

PACEC

Public and Corporate
Economic Consultants

Invest NI - Evaluation of the Collaborative Network Programme [CNP]



Final Report – December 2015

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1 EXECUTIVE SUMMARY

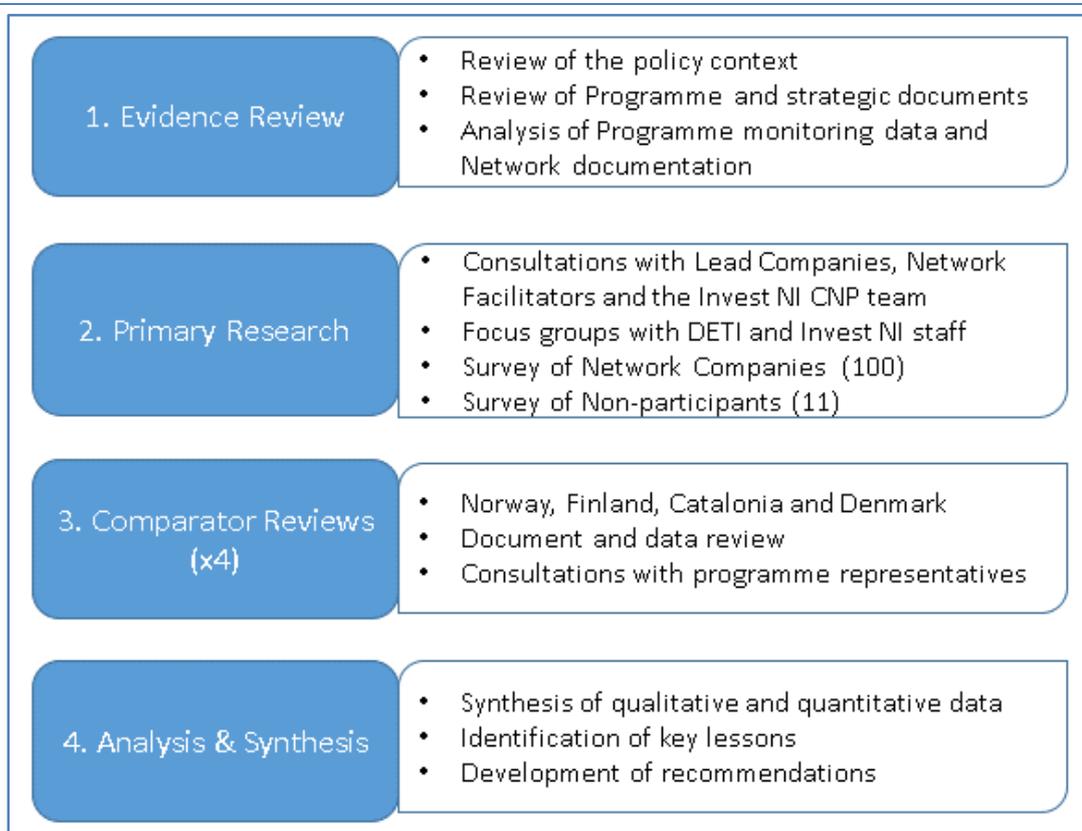
1.1 Introduction

PACEC (formerly RSM McClure Watters (Consulting) Ltd) were appointed by Invest Northern Ireland to undertake the final evaluation of the Pilot Collaborative Network Programme (Pilot CNP) and the interim evaluation of the Formal Collaborative Network Programme (Formal CNP).

1.2 Methodology

The methodology for this evaluation comprised a mix of primary research and desk based analysis that provided both qualitative and quantitative evidence. The findings from the research informed the assessment of delivery and impact¹ of both the Pilot CNP and the Formal CNP. The four components of the methodology are outlined in figure 1.1.

Figure 1.1: Research Methodology



The detailed terms of reference and the rationale for the methodology are contained in Appendix A.

¹ Only the findings from the surveys informed the findings on impact

1.3 Collaborative Network Programme

1.3.1 Background

The Collaborative Network Programme (CNP) was piloted from December 2007 to December 2010. An interim evaluation was completed of the Pilot in January 2011², and the Formal CNP was launched in September 2011.

1.3.2 Need for CNP

There are a number of market failures in the Northern Ireland (NI) economy that mean it lags behind the rest of the UK³ and these are largely due to the predominance of Small to Medium Enterprises (SMEs). SMEs face a number of barriers that prevent them from optimising export and innovation activities and central to these are skills, knowledge and the attitude to risk or change of the SME owner managers.⁴ Collaboration with larger companies and Higher Education Institutions (HEIs) is one way in which SMEs can achieve the knowledge / skills exchange needed to help them develop and grow competitively.

The CNP facilitates the development of early stage business-led collaborative networks that undertake time limited collaborative initiatives. The CNP is particularly focused on supporting collaborative networks that can be categorised as ‘embryonic’⁵ or ‘established’.⁶

The CNP is a targeted intervention that provides the infrastructure and support needed to help SMEs collaborate with others (particularly larger companies and HEIs) to develop their capacity / capability and ultimately derive business benefits for those involved and the wider NI economy.

1.3.3 EU and NI Policy Context

The Europe 2020 strategy sets out a vision of Europe’s economy for the 21st century, aimed at turning the European Union into a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion. The ‘smart specialisation’ approach ensures that industrial, educational and innovation policies are focused on priority areas based on a region’s strengths and comparative advantages, thereby encouraging clusters to develop.

² Interim evaluation available at: <http://secure.investni.com/static/library/invest-ni/documents/collaborative-network-programme-interim-evaluation-january-2011.pdf>

³ **Innovation:** at 40%, NI was the least innovation active region in the UK whilst a comparison with GB regions showed NI had moved from second least innovation active in the 2011 UKIS to the least innovative in the 2013 UKIS

R&D Expenditure: NI was behind the rest of the UK in R&D spend in 2007 (between 2008-2013 business R&D expenditure increased by 150% and spend (as a percentage of GVA) is now above the UK average). However R&D spend is heavily dependent on a small number of larger companies

Exporting: In 2012 NI exports of goods (at 19% of GVA) were broadly the same as the UK average however the overall export performance of the UK (at 29% of GDP) was significantly below other successful economies, which indicates that NI also lags well behind these export-focused countries

⁴ NI Executive (2014) Innovation Strategy for Northern Ireland 2014 - 2020

⁵ Those at the early stage of growth with no formal structure in place, those who see potential and value for developing collaborative projects but need facilitation to define commercial collaborative projects

⁶ Those who have room for further growth whose members formally agreed to collaborate but require ongoing facilitation

A study on Innovation Clusters in Europe⁷ found that European regions with clusters have been able to further develop their competitive advantages. Clusters have allowed regions to significantly increase their global reach – attracting people, technology and investments, serving global markets, and connecting with other regional clusters that provide complementary activities in global value chains. This research notes that while other factors can have an impact on economic development, there is evidence that clusters are significantly related to prosperity and need to be considered as a central part of any economic strategy. Furthermore, a Danish study⁸ found that companies participating in an innovation network are more likely to enter into R&D collaborations. As innovation leads to the creation of new products, processes and services, increased earnings and an increased level of knowledge, innovative companies become more competitive in the longer term and experience increased productivity and growth.

NI Government policy is focused on helping the local economy become more innovative, more export focused and more competitive. While Northern Ireland does not have a collaboration / cluster strategy, successive economic and innovation policies have recognised the importance of business networks and clusters in terms of creating the scale required to compete in global markets.

The current Innovation Strategy⁹ to 2025 highlights the need for a cultural shift to create an attitudinal change in businesses and encourage greater levels of R&D and innovation (i.e. enhