity is not isolated/siloed from wider

<sup>35</sup> This data excludes one participant that reported over £1m of further investment would be needed. Including this outlier increases the average to £52,000

business development. That said, taken with the finding that significant additional investment is regularly required to secure the outcomes associated with Voucher activity, it does highlight that the 'direct' effects of the Programme may not be as substantial as the headline data at first suggest. Said another way, in many cases for the Voucher to generate impact a range of other factors need to be in play. This aligns fully with established economic thinking around innovation being one of a number of factors that drive business success, and the 'test-bed' nature of the Programme. In this respect, the role of the Voucher is to catalyse and leverage improvements in business performance, not to deliver them alone.

### Summary Conclusions

In the majority of cases surveyed, the Programme delivered additionality, either fully or in part by bringing outcomes forward, in some cases by a number of years. Non-additionality – where the same outcomes would have occurred in any case – was present for under one in ten of the survey sample. Overall, this is a positive evaluation message.

The evaluation found limited evidence of Substitution: engagement in Innovation Voucher activity did not, in the main, prevent participants from progressing other business development opportunities.

The contribution of Voucher activity was, in many cases, dependent on additional investment by the participant, and aligned to wider business development activity, notably the implementation of new business strategies and plans. Voucher activity worked with these developments, but in many cases, for the Voucher to generate impact a range of other factors, including substantial private investment, also needed to be in place. In this respect, the role of the Voucher is to catalyse and leverage improvements in business performance, not to deliver them alone.

## Quantitative Additionality

### Method

5.16 For the purpose of the quantitative analysis of additionality, metrics for Deadweight, Substitution and Displacement were developed at the level of each respondent to the participant survey. The step-by-step process for deriving the participant-level additionality ratios is set out in Annex E. It is worth noting that, in 81 of the 200 survey respondent cases, data on the levels of displacement was not available.<sup>36</sup> Two additionality assessments have therefore been constructed in each case, excluding and including displacement. For clarity:

- data *excluding* displacement are set out below when providing averages across the survey (Paragraphs 5.17-5.18), unless otherwise stated
- data *including* displacement are used when applying the additionality values to the gross employment and turnover data to provide the quantitative additionality case.

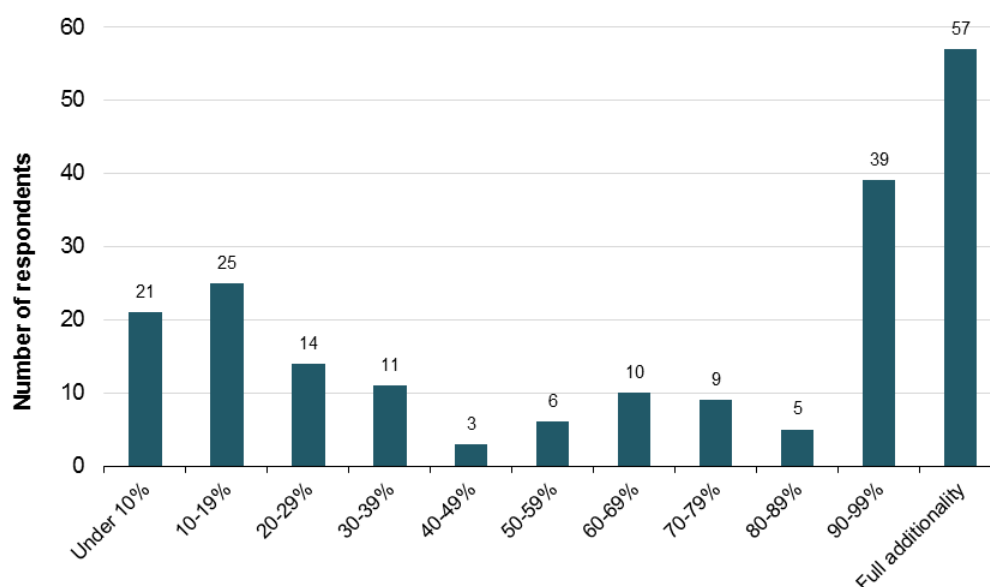
<sup>36</sup> For two reasons: first, where respondents were not trading, meaning that they did not have sales to apportion to Northern Ireland (49 cases); second, where firms were trading but did not provide details of the proportion their sales accounted for by the Northern Ireland market (32 cases).



## Findings

- 5.17 Consistent with the findings introduced above, respondent-level additionality values varied markedly from under 10% through to full additionality. The range of respondent-level additionality values derived from the survey are set out in Figure 5-3.

Figure 5-3: Range of additionality values (n=200)



Source: Participant survey and SQW analysis

- 5.18 The average (mean) additionality ratio (to re-iterate excluding displacement) across these 200 respondents is 62%. If displacement is included (for those firms where a displacement value was provided), the average (mean) additionality ratio reduces to 40%. As such, the displacement value impacts the additionality findings quite substantially: this is not unexpected – firms supported by the Programme were operating largely in local markets in Northern Ireland, with on average 55% of sales generated in Northern Ireland.

### Firm-level results – full survey sample

- 5.19 The next step in identifying an overall additionality estimate for the Programme was to apply the individual respondent-level additionality ratios to the gross data for that respondent, to identify a respondent-level net figure for jobs created and turnover respectively.<sup>37</sup> These respondent-level data were then aggregated to assemble a total ‘net’ figure for jobs created and turnover, respectively, across the set of surveyed firms. The aggregate net data were then compared to the aggregate gross data to provide an overall gross-to-net ratio, for jobs created and turnover outcomes respectively.
- 5.20 The headline findings of this analysis are set out in Table 5-5, based on 119 survey observations. The data therefore have a lower level of confidence than the survey as a whole

<sup>37</sup> For example, where Respondent X reported 10 gross jobs and had an individual additionality ratio of 0.5, the net jobs created for that respondent would be 5. Similarly, if Respondent X reported gross turnover of £50,000 from the Programme, the net turnover contribution would be £25,000. These data are for those respondents that included a displacement value – 119 of the 200 surveyed.

(a confidence interval of +/- 8.4 at a 95% confidence level) – this should be accounted for in reviewing the data.

**Table 5-5: Gross-to-net conversion factors derived from the survey (n=119)**

	<b>Gross<sup>38</sup></b>	<b>Net</b>	<b>Ratio</b>
Jobs created	197	63	32%
Turnover (£k)	18,892	6,147	33%

*Source: Participant survey and SQW analysis*

- 5.21 Using this approach, the overall conversion factors from gross to net derived from the survey are around one third, at 32% and 33% for jobs created and turnover respectively. These essentially weighted numbers compared with an overall ratio of 40% resulting from analysis of the sample in aggregate i.e. not allowing for additionality ‘weights’ at the level of individual projects and 62% prior to accounting for displacement (see 5.18 above).

#### *Firm-level results – excluding Outliers*

- 5.22 The data above draw on all responses to the survey where relevant. However, as noted in Section 4, the survey identified two outliers: one respondent who reported 65 gross jobs created (55 once account was made of Optimism Bias in future effects), and a separate respondent who reported £7.5m in gross turnover generated as a result of the Vouchers programme. In both these cases, self-reported additionality was low, at around 10%.<sup>39</sup>
- 5.23 It is important that these findings are not discounted. It is noteworthy that these two participants identified significant gross effects, but low levels of additionality. However, these findings also indicate that estimates of the additionality of the Programme based on self-reported findings are prone to single large case effects, and in both cases the additionality results are impacted quite substantially if removed. Therefore, the additionality findings excluding these two cases are reworked in Table 5-6.

**Table 5-6: Gross-to-net conversion factors derived from the survey – excluding Outliers**

	<b>Gross</b>	<b>Net</b>	<b>Ratio</b>
Jobs created	142	57	40%
Turnover (£k)	11,392	5,388	47%

*Source: Participant survey and SQW analysis*

- 5.24 The suggested additionality of the Programme increases quite substantially once these two outliers are removed, to 40% for jobs created, and 47% for turnover created. **These findings, excluding Outliers, have been used to estimate the overall net impact of the Programme, which is set out in Section 6.**

#### *Wider Evidence on Additionality*

- 5.25 The analysis above indicates that the additionality of the Programme is significant, at around two-thirds if displacement effects are not taken into account. Further, qualitative, perspectives on additionality are also available from the survey of non-participants.

<sup>38</sup> Gross data for respondents exclude data from those respondents for whom it was not possible to construct a displacement value (81 cases). This explains the lower aggregate data presented to those set out in Section 4.

<sup>39</sup> In one case owing to limited time additionality only, and in the other because of substitution and high displacement.

- 5.26 Non-participants (that is, those who applied to the Programme, but were not successful), were asked whether they took forward the innovation project that they applied for. Of the 40 respondents to the online survey: 19 stated that they had not taken the project forward, and 21 that they had taken the project forward, six 'in full', and 15 'in part'. Looking at the responses in more detail:
- **Of the 19 respondents that did *not* take forward their project** the most common reasons were a lack of finance (14 cases), and because they did not have the relevant technical knowledge/expertise (13 cases). Most (10 of the 19) still intended to take forward the project at some point, although the timing of this was uncertain (ranging from the next three months to at least two years down the line)
  - **Of the 21 respondents that had taken forward their project**, most (15) used their own funds to finance the project, with a small number accessing other public sector programme or securing bank finance. Ten of the respondents progressed their innovation project internally within their business, five used a private sector provider, and six a Knowledge Provider in Northern Ireland/elsewhere in the UK.
- 5.27 Given the sample size, these data should not be taken too far. Additionally, it would be expected that firms that were not provided with the Innovation Voucher (and the access to the Knowledge Base that this facilitates) would be less likely to progress their innovation project. However, the data do confirm the mixed evidence on additionality from the participant survey.
- 5.28 Further, the non-participant survey suggests that where projects were taken forward, this was most often within the business. This is consistent with the findings from the participant survey that a good proportion of firms engaging with the Programme were prepared to engage in internal innovation activity, often focused on in-house product or service development, with the various limitations that this entails. Against this background, the added-value of the Programme in enabling firms to access external knowledge and expertise is a critical support feature.
- 5.29 The consultations with Knowledge Providers confirmed this 'mixed additionality' message. Although the specific cases varied, generally the feedback suggested that the Knowledge Providers would have struggled to work with the SMEs supported by the Programme if the 'route to market' provided by Innovation Vouchers was not available. Although in some cases other programmes (such as the Connected Programme run by DEL and the NI colleges, and InterTrade Ireland's Fusion programme) may have facilitated links with the firms, this would have been at a far lower scale, and on a more opportunistic basis.

### **Benchmarking Additionality**

- 5.30 How do the findings above compare to other evidence on the additionality of similar interventions? A summary of additionality metrics from evaluation of other (relevant) Invest NI programmes, and wider evidence on additionality from across the UK is set out in the Table below.
- 5.31 Each intervention is different and levels of additionality will vary, so comparisons must not be taken too far. However, the evidence suggests that the findings on additionality in this

evaluation of the Innovation Vouchers programme are consistent broadly with wider evidence, and the Programme appears to perform in line with related programmes at Invest NI where the range (albeit very broad) was from around c.30%-c.70% - at 40/-7%, Innovation Vouchers performs within this additionality range.

**Table 5-7: Evidence on overall Additionality values**

Category	Intervention/coverage	Additionality value
Other Invest NI evaluation evidence for innovation/R&D interventions	Design Service <sup>40</sup>	46% (based on deadweight and displacement)
	Proof of Concept Programme <sup>41</sup>	Between 68.5% and 75%
	Propel Programme <sup>42</sup>	32% (for impact additionality)
	Technical Development Incentive Scheme <sup>43</sup>	31% (for net GVA taking into account deadweight and displacement)
Other evaluation evidence	BIS research on additionality for: Individual Enterprise Support Theme <sup>44</sup>	Median (including multipliers) at regional level <ul style="list-style-type: none"> <li>• 47% for 'Individual enterprise support ' theme</li> <li>• 39% for 'Promotion &amp; development of science, R&amp;D and innovation infrastructure' theme</li> </ul>
	Regional Development Agencies Impact Evaluation <sup>45</sup>	Additionality (including multipliers) at regional level, for jobs created/safeguarded <ul style="list-style-type: none"> <li>• 41% for 'Individual enterprise support ' theme</li> <li>• 46% for 'Science, R&amp;D and innovation infrastructure' theme</li> </ul>

Source: SQW based on Invest NI and BIS evidence

## Summarising the Findings on Additionality

5.32 The findings on additionality are detailed, reflecting both the difficulty in establishing additionality, and the scale and duration of the Programme. However, taking these findings in the round the following four overarching points are made:

- **Positively, the analysis suggests that the Programme has delivered significant additionality.** The survey suggests that outcomes were generated for participants, and the wider economy as a result, over-and-above what would have happened without the intervention. This is a positive and encouraging finding, especially given the challenging economic backdrop within which the Programme has operated and the uncertain nature generally of innovation activity.

<sup>40</sup> <http://secure.investni.com/static/library/invest-ni/documents/design-service-evaluation-august-2011.pdf>

<sup>41</sup> <http://secure.investni.com/static/library/invest-ni/documents/proof-of-concept-programme-evaluation-final-report-jan-2011-cs.pdf>

<sup>42</sup> <http://secure.investni.com/static/library/invest-ni/documents/propel-programme-interim-evaluation-report-27-march-2012.pdf>

<sup>43</sup> <http://secure.investni.com/static/library/invest-ni/documents/technical-development-incentive-scheme-evaluation-june-2013.pdf>

<sup>44</sup>

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/191512/Research\\_to\\_improve\\_the\\_assessment\\_of\\_additionality.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191512/Research_to_improve_the_assessment_of_additionality.pdf)

<sup>45</sup> Department for Business, Enterprise & Regulatory Reform Impact of RDA spending – National report – Volume 1 – Main Report

- **In headline terms, the level of additionality self-reported by participants is encouraging.** Deadweight was low (at just 6% of respondents), and additionality, be that fully or in terms of timing or scale, was evident for the majority of respondents. If displacement factors are excluded, around 60% of benefits appear to be additional. Once displacement is included (which is always going to be quite high given the target cohort for the Programme) quantitative additionality remains at around 40-50% which is in line broadly with the wider evidence on the additionality of public sector economic development and innovation programmes.
- **Additionality was variable and complex across participants.** The implication here is that additionality is driven principally by the specific nature and context of the project, and although an 'overall additionality' assessment is required for the evaluation, for each participant, and for each individual academic delivering projects, additionality will be realised differently. This said, there does appear to be scope to drive-up additionality consistently across the Programme, this should be a particular focus for Invest NI going forward in order to maximise impact and value for money.
- **The overall additionality picture is influenced heavily by displacement effects,** where the gross benefits achieved are likely to take market share away from other firms in Northern Ireland, meaning the overall 'net' effect is more limited than might initially seem evident. This is an important consideration and needs to be included in the assessment. However, there may also be positive economic results from apparently displacing outcomes – increasing competition in local markets, demonstrator effects leading to other firms engaging in innovation, and adding to the overall scale of the market in Northern Ireland. It is not possible to 'count' these effects in the short-term, but they should not be forgotten in the overall assessment of the net contribution of the Programme.

### **Summary Conclusions**

The average additionality ratio, excluding displacement, across all 200 respondents to the survey was 62%, and 40% including displacement given the high proportion of sales accounted for by customers in Northern Ireland of participants. Innovation Vouchers has delivered additionality.

A bottom-up firm-level approach to additionality indicates an additionality ratio for employment creation at 40%, and 47% for turnover generation. Additionality of the Programme is consistent broadly with additionality in related innovation programme in Northern Ireland, and the wider UK.

Qualitative evidence from non-participants and Knowledge Providers validates the findings on generally positive, but mixed, additionality. Of the non-participants surveyed, around half progressed their project, and half did not. Where projects were not progressed financial constraint was the most common explanation.

The overall additionality picture is influenced heavily by displacement effects. But increasing competition in local markets, demonstrator effects leading to other firms engaging in innovation, and adding to the overall scale of the market in Northern Ireland may be positive countervailing forces in play. These cannot be counted, but they should not be dismissed.

## 6. Impact and Value for Money

- 6.1 With the outputs, outcomes and additionality of Innovation Vouchers established, this Section provides a resulting assessment on impact and Value for Money.

### Impact Assessment – Broad Approach

- 6.2 The impact assessment set out below focuses on the quantitative net effects of the Programme in terms of net employment and net turnover, subsequently converted to Gross Value Added (GVA). The wider effects of the Programme – on innovation behaviours, exporting, and other factors, assessed in the previous Section, are accounted for in the broader assessment of Value for Money towards the end of this chapter.

### Employment Impact

- 6.3 The net employment impact is estimated by applying the additionality factors identified in Section 5 to the gross jobs created data as set out in Section 4. For consistency, in both cases the outlier data are excluded from the grossing-up, but included in the final impact value. As discussed in Section 4, the exact number of *firms* with completed projects over the evaluation period is somewhat uncertain. However, for clarity we have used the 840 firms estimated above.
- 6.4 The findings of the net employment impact assessment are set out in Table 6-1.

**Table 6-1: Net employment impact**

Factor	Value
Gross employment impact	931
Additionality ratio	40%
Net employment impact	376
<i>Achieved</i>	182
<i>Expected</i>	194
<b>Net employment impact (including outlier<sup>46</sup>)</b>	<b>381</b>

*Source: SQW analysis*

- 6.5 The evaluation estimates that the employment effects of the Programme, for those projects that were completed, over the evaluation period is 376 net jobs created, around half of which have been achieved, and half of which are expected in future years as the benefits of projects build. Including the five net jobs from the outlier case, this comes to a total impact of c.380 jobs.
- 6.6 Projects approved in the evaluation period, but not completed at the time of the evaluation are not included above. Assuming 100 of these c.110 projects are completed (including accounting for second/third vouchers), this suggests a further 43 jobs created. **The employment impact of the Programme over the evaluation period – achieved and**

<sup>46</sup> The gross data for the outlier was multiplied by the relevant firm-level additionality ratio to arrive at a net value

**expected – including yet-to-be completed projects - is therefore estimated to be 424 net jobs created.**

### GVA Impact

- 6.7 The GVA impact of the Programme is based on the reported turnover effects of the Programme, adjusted for additionality, and then further adjusted for the conversion of turnover to GVA. The latest data from ONS indicate that GVA averaged 31% of turnover over the evaluation period: 31% has therefore been used to convert the turnover data into GVA<sup>47</sup>.
- 6.8 The findings of the analysis, again for completed projects and adjusting the gross turnover data to net using the additionality findings, are set out in Table 6-2.

**Table 6-2: Net turnover impact**

Factor	Value
Gross turnover impact	£55.3m
Additionality ratio	47%
Net turnover impact	£26.1m
<i>Achieved</i>	£19.3m
<i>Expected</i>	£6.9m
Net turnover impact (including outlier <sup>48</sup> )	£26.9m
<b>Net GVA impact (assuming GVA at 31% of turnover)</b>	£8.3m
<i>Achieved</i>	£6.1m
<i>Expected</i>	£2.2m

Source: SQW analysis

- 6.9 The data indicate a GVA effects of the Programme, over the evaluation period of £8.3m, of which £6.1m has been achieved and £2.2m is expected for the future.
- 6.10 It is important to note that the assessment may underestimate the future GVA effects. As discussed in Section 5, the future turnover estimates have been taken as a single-point data. However, this uncertainty over the potential uplift in the value needs to be set against the downside risk that the benefits may not in fact be generated, including given the significant investment that may be required to realise them.
- 6.11 Again, these data exclude projects approved in the evaluation period, but not completed at the time of the evaluation. Taking a consistent approach to that set out for employment above, this suggests a further £916k. **The total GVA impact of the Programme over the evaluation period – both achieved and expected – including yet-to-be completed projects is therefore estimated at c.£9.3m.**

<sup>47</sup> Annual Business Survey, UK Business Economy (Sections A-S) By Country And Region, 2008-2011, Release Date 25/07/2013

<sup>48</sup> The gross data for the outlier was multiplied by the relevant firm-level additionality ratio to arrive at a net value



## Value for Money

6.12 Value for Money (VfM) is a key consideration for evaluation studies, because it establishes the relationship between the inputs made, and the economic returns secured. The evaluation's Terms of Reference required two forms of VfM assessment:

- An assessment of Economy, Efficiency, and Effectiveness. Respectively, these are (i) the extent to which project outcomes have been achieved for the minimum cost input (ii) the costs with which outputs/outcomes (gross and/or net) have been delivered (routinely presented as 'Cost per XX'), and (iii) the extent to which the objectives defined for the intervention at the outset have been realised in practice, and will be sustained in the future.
- An overall assessment of Return on Investment (RoI), that compares the total inputs in financial terms to the impacts generated.

### *Reflective assessment of Economy, Efficiency, and Effectiveness*

#### *Economy*

6.13 Economy assesses the extent to which project activity has been delivered at the minimum cost to the public purse. Ideally, an assessment of Economy would consider quantitatively the extent to which the scale of inputs by the public sector were driven down through the customer journey process. However, in the case of Innovation Vouchers with an essentially fixed amount per project (i.e. £4,000) the scope for this is limited, and it is rational/appropriate for firms and Knowledge Providers to seek to maximise the project through utilising the full £4,000.

6.14 That said, in terms of the Economy of the Programme, three points are noted:

- The feedback from consultations is that the competitiveness of the Programme and the robustness of appraisal systems have improved over time, ensuring that increasingly only those projects that require the financial contribution are supported. Although the monitoring data indicate that the success rate has not changed substantially over time, the increase in scale of applications whilst maintaining quality has helped to promote Economy in delivery.
- There appears to have been a limited focus at Invest NI on delivering projects below the £4,000 level, and the data indicate that Voucher projects have to their maximum level over the course of the evaluation period. To an extent this is not unreasonable given the scale of the investment on a case-by-case basis, and as noted above for firms it is rational to seek to secure the full amount. But it does mean that whether in all cases the full £4,000 investment (plus overheads) was required is open to question. This said, the fixed price point of £4,000 a Voucher provides stability and certainty, to both applicants and knowledge providers.
- The management and delivery of the Programme within and by Invest NI appears to have been positive in terms of Economy, with a tight core management team, and good use of the existing capacity and infrastructure at the participating Knowledge Providers.

- 6.15 Overall, for the scale of the activity delivered – over 1,500 projects approved and over 900 completed – the level of inputs appears to have been reasonable. **The Economy of the Programme is therefore judged as sound.**

#### Efficiency

- 6.16 Efficiency represents a cost with which net outputs and outcomes are being achieved. In the context of this evaluation, the key metric refers to the cost per net job created (with the comparison of GVA to inputs covered in Return on Investment). As set out above, completed projects generated c.380 net jobs created (both achieved and expected for the future). This provides a cost per net job created of approximately £15,350.<sup>49</sup>
- 6.17 How does this compare to evidence from elsewhere? The best benchmark value is the evaluation of the Innovation Vouchers programme in the Republic of Ireland over 2007-2011<sup>50</sup> The evaluation estimated 806 people would not have been in employment had it not been for the Programme (i.e. 806 jobs created), and a programme cost of €13.4m. This provides a cost per net job of £13,300-£14,950.<sup>51</sup> The findings of this evaluation therefore match quite closely the efficiency ratio from its ‘sister’ intervention in the Republic of Ireland.
- 6.18 More widely, the National Impact Evaluation of the English Regional Development Agencies found a cost per net job created/safeguarded for ‘Business development and competitiveness interventions’ of around £14,200.<sup>52</sup> Again, the Programme performance is broadly in line with this benchmark.
- 6.19 Overall, **the evaluation concludes that the Efficiency of the Programme is acceptable.** However, it is important to note that the cost per net job value is dependent on the realisation of the future employment effects; a cost per net job metric based on the estimated ‘achieved’ employment only would be significantly higher, suggesting more questionable value for money. Put another way, the Efficiency of the Programme over the evaluation period will ultimately not be known until a more comprehensive retrospective assessment of the actual (not expected) employment effects is possible.

#### Effectiveness

- 6.20 Effectiveness represents the extent to which the stated objectives of an intervention are being achieved through the outputs and outcomes that it is generating. It is not simply the scale, value, or indeed variety of outputs/outcomes that matters, but that results are indeed those things that were intended to be delivered by the intervention in the first place.
- 6.21 The programme has evolved over time with changing objectives, so any judgement regarding its contribution to objectives needs to take into account this changing context. Performance against the objectives for the 2009-12 period was set out in detail in the Interim Evaluation – we do not repeat these here.<sup>53</sup> Further, the objectives set for the latest programme round include targets to be met by 2016 or later (in some cases 2020), as such it is not possible at

---

<sup>49</sup> Based on the £5.9m cost incurred in delivering the Programme to date

<sup>50</sup> Evaluation of Enterprise Supports for RD&I, Forfás, Innovation Vouchers section

<sup>51</sup> Based on a Euro being worth £0.8 or £0.9

<sup>52</sup> PWC, Impact of RDA spending – National report – Volume 1 – Main Report (see p35)

<sup>53</sup> See pp40-41 here <http://secure.investni.com/static/library/invest-ni/documents/innovation-vouchers-programme-evaluation-february-2012.pdf>

this stage to comment on whether they have been met (including those reliant on the performance of non-completed/future projects).

- 6.22 However, the Table below sets out an assessment of the performance of the Programme against these objectives at this stage. Overall, the findings are positive, and the Programme is 'on course' to meet its objectives. That said, the employment (and to a lesser extent turnover) outcomes rely on the achievement of expected benefits that have not yet been realised, and will regularly require further investment by the participant. There is, therefore, clear uncertainty around these specific objectives being realised.

**Table 6-3: Progress against targets for the 2012-15 programme period**

Objective	Evidence from the evaluation	Comment on performance
Complete 647 Innovation Voucher projects which are, at a minimum, 'New to the Firm' by March 2016. Each project must include at least one of the following types of innovation: product or service innovation, process innovation marketing innovation and/or organisational innovation	Approximately 950 project completed over the evaluation period. 481 projects completed in 2012/13 and 2013/14 within the evaluation period. Projects largely product or service innovation (82%) over the evaluation period	Programme on course to meet objective
A minimum of 70% of SME participants will not have previously engaged with the same Knowledge Provider as part of a knowledge transfer project (at March 2016)	74% of participants surveyed had no existing link with any Knowledge Provider prior to the Programme 49% of participants surveyed had not engaged in innovation activity prior to their engagement in the Programme	Programme on course to meet objective
A minimum of 30% of SME participants will not have previously engaged with any Knowledge Provider or undertaken an R&D project (at March 2016)		Programme on course to meet objective
Generate a minimum of £10.7m in gross GVA within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)	Indicative gross GVA value of £17.6m (achieved and expected) over the evaluation period by completed projects	Programme on course to meet objective
Generate a minimum of £5.1m in net additional GVA within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)	Net GVA impact estimated at £8.3m (achieved and expected) over the evaluation period by completed projects	Programme on course to meet objective
Generate a minimum return on investment of £1.39 in undiscounted net additional GVA for every £1 in direct NI investment within 4 years of the final Innovation project being completed (March 2020 at latest)	Estimated Return on Investment of £1.42 across the full evaluation period	Programme on course to meet objective
Create a minimum of 169 gross FTE jobs within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)	Gross employment impact of estimated c.930 jobs created (achieved and expected) over the evaluation period by completed projects	Programme on course to meet objective
Create a minimum of 46 net additional FTE jobs within 4 years of the final Innovation project being completed (i.e. by March 2020 at latest)	Net employment impact of estimated c.425 jobs created (achieved and expected) over the evaluation period by completed projects	Programme on course to meet objective
A minimum of 40% of participating SMEs to have engaged in an innovation project	91 of 200 participants surveyed (46%) had engaged in higher level of	Programme currently on

Objective	Evidence from the evaluation	Comment on performance
on a higher stage of the 'Innovation Escalator' within 2 years of completing their respective Innovation Voucher project (as at March 2018)	innovation post completion of Voucher project	course to meet objective

Source: SQW and Invest NI

6.23 More broadly, following points are made regarding Effectiveness:

- In supporting firms to undertake innovation activity and develop links with the Knowledge Base, the evaluation's findings are encouraging. The survey evidence and consultations with Knowledge Providers indicate that the Programme is generating new linkages and addressing co-ordination and information barriers, and enabling firms to undertake activity quicker, and in many cases at all, through the provision of a defined resource within a clear infrastructural context. For many participants, Innovation Vouchers has both increased their level of business innovation (with around half not having innovated previously), and increased the likelihood that they will engage in further innovation activities – as noted above more than eight in ten of participants surveyed stated that they were *more* likely to engage in innovation activity in the future as a result of the Programme.
- A wide range of benefits of the Programme are evident, both in terms of the 'direct' effects (developing/progressing products and services, supporting employment and turnover), and 'indirect' effects (notably in acting as a first step on the innovation escalator), with a good proportion of firms 'graduating' to other forms of support, at Invest NI or elsewhere
- The programme has contributed directly, and clearly, to departmental and wider policy agendas, including the relevant Corporate Plans of DETI and Invest NI; albeit the scale of the intervention is modest against these high-level plans. It is also well positioned to make a contribution to carrying forward the intents of the Innovation Strategy in the future.

6.24 Notwithstanding these positive and encouraging points, the evaluation suggest that there is scope for driving-up and designing-in additionality in delivery. Whilst displacement issues are tricky to address for an intervention focused on generally small firms seeking to innovate, the level of additionality before displacement is taken into account is c.60%, with evidence that many firms would have taken forward their innovation activity in the absence of the Programme. Better identifying at the outset the genuine additionality and need of support is important.

6.25 As such, taken together, **whilst there is scope for continuous improvement, the evaluation is positive regarding the Effectiveness of the Programme.**

### **Return on Investment**

6.26 Finally, in terms of Value for Money, is the consideration of the Return on Investment (RoI). As set out above, the estimated GVA impact of the Programme is £8.3m, taking into account

both achieved and expected future benefits for completed projects. The GVA impact is compared to the total cost of the Programme over the evaluation period in Table 6-4.<sup>54</sup>

- 6.27 The Return on Investment is positive, with £1.42 of impact generated for every £1 of investment by Invest NI. As noted above, the target (albeit for the 2012-15 period only) was £1.39. As such the Programme is on course to meet this target – this is a positive finding. Further, the £1.39 Return on Investment target *excluded* Invest NI staff costs: if Invest NI staff costs are excluded, the evaluation’s Return on Investment value increases to £1.67, well above the target set.

**Table 6-4: Return on Investment (based on self-reported analysis)**

Factor	Findings
Net GVA (£k)	8,340
Cost (£k)	5,857
<b>Return on Investment</b>	<b>1.42</b>

Source: SQW analysis

- 6.28 Again, the data can be compared to the findings of the evaluation of the Innovation Vouchers programme in the Republic of Ireland over 2007-2011. The equivalent RoI for the Republic of Ireland programme was 2.9:1, somewhat higher than estimated here. However, it is important to note that the evaluation of the Programme in the Republic of Ireland included multiplier effects (of 1.71), not covered in this work, and excluded substitution. Both programmes are likely to have been influenced equally by challenging economic conditions.
- 6.29 Crucially, with a ‘positive’ Return on Investment value, the Northern Ireland economy secured more benefit from the Programme than the costs of its inputs. Given the nature of the intervention (where economic returns are uncertain), and the challenging economic context, this is an encouraging evaluation finding. That said, it is important to re-iterate that significant additional private investment by participants was/is required in order to generate the benefits identified by the evaluation. As such, the overall economic impact should be regarded as what the Programme has helped to catalyse and leverage, not what it has delivered directly. Other (in some cases) substantial investment will be needed by the SME population to ensure that the benefits are in fact realised fully.

### Summary Conclusions

The net employment impact of the Programme over the evaluation period – both achieved and expected – is estimated to be c.425 net jobs created. Alongside this, the net GVA impact of the Programme over the evaluation period – again achieved and expected and based on the turnover findings – is estimated to be c.£9.3m.

In Value for Money terms, the Economy of the of the Programme is judged as sound, with a significant set of activity delivered, through a tight team, and utilising existing resource and capacity across the Knowledge Provider base. Efficiency is also the judged to be acceptable, with a cost per net job created (and recognising this is just one of the outcomes of the intervention) in line with benchmark evidence from elsewhere including other Innovation Voucher schemes.

<sup>54</sup> Note the RoI assessment excluded GVA from non-completed projects as the actual cost of these is not yet known

Whilst there is scope for continuous improvement, the Effectiveness of the Programme over the evaluation period is also positive. It has generated new linkages and addressed co-ordination and information barriers between firms and the Knowledge Base, delivered against strategic priorities, and generated outcomes and impacts, both qualitative and quantitative.

The Return on Investment of Innovation Vouchers is a 'positive' result, with an estimated £1.42 of GVA impact generated for each £1 of investment by Invest NI.

Overall these findings are positive, but they need to be seen in the context of the additional private investment by participants likely to be required from firms to ensure they are realised. However, the Programme has played a vital role in catalysing and leveraging these benefits for Northern Ireland.

## 7. Process Perspectives

- 7.1 This penultimate Section sets out findings related to the process and delivery of the Programme. The assessment draws on consultations with Invest NI, Knowledge Providers, and participants to provide a 'formative' perspective on the delivery of the Programme.

### Management and Delivery

- 7.2 Good leadership, management, and operating structures and systems are important contributors to the effective delivery of any intervention. All of these are recognised in the successful operation of the Programme, and pointed to as factors in its longevity and durability. More specifically, six key points related to these elements from across the evaluation's research are as follows:

- **Knowledge Providers delivering the Programme 'on the ground' were generally satisfied and content with the overall management/operating structures/systems put in place by Invest NI.** An important theme running through the consultations was the simplicity and 'cleanness' of programme requirements, as well as the appropriateness of guidance and marketing materials. There were areas for improvement (as discussed below), but these were *principally* ones of emphasis and detail, rather than fundamental concerns.
- Linked to this, **the work of the central Programme Team at Invest NI was well regarded by Knowledge Providers, and colleagues at Invest NI.** Those dealing with the Programme on a regular basis noted the responsiveness of Invest NI staff, and in most cases identified the feedback and advice provided as appropriate and helpful. The continuity in staff resource at Invest NI was an important factor here<sup>55</sup>, providing consistency in strategic and operational delivery. Put simply, from an external perspective the Programme was seen as 'well managed' by Invest NI; this is a positive finding. The marketing activity at Invest NI was also (where discussed explicitly) rated highly, with the Programme seen as well-known and well-promoted (both centrally and in some cases by providers).
- Related to the above point, and demonstrating sound project management, **the Programme Team delivered against the recommendations (where accepted) of the interim evaluation and the subsequent action plan**, as evidenced in documents provided to the evaluation team. This included, for example, introducing exit interviews with programme participants at project completion, widening the eligibility criteria to include sole traders and partnerships, and reducing the time period for use of the Innovation Voucher from 12 to 9 months.
- **The approach to risk management implemented by the Programme Team was firm and proportionate.** Risks to the Programme were identified at economic appraisal stage (in 2009 and 2012 respectively), with risk mitigation measures identified in the subsequent programme casework. Consistent risks identified related

---

<sup>55</sup> The incumbent Programme Manager and Programme Officer have both been in-post since the very early days of the intervention.



to: the level of demand and up-take for Vouchers by the business base; those related to the Knowledge Providers including capacity issues, the risk of over-reliance on a small number of providers (as noted above in this evaluation) and the risk of withdrawal by providers; and risks related to the resource of the Programme Team to deal with variable levels of demand.

- **The 'light touch' operational model of the Programme was regarded, by Knowledge Providers, as helpful, but it has downsides.** From the perspective of providers, this flexibility ensures that the participating institutions can manage the Programme based on their own systems and needs, rather than to a prescriptive top-down model. Given the variety of the Knowledge Providers, from very large multi-faculty universities to specialist colleges, this flexibility was seen as important. However, this has led to significant variation in the delivery model, and the offer provided to participants. So, the upside for Knowledge Providers may lead to some disbenefits for those individuals supported by the Programme. Notably, the extent to which support is provided in the application process varied, and anecdotal evidence suggests that where firms have been engaged with providers prior to their project, the customer journey is generally more effective.
- **There has been limited cross-working between Knowledge Providers, with collaboration on an ad-hoc rather than managed and facilitated basis.** Although there is some (limited) evidence of sign-posting between institutions, there is little evidence of a broader culture of learning and sharing across the provider network. With a relatively small group of institutions delivering the Programme (10) in Northern Ireland (responsible for the vast majority of all vouchers awarded over the evaluation period) this represents something of a missed opportunity for the Programme. It can be quickly recaptured.
- As trailed in previous Sections, **performance management systems, whilst broadly effective, do appear to be open to improvement.** Three specific points are evident here:
  - The use of a range of identifiers for firms (including firm name) is not ideal, and the Programme's well intended use of its own participant identifiers means its data set is not consistent with (or able to be linked to) Invest NI's wider monitoring system. In data terms, the information flow is not seamless – it should become so.
  - There is a gap in monitoring information on the outputs and outcomes generated by projects. It is accepted that the nature of the Programme means that data collection is challenging, but leaving the collection of information on outcomes to periodic evaluation only does carry a risk of data being missed and the contribution of the Programme being lost. Again, modest tweaks here can address the issues, linked to the development of a set of performance measures identified at Recommendation 3.
  - More broadly, the appraisal and assessment process does appear to be quite onerous, and a paper-based system has been applied across the evaluation

period, requiring considerable time inputs from the Programme Team in data collation and management.

7.3 One final issue is important. Whilst the overall feedback on the management of the Programme was consistently positive, concern was raised by Knowledge Providers (including academics) regarding the appraisal and assessment process. Two related issues were highlighted: a concern that the assessment *criteria and scoring system* were opaque, with applicants (and Knowledge Providers) unclear in some cases why their applications were rejected; and concern that the application assessment *process* involved staff at Invest NI only, rather than including external academics to offer a broader perspective.

7.4 It is not possible for the evaluation to comment in detail on the rights/wrongs of individual awards. This said, the following comments are made:

- Analysis of the scoring over the course of the evaluation period indicates that it has been consistent, across both time and by Knowledge Provider in Northern Ireland – there appear to be no systemic issue of certain providers being impacted by the scoring system,<sup>56</sup>
- Notwithstanding the points made in Section 2, the project application and selection process is regarded by the evaluators as appropriate, and has developed over time as the Programme matured. It is not evident to the evaluators that particular sectors and/or projects are disadvantaged by the process, and there is no evidence to indicate that the Programme does not comply with Section 75 of the Northern Ireland Act 1998 related to equality of opportunity, or the Disability Discrimination Act 1995. Eligibility criteria is based principally on firm size (sole traders and SMEs, with a number of specific sectoral exclusions), and the Programme is promoted openly to all via the Invest NI website and wider marketing undertaken by the Programme Team and Knowledge Providers.
- Within this context, where requested, feedback is provided to unsuccessful applicants by the Programme Team. Given the scale of applications and capacity of the Programme Team, rejection feedback provided on request is regarded as reasonable by the evaluators.
- Related to feedback from Knowledge Providers regarding the potential for non-Invest NI staff (including potentially, external academics) to be involved in the project assessment and selection process, given the current delivery model where potential participants in many cases<sup>57</sup> approach Knowledge Providers for pre-application support, the inclusion of academics from the local knowledge base in this process is not considered viable by the evaluation team, given the potential for conflicts of interest.

7.5 Overall, there does not appear to the evaluators to be a strong case for substantive changes to the assessment system. That said, greater transparency in the appraisal/assessment with Knowledge Providers should be encouraged where possible.

---

<sup>56</sup> Knowledge Providers are captured for approved projects only, given that in most cases they are identified after, rather than prior to the application.

<sup>57</sup> Based on feedback from providers and the participant survey evidence

## The Customer Journey

### Perspectives from Knowledge Providers . . .

- 7.6 Consistent with the generally positive feedback on the management of the Programme from Knowledge Providers, the experience of the ‘customer journey’ from the delivery-side is also in the main a good story to tell. As the high completion rate of project indicates, most Innovation Vouchers projects are delivered successfully, and whilst each case is different the process appears to work well.
- 7.7 This said, the consultations with co-ordinations and academics at Knowledge Providers indicated three important issues for the customer journey:
- As trailed earlier in the report, the issue of ‘*managing client expectations*’ was an essentially universal issue and challenge identified in the evaluation, and where this was not achieved successfully it was the stated cause of most project ‘disappointments’. Some six years in, Knowledge Providers have become well-versed in addressing this issue – for example, early meetings, ensuring that project activity does not commence without full agreement on the Terms of Reference – but it remains an on-going factor in delivery. As discussed above, a clearer set of objectives so that the linkage, learning, and developmental nature of the Voucher programme is emphasised is likely to be helpful here.
  - The issue of VAT payment by firms was a common issue raised where more could be done – in the eyes of academics in particular – to ensure that firms are aware fully from the start of their obligations. It is accepted by the evaluators that the formal approach to VAT is set out clearly by Invest NI (i.e. participants need to cover the cost, and this is set out in the original application form and promotional materials<sup>58</sup>), but practically on the ground this does not appear to be getting through to all participants. Clearly Invest NI does not want to deter applicants, but thinking through how the ‘VAT issue’ can be addressed in the future would be very worthwhile. It is worth noting that VAT payment was raised on a small number of occasions (under 10, from the sample of 200) in the participant survey when respondents were asked what changes they would make to the programme in the future, with most stating that VAT should not be payable by the participant. Although not a consistent message, this does reflect that in some cases VAT payment is regarded as an issue for participants, with the likely result that it becomes an issue for Knowledge Providers to secure the payment.
  - There was a view from some Knowledge Providers that a more flexible and less ‘standard’ Innovation Voucher may be required going forward, with concepts of tiered Vouchers (where different levels, of say up to £6,000-£8,000 are available) and top-up Vouchers (where additional investments for smaller/specific activities can be progressed post-completion on the same project) identified. However, this does go somewhat against the grain of the ‘simple and straightforward’ motif of the Programme that is also recognised and valued by Knowledge Providers, Invest NI

---

<sup>58</sup> For example see here: <http://secure.investni.com/static/library/invest-ni/documents/innovation-vouchers-information-leaflet.pdf>

staff, and external stakeholders. The case for a more segmented approach is discussed at the end of this Section.

### ... and Participants

- 7.8 It is important to reflect on the experience of Innovation Vouchers from the demand-side. This draws principally on the survey of 200 participants, but also those that applied unsuccessfully for support.

#### Satisfaction with stages in the process

- 7.9 Participants in the survey were asked to rate their experience of the key steps in progressing an Innovation Vouchers project, from the initial application stage through to delivery and sign-posting. As shown below, generally the findings were positive across the stages of the application and selection process. Given the nature of Innovation Vouchers, and the relatively (intentionally) straightforward application process, this positive finding is not unexpected. This should be allowed for in reviewing the data below. Notwithstanding this, the findings do indicate that the ‘simplicity’ of the process is valued.

**Table 7-1: Feedback on the application and selection process from participants (n=200)**

	<b>Application process</b>	<b>Agreement of Project definition and ToR with Knowledge Provider</b>	<b>Selection and appraisal process</b>
Very dissatisfied	2	3	3
Fairly dissatisfied	1	4	4
Neither	21	25	19
Fairly satisfied	68	64	68
Very satisfied	106	102	101
Not applicable	2	2	5

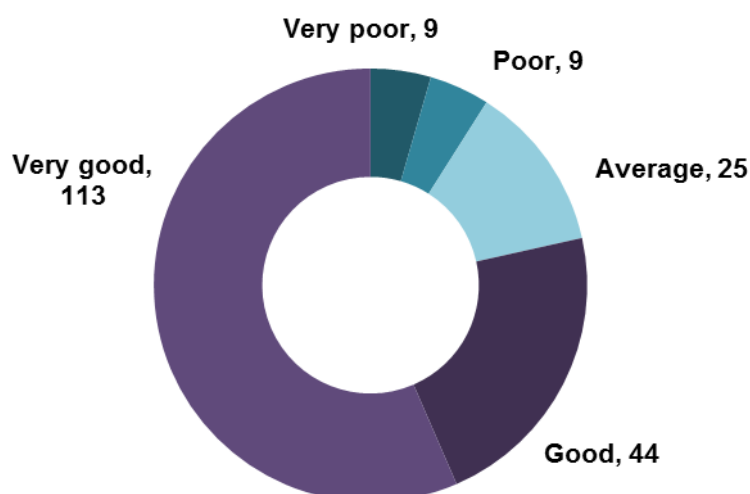
*Source: Participant survey*

- 7.10 Satisfaction with the application process was also tested with non-participants. As would be expected the feedback was less positive, although 15 of the 40 respondents identified they were satisfied or neither satisfied/dissatisfied with the process. Where firms identified dissatisfactions three themes emerged: (i) a perceived lack of understanding of the nature of the project/experience of the applicant at the application stage (ii) not enough advice and guidance in the application process and (iii) most commonly, a reported lack of feedback on the reasons for rejection on the application.

### Knowledge and Experience of Academics

- 7.11 Participants generally regarded the knowledge and experience of academics highly. As set out below, over 110 of the 200 survey respondents rated the knowledge and experience as ‘very good’ and a further 44 as ‘good’. The level of negative responses was modest, suggesting that the quality of the individuals/teams involved in delivering voucher projects is high.

**Figure 7-1: Response to ‘How would you rate the knowledge and experience of the academics at the Knowledge Provider(s) with whom you dealt?’ (n=200)**



Source: Participant survey

- 7.12 It is worth noting that this positive feedback was consistent across the Knowledge Provider network. The proportion of respondents reporting the knowledge and experience of academics as ‘good’ or ‘very good’ by broad institution type are set out below (‘Other’ includes specialist NI centres and institutions in the Republic of Ireland).

**Table 7-2: Quality/knowledge of academics by institution type**

	Very poor/poor	Average	Good/very good	Base
NI Universities	8%	15%	77%	125
NI Colleges	13%	5%	82%	39
Other	8%	11%	81%	36
Total	9%	13%	79%	200

Source: Participant survey

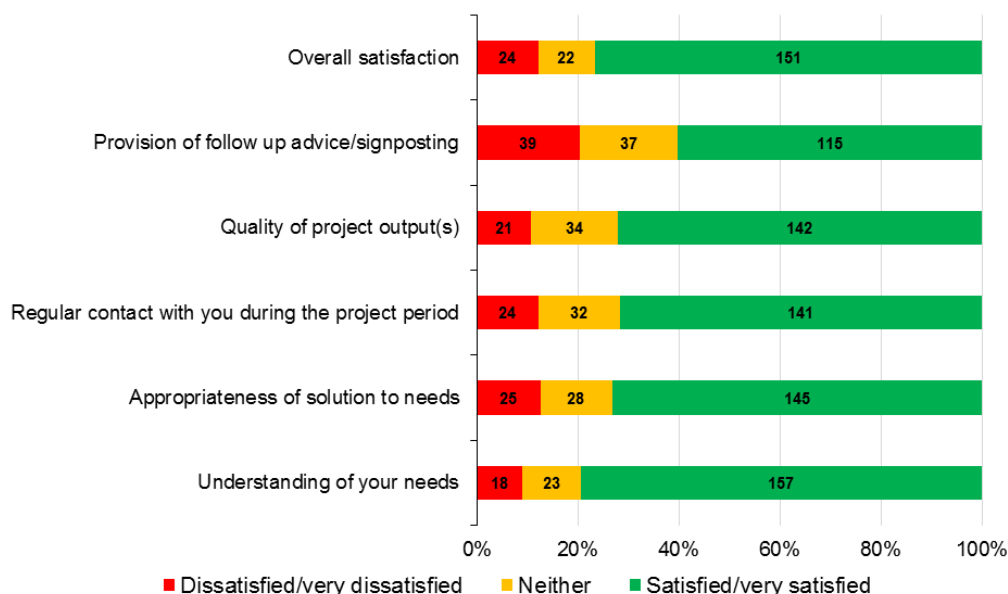
- 7.13 There may appear to be slight variations, but they are not significant (e.g. the 13% of respondents at NI colleges represents five respondents). Consultations with external consultees did raise some concern with the use of post-graduate/research students to deliver Vouchers– this recognised, there is no evidence of such from the evaluation’s survey work.

### **Satisfaction with Innovation Vouchers**

- 7.14 Participant surveyed were also asked to rate their levels of satisfaction with different facets of the Innovation Vouchers journey. Overall, levels of satisfaction were encouraging, as shown in Figure 7-2. However, the provision of follow-up advice and signposting was one area where a notable number of respondents (39) expressed dissatisfaction. As noted above, following the interim evaluation the Programme Team introduced ‘exit interviews’ with completed projects, so this may be something of a ‘legacy issue’ from earlier in the Programme.
- 7.15 That said, this finding does tally with the earlier messages regarding the variable level of follow-on support provided by Knowledge Providers. Arguably, the implication of the survey

findings is less that there is a need for Invest NI to understand participant views post-completion (albeit helpful from a delivery side), and more that further support and advice/signposting could be offered to participants to enable to maximise the benefits of the project. Invest NI's role in encouraging (and facilitating) the Knowledge Providers to adopt a more consistent approach to 'aftercare' is important in this regard.

Figure 7-2: Satisfaction with the Programme



Source: Participant survey

- 7.16 Positively, 93% of respondents to the participant survey would recommend the Programme to another organisation, just 3% (six of the 200 surveyed) would not.

## Lessons from Elsewhere

- 7.17 It is helpful to check-and-challenge the experience of delivering Innovation Vouchers in Northern Ireland with wider experience of innovation voucher activity elsewhere. Vouchers feature as one of the Innovation Policy Platforms reviewed by the Organisation for Economic Cooperation and Development (OECD). A Briefing Bulletin from the OECD relating to vouchers is [here](#), with the panel below drawing out the key success factors which, based on the OECD's international experience, appear to be linked with optimal voucher performance. This provides a useful crosscheck to Invest NI's own approach. Positively, the evaluation indicates that the Programme performs well against all five of these factors.

### Success factors relating to the design and implementation of innovation vouchers

*"The main success factors of innovation vouchers can be summarised as follows:*

1. *Simplicity and "light-touch" administration: given the small "lump sum" nature of an innovation voucher, its administration and implementation should be kept as simple as possible, from the application process to the selection of the beneficiaries to the reporting requirements once the voucher has been used.*

2. *Effective advertising and promotion: considering that the tool aims to overcome an information barrier between SMEs and knowledge institutions, it is important that the tool be advertised widely in the press and through the internet (i.e. network-based marketing).*
3. *Organisational commitment by universities: universities, the main public research organisations, need to be involved and persuaded to be an active partner of the scheme. For instance, prior to the launch of the Programme, universities could be asked to manifest their interest to be listed as potential knowledge providers.*
4. *Clear ideas by firms on how to use the vouchers: Applications should be simple and yet enable firms to detail the intended use of the voucher. This will facilitate the match of the SME with the appropriate knowledge institution.*
5. *Efficient brokering: Brokerage of the scheme is best performed by a public agency, which will have dedicated staff to the management of the Programme and will be in a position to link up the voucher scheme with other innovation policies at the national and local levels”.*

Source: OECD, February 2010

7.18 As part of the evaluation, consultations were also completed with individuals responsible for managing equivalent innovation voucher programmes in the Republic of Ireland, Scotland and England. These programmes are different to Northern Ireland's, for example, related to the provider network, funding regime, the number of vouchers available, and sectoral focus. However, across this diversity, five points are noted:

- Whilst each programme has its own delivery model and performance framework regime, 'managing the expectations' of participants, and the corollary of ensuring that those delivering vouchers do not 'over promise' on what can be delivered, appears to be a common theme.
- Generating demand for Vouchers is not generally regarded as a challenge, but tailored and targeted marketing and promotion is important to ensure that the programme is known to the *appropriate* target group, in order to maintain quality
- From a management side, whilst bilateral links are strong in some cases (particularly between Northern Ireland and the Republic of Ireland), there may be scope to enhance levels of co-operation and partnership working between the Programmes across the UK and Ireland. Consultations identified that informal knowledge-sharing between programmes has been valuable where it has occurred to date, and given the consistent issues faced (with the same underpinning rationales evident in all cases) a more managed and consistent approach could be considered.
- Levels of knowledge of the Innovation Vouchers Programme in Northern Ireland were mixed, as would be expected. However, positively, where consultees were able to comment, the Programme was regarded as well run and effective.
- Equivalent programmes elsewhere highlighted the benefits of the implementation of an online application system, reducing time inputs through automating eligibility checks, and ensuring that complete information is provided (online application



systems are in place for the Vouchers programmes in Ireland and England, not in Scotland). There are costs to implementing such a system, but given the paper-based nature of the intervention to date and the time inputs this requires from the (small) Programme Team, it would be appropriate for Invest NI to consider formally putting in place an online application process for any future Programme rounds.

### **Summary Conclusions**

The leadership and management of the Programme by Invest NI is well regarded by Knowledge Providers, including the work of the central team. The lack of prescription in delivery is important, allowing Knowledge Providers to play to their strengths and cultures, although there are some downside risks for participants in terms of the consistency of the offer before, during, and after, Voucher delivery.

Across the KP network as a whole, there is limited cross-working between Providers, with scope for development to embed and share learning.

The overall delivery model works well, and is well regarded by participants. There is no case for major or fundamental changes to what Innovation Vouchers is doing, and how it is doing it. Internal performance management systems, whilst broadly effective, offer scope for tightening, and greater transparency in the appraisal/assessment should be encouraged.

The experience and knowledge of academics is regarded highly by participants, and levels of satisfaction are high. Notably, over nine out of ten survey respondents would recommend Innovation Vouchers to another organisation.

### **Recommendations**

- R9. Further collaboration between Knowledge Providers, particularly in Northern Ireland, to embed learning and sharing of good practice on what works in delivery should be promoted. This could include more regular (perhaps bi-annual) 'network meetings' of all providers, an online 'community and resource' for co-coordinators and academics, and the development of learning case studies disseminated across the Programme on an on-going basis.
- R10. The Programme Team should work with Knowledge Providers to investigate further why VAT payment by recipients remains an issue for the Programme, and put in place proportionate measures to address late/non-payment of VAT.
- R11. The Programme Team should investigate the costs and benefits of putting in place an online application system for Innovation Vouchers for future programme rounds.

## **Voucher Parameters**

- 7.19 Finally for this Section, drawing on both the process perspectives and the wider evidence, the Table below sets out the findings of the evaluation on those specific issues regarding the parameters of the Innovation Vouchers programme raised in the ITT. These are important questions, and addressed explicitly as such below, but they are but one set of perspectives on the wider messages that the evaluation has identified.

Table 7-3: Key process and design questions identified in the study's ITT

Theme and questions	Evaluation response
<b>Voucher value and usage</b> <ul style="list-style-type: none"> <li>Is £4000 the most appropriate value of a voucher?</li> <li>Should there be other voucher options e.g. larger amount, co-financed?</li> <li>Does the option for a Knowledge Provider to sub-contact 20% of the project to a private sector provider remain valid?</li> </ul>	<p>The Innovation Voucher should remain explicitly as an 'early stage' instrument; moving to a substantively larger value, which seeks to do wider 'Voucher plus' things should be avoided. Application numbers and direct feedback in the survey (where as many participants indicated the Vouchers' value was about right, as said it needed to be increased) – do not indicate a need to increase the value from the demand-side. This said, the risk is on the supply-side where the financial viability of vouchers is open to question as costs of delivery increase.</p> <p>Invest NI should avoid spurious precision and debate here – there is no 'ideal' value, and the current value is owing to the original scale of the Programme in the Republic of Ireland. <b>The evaluation evidence points to a modest increase, to say £4,500, to retain the integrity of the instrument, but to reflect inflation-related salary and overhead costs in the Knowledge Provider infrastructure.</b></p> <p>On the second point, there is <b>no strong case from the evaluation's evidence for introducing other 'complicating' Voucher options</b> – the simplicity and clarity of the Voucher model as it stands is important. Whilst flexibility in project scale is valued by Knowledge Providers, this variation is properly best achieved by giving greater transparency to the scope for firms to invest their own additional resources.</p> <p><b>No strong evidence on the option for Knowledge Provider to sub-contact 20% of the project to private sector providers is evident from the evaluation</b>, although this flexibility was noted as important for some (for example for food projects requiring trials). <b>This option should be retained.</b></p>
<b>Voucher frequency</b> <ul style="list-style-type: none"> <li>Is the offer of a maximum of 3 vouchers and the associated funding structure still appropriate?</li> </ul>	<p>The evaluation's response is that the <b>maximum numbers of Vouchers should remain at three</b>. In practice, uptake of double/triple Vouchers has been limited, but the flexibility this offers potentially is important. The funding structure remains appropriate, with the inclusion of a modest financial contribution for multiple vouchers (where evident) an important indication of the needs for participants to avoid over-reliance on public subsidy. <b>No change is advocated here by the evaluation.</b></p>
<b>Provider network</b> <ul style="list-style-type: none"> <li>Should the Knowledge Provider base be extended?</li> </ul>	<p>Consideration of the scope to extend the provider network focused on two potential routes: Knowledge Providers such as universities in Great Britain, and the private sector.</p> <p><b>In principle, extending the Knowledge Provider network to the wider Knowledge Base in Great Britain (focused on Higher Education Institutions), is appropriate</b>, building on the targeted approach taken successfully to date. Three core principles should, however, be in play when considering the role of a wider provider network across Great Britain: (i) that there are benefits to Northern Ireland (for example, to develop strategic linkages with local institutions), (ii) that the focus is on accessing genuinely 'best of class' provision which is not available locally, and (iii) that the process is <i>managed actively</i> with strategic oversight from Invest NI (this to avoid a large scale shift to non-island of Ireland providers). Where possible, Invest NI should look to maximise reciprocity from parallel schemes, generating demand for vouchers from NI providers to GB and Irish firms.</p>

Theme and questions	Evaluation response
	Extending the scheme to the private sector was consistently not regarded as viable or attractive by consultees, given the Programme's clearly developmental intent. Based on this feedback and the evaluator's analysis, <b>there is no strong case to extend the provider network to include the private sector.</b>
<b>Sectoral targeting</b> <ul style="list-style-type: none"> <li>Should the voucher scheme be focused on specific sectors</li> </ul>	<b>There is no evidence view from the evaluation that targeting on specific sectors is necessary.</b> Where sector-specific activity is considered necessary, this should be guided by the strategic agenda (i) where policy is calling for specific intervention to develop/boost a particular part of the NI economy and/or (ii) where the evidence identifies that particular sectors are not benefiting from the Programme, and there is an accepted policy push to address this issue. 'Strategic fit' – rather than 'picking sectors' – should be the hallmark of any targeting initiatives.
<b>Voucher timespan</b> <ul style="list-style-type: none"> <li>Is nine months the optimum lifespan of a voucher?</li> </ul>	<b>Nine months should remain the Voucher lifespan.</b> This balances appropriately the time for participants to consider, design, and deliver their project, with the need to build and sustain momentum to ensure successful project completions.
<b>Voucher volume</b> <ul style="list-style-type: none"> <li>Is the number of vouchers awarded per year appropriate?</li> </ul>	The programme is not fundamentally about creating 'markets', rather enabling early entry into the 'innovation waters'. As such, <b>it needs to have essentially a responsive mindset - responding to demand, responding to what policy is calling for, and responding in line with delivery capacity.</b> The evaluation evidence does not indicate that a substantive increase (or decrease) in the number of Vouchers awarded annually is required from a programme management perspective - said another way, quotas are out. However, the Programme should build in some resourcing resilience to ensure that were demand to pick-up – perhaps in response to the stimulus of the Innovation Strategy – there could be an effective and managed response. Furthermore, in light of the Innovation Strategy, the economic appraisal for any next phase of an Innovation Vouchers intervention should consider the costs/benefits, viability and risks associated with a 'step-change' in the scale of the Programme.

## 8. Conclusions and Recommendations

- 8.1 This final Section of the report summarises its overall findings and recommendations.

### Conclusions

#### *Rationale and Objectives*

- 8.2 Northern Ireland has faced long-term economic, productivity, and innovation challenges, and continues to lag behind the rest of the UK in terms of innovation, particularly amongst the small business base. This provides **a challenging backdrop for policymakers and their instruments, but a sound economic case to intervene.**
- 8.3 Against this general context, the case for the Innovation Vouchers programme has been made consistently by Invest NI on the presence of information and co-ordination failures. These inhibit SMEs from investing in innovation because they perceive the benefits to be uncertain, and/or are unsure how to access the expertise and skills of the Knowledge Base. In headline terms, **ex-post, the evaluation concludes that the rationale to intervene at the start of the evaluation period was valid, and in policy terms justifiable.**
- 8.4 **In 2014, and going forward the innovation challenges remain, and accordingly the general case to intervene to address market and other failures in the innovation space for SMEs remains valid.** At the policy level, innovation, and wider business productivity challenges remain as consistent and high-level themes; notably, the recently published Innovation Strategy for Northern Ireland makes the case for, and demonstrates the policy push, to address these issues. **The intents and operation of the Innovation Vouchers Programme remain well aligned to these policy and strategic emphases.**
- 8.5 The evaluation evidence identifies that, **whilst many Programme participants were ‘new to innovation’, this did not always hold true,** and both the participant survey and monitoring data from Invest NI indicate that a good proportion, between a third and a half, had engaged previously in some form of innovation, principally product development. However, engagement with the Knowledge Base was low, and a core focus for the Programme was to encourage collaboration between SMEs and the knowledge base. Where participants had engaged previously in innovation, the failure being addressed, legitimately, was one of ‘access’ to the knowledge base, not ‘finance’ or ‘information’. This said, where participants may have been innovating in any case, some deadweight is likely to be present.
- 8.6 **The objectives of the Programme evolved over time, and became increasingly targeted and specific,** but focused on the longer-term fruits of innovation (employment and GVA), not immediate impacts (such as changed innovation cultures or propensities). This has provided a detailed indication of what the Programme is looking to achieve in numeric terms, but less so in terms of the ‘hearts and minds’ of innovation amongst participants. With no explicit statement of strategic objectives, there is variation between what Invest NI and Knowledge Providers think the Programme should be about – making links, the ‘process’ of engaging SMEs in innovation as a first step – and what participants think it is about – delivering tangible results, products and services.

- 8.7 **A more strategic set of objectives, focused on what the Programme is looking to achieve for its target group in terms of addressing market/other failures, and for the Northern Ireland economy more broadly, is required.** This strategic perspective is well understood at Invest NI and by Knowledge Providers, and could be addressed quickly and easily to create a clear and unifying sense of what the Voucher Programme is trying to achieve strategically. This depiction should span delivery periods (updated as appropriate) to provide a longer-term strategic statement of intent for the Programme to work to.

### **Inputs and Activities**

- 8.8 Expenditure on Voucher delivery for projects completed over the evaluation period was c.£4.7m. Taking into account the wider delivery costs such as administration, marketing and appraisal/evaluation, the **total expenditure of the Programme covered by the evaluation is estimated at approximately £5.9m.**
- 8.9 The Programme supports generally full cost recovery at Knowledge Providers. However, in some cases this is becoming increasingly challenging, as the costs of staff time and other goods and services increase. The Voucher value has remained at £4,000 since the launch of the Programme in 2008 – by 2013, had the value kept pace with inflation it would have increased to approximately £4,650. As such, **the financial viability of Vouchers at their current level was regarded by some as Knowledge Providers unsustainable. This is a risk to the Programme that needs to be watched for.** The majority, though not unanimous, view from Knowledge Providers is that the Voucher value should increase to reflect rising staff and overhead costs, as inflation relentless plays in.
- 8.10 Over a thousand Voucher projects were initiated over the evaluation period, and approaching 950 completed. Given this scale, the range of activity delivered was extremely broad, although focused principally on product/service innovation. **The number of applications scaled-up over time, indicating positively, strong, increasing and on-going demand for the Programme over the evaluation period,** although opening up the Programme to sole traders/partnerships in 2012 was the most important factor in the increasing demand. However, both the application ‘success rate’, and the ‘initiation rate’ of projects remained generally consistent across the Programme period, at 45-60%, and 65-80% respectively, suggesting effective programme management.
- 8.11 The two universities in Northern Ireland, South West College, and CAFRE were the most prominent providers, collectively accounting for over 85% of awarded Vouchers. This reflects both the level of demand and the extent to which the supply-side is prioritising Vouchers as a ‘service line’. Importantly, the current arrangements allow for operating flexibility, an operating internal market, and for specific project capabilities to develop. However, **care needs to be taken by Invest NI to avoid an undue-reliance on too small a number of institutions; this does represent a potential risk were one of these providers to choose to re-prioritise their innovation activities away from Voucher delivery.**
- 8.12 Three other points are notable:
- **The ability of firms to finance their project independently has not been probed in the application process.** Testing whether applicants have access to independent finance for their innovation project (or more realistically evidencing that they do not)

would help to ensure that the deployment of support is linked more tightly and transparently to the underpinning rationale for intervention.

- The **very great majority of the Programme has been focused on single Voucher users**. Whilst repeat use of Vouchers is a helpful flexibility in the Programme's design, it is highly encouraging that this is at a modest scale, suggesting that 'Voucher dependency' is not a major issue amongst the participant base at present.
- The **fit between the spatial distribution of SMEs and awarded Vouchers is generally good**, with the data indicating that the Programme has been delivered generally in a balanced and spatially equitable fashion across Northern Ireland.

### Outputs and Outcomes

8.13 In terms of direct outputs, over the evaluation period, **approaching 950 projects were completed**, and a suggested 840 firms supported (taking into account multiple vouchers). The completion rate of projects, with under 30 projects 'started but abandoned' over the evaluation period is positive, and demonstrates both that the Innovation Voucher 'customer journey' has generally worked well from delivery and participant perspective, and that appropriate projects were selected in the application and appraisal process.

8.14 Whilst outputs matter, outcomes matter more so. Across the range, the following findings are notable, drawn from the survey of 200 participants:

- The Programme has delivered a range of **positive business and capacity outcomes** including the introduction of new or significantly improved products, improved understanding of the benefits of innovation, and improved technical capability or understanding, although outcomes in terms of supporting firms to access equity finance and formal or informal innovation measures (such as patents and IP) are more limited at this stage, as may be expected.
- The **Programme has delivered, or is expected to deliver, employment benefits for around half of its participants, but not for the other half**; where employment benefits are evident, broadly as many have been achieved as are expected in future years as the benefits of projects build
- **Turnover effects are more common for Programme participants, with approaching two thirds of participant survey respondents reporting actual or expected turnover effects** as a result of the Programme, although quantifying these was challenging in many cases meaning that the actual scale of the turnover (and resultant GVA) benefits of the Programme is somewhat uncertain
- The Programme has **delivered modest effects in terms of business costs for a significant minority of participants**, often in terms of *increasing* business costs (at least in the short term) either in the past or expected for the future; these increased costs do need to be set against the turnover benefits in order to provide an overview assessment of the net-financial effects of the Programme on its participant cohort
- **Effects on the exporting profile of participants are quite limited, evident in around a third of cases at this juncture**: however the export promotion



contribution of the Programme should be regarded as a long-term game, with effects coming as part of a broader process of business development and innovation stimulation that Vouchers helps to promote – a more direct focus on exporting would be counter-productive: other Invest NI supports are in place here.

- 8.15 The Programme has also **generated a range of positive outcomes for Knowledge Providers** including: enhancements to the knowledge and skills of academics/technologists, improved and extended relationships with the business base, inputs to curriculum development, and (for some providers in particular) an important stream of business financially.
- 8.16 Post-Voucher activity, approaching half of the firms supported received subsequent support from Invest NI. The scale of on-going support suggests **the Programme is generally aligning well with wider interventions at Invest NI, and generating a solid pipeline of feeder activity**, although arguably more could be done to maximise this flow.
- 8.17 Further, half of participant survey respondents stated that they had undertaken subsequent innovation activity post-Voucher, typically product/service innovation, and this regularly involved work with a Northern Ireland university or college. So, a high proportion of participants remain engaged in innovation activity after Voucher completion. However, half of those that had undertaken subsequent innovation reported that they would have done so in any case (i.e. without the Programme), and around a third of all participants surveyed had not remained in touch with a Knowledge Provider. This suggests that **more could be done post-Voucher activity to maintain and on-leverage these business-knowledge base relationships**.

### **Additionality**

- 8.18 **In the majority of cases of the participants surveyed, the Programme delivered additionality, either fully or in part by bringing outcomes forward, in some cases by a number of years.** Non-additionality – where the same outcomes would have occurred in any case – was present for under one in ten of the participant survey sample. Overall, this is a positive evaluation message. The evaluation found limited evidence of Substitution – engagement in Innovation Voucher activity did not, in the main, prevent participants from progressing other business development opportunities.
- 8.19 **The additionality of the Programme is estimated to be 40% for job creation, and 47% for turnover generation, based on applying participant-level additionality ratios to gross outcomes.** Qualitative evidence from non-participants and Knowledge Providers validates the findings on generally positive, but mixed additionality. The additionality of the Programme is within benchmarks on additionality for Invest NI and wider innovation/enterprise development programmes.
- 8.20 **The overall additionality picture is influenced heavily by Displacement effects.** But increasing competition in local markets, demonstrator effects leading to other firms engaging in innovation, and adding to the overall scale of the market in Northern Ireland are likely to be positive countervailing forces in play. These effects cannot be counted, but they should not be forgotten in understanding the overall net contribution of the Programme.



- 8.21 Further to the formal additionality assessment, importantly, **the benefits attributed to Innovation Vouchers were, in many cases, dependent on additional investment by the participant, and aligned to wider business development activity including implementing new business strategies and plans.** Voucher activity worked with these developments, and from a public purse perspective benefits have been leveraged, but other activity and investment has been essential, and will be needed in the future, to unlock and secure the effects identified. This is important in considering the impact of the Programme.

### *Impact and Value for Money*

- 8.22 Again this gross outcomes and additionality context, the net impacts of the Programme over the evaluation period (both those achieved and expected for the future) are estimated to be approximately **380 jobs created, and £8.3 million in GVA, for completed projects.** Including impacts from projects initiated in the evaluation period, but not yet completed, these data increase to 425 net jobs created and £9.3 million in GVA.

- 8.23 In terms of Value for Money, the following judgements are made:

- **Economy** is judged as sound, with a significant set of activity delivered, through a tight team, and utilising resource and capacity across the Knowledge Provider base.
- **Efficiency** is judged to be acceptable, with a cost per net job created (recognising this is just one of the outcomes of the intervention) in line with benchmark evidence from elsewhere, including other immediately-comparable Innovation Voucher regimens.
- **Effectiveness**, whilst there is scope for continuous improvement, notably in designing-in additionality, is also judged to be positive. The Programme has generated new linkages and addressed co-ordination and information barriers between firms and the Knowledge Base, delivered against strategic priorities, and generated outcomes and impacts, both quantitative and qualitative. Encouragingly, the Programme is on course to meet its objectives.

- 8.24 An assessment of Return on Investment (RoI) yields a 'positive' result, with **an estimated £1.42 of GVA impact generated for each £1 of investment by Invest NI.** This is in line with the target of £1.39 for the 2012-15 period (and well above if salary costs are excluded at £1.67), and indicates that the Northern Ireland economy has secured more benefit from the Programme's results than the costs of its inputs.

- 8.25 However, it is important to re-iterate that **additional private investment will be needed to generate this scale of impact and RoI. The data should be regarded as what the Programme has helped to catalyse and leverage, not what it has individually delivered directly.**

### *Process Perspectives*

- 8.26 **The leadership and management of the Programme by Invest NI, including the work of the central team, is well regarded by Knowledge Providers.** The lack of prescription in delivery is seen as important, allowing Knowledge Providers to play to their strengths and cultures, although there are some downside risks for participants here in terms of the consistency of the offer before, during, and after, Voucher delivery.

- 8.27 The **overall delivery model works well – and is well regarded by participants – and there is no case for major or fundamental changes to what Innovation Vouchers is doing, and how it is doing it.** Importantly, the experience and knowledge of academics is regarded highly by participants, and overall levels of satisfaction with the Programme are high: as evidence of this, over nine out of ten would recommend it to another organisation.
- 8.28 That said, there is scope for continuous development: there has been limited cross-working between providers, limiting the scope embedding and sharing learning on ‘what works’, and performance management systems, whilst broadly effective, offer some scope for tightening; and greater transparency in the appraisal/assessment should be encouraged where feasible.

## Recommendations

- 8.29 Based on the findings of the evaluation, the following specific recommendations are made. The recommendations are presented serially, as trailed throughout the main body of the report, although it should be noted that there are common links between them and the list should be read with this in mind. Notably there are links between Recommendations 2 and 3 (related to objectives), Recommendations 6 and 7 (related to the customer journey), and Recommendations 4, 5, 10, and 11 (related to programme management).<sup>59</sup>

- **Recommendation 1:** Invest NI should consider refining the Programme’s Application Form to include a specific reference to ‘Quality’ additionality (alongside the existing references to ‘Scale’ and ‘Timing’ additionality), and include a separate question which probes explicitly applicants’ ‘ability to pay’ for their proposed project in the absence of Innovation Vouchers support.
- **Recommendation 2:** For any future rounds of activity, Invest NI should develop a tighter set of Programme objectives, which capture fully the strategic intents of the intervention, focusing on addressing the underpinning rationale for intervention, and avoiding a level of precision in target-setting that may lead to perverse incentives in delivery.
- **Recommendation 3:** In revising the objectives for the Programme, Invest NI should develop a set of indicators which capture better the short-term and intermediate benefits of Voucher experience (e.g. beneficiaries’ greater openness to innovation, improved understanding by beneficiaries of the role that innovation plays in firm growth and development, improved relationships with the Knowledge Base, investment in in-house innovation activity, etc.). These measures should be used to track the changes in beneficiaries’ behaviours and attitudes, as these relate to innovation – this is what the Programme is concerned with principally. The emphasis on counting the long-term fruits of innovation (e.g. employment, profitability, GVA) should be proportionate – these are consequences, rather than first-line effects, of the Programme.
- **Recommendation 4:** The Programme Team should consider formalising the process for follow-up discussions between programme beneficiaries and academics involved in projects which have not been completed, this to understand the lessons that can be

---

<sup>59</sup> Note that the evaluators do not consider that there are any likely impacts on anti-poverty, social inclusion, equality of opportunity or good relations from the recommendations made.

learned. This should be considered by the Programme Team as a 'continuous improvement' action.

- **Recommendation 5:** A firm-level unique identifier, using Invest NI's central CCMS system, should be used in future programme rounds.
- **Recommendation 6:** Recognising the evidence that participants receiving support in developing their application generally secured more benefits (in terms of qualitative outcomes) than those that did not, Invest NI should consider how greater levels of pre-application engagement with Knowledge Providers/Invest NI can be facilitated, within appropriate cost and time limitations.
- **Recommendation 7:** The Programme Team should encourage Knowledge Providers to maintain a relationship with participants following project completion, so providing a more consistent approach to aftercare. The Programme Team should consider developing guidance to facilitate this approach.
- **Recommendation 8:** Invest NI should develop further existing linkages and processes to maximise and encourage the flow of demand from the Programme to other later-stage innovation supports, notably Grant for R&D and Knowledge Transfer Partnerships (KTPs). Any 'blockages' identified to greater collaboration should be addressed. Key to this will be to ensure that Client Executives and Innovation Advisers understand fully how/where Vouchers fit in alongside other support regimes operated by Invest NI.
- **Recommendation 9:** Further collaboration between Knowledge Providers, particularly in Northern Ireland, to embed learning and sharing of good practice on what works in delivery should be promoted. This could include more regular (perhaps bi-annual) 'network meetings' of all providers, an online 'community and resource' for co-coordinators and academics, and the development of learning case studies disseminated across the Programme on an on-going basis.
- **Recommendation 10:** The Programme Team should work with Knowledge Providers to investigate further why VAT payment by recipients remains an issue for the Programme, and put in place proportionate measures to address late/non-payment of VAT.
- **Recommendation 11:** The Programme Team should investigate the costs and benefits of putting in place an online application system for Innovation Vouchers for future programme rounds.
- **Recommendation 12:** Invest NI should consider actively increasing modestly the Voucher value, to say £4,500, reflecting inflation since 2008. The maximum numbers of Vouchers provided should remain at three, and the time-period for deployment should remain at nine months.

8.30 These specific recommendations – essentially all focused on delivering continuous improvement in the Programme – are made within the **overall recommendation from the evaluation that Innovation Vouchers should continue**, subject to the standard appraisal, casework, and approval process at Invest NI.

- 8.31 In terms of the future scale of the Programme, this needs to respond to demand from the business base, the capacity of the supply side to deliver, and crucially what policy, notably the Innovation Strategy, is calling for. As such, and consistent with the Innovation Strategy's intent that Invest NI should seek to increase investment in Innovation Vouchers, **the economic appraisal for the next phase of the Programme should consider the costs/benefits, viability and risks associated with a 'step-change' in its scale over the medium term.**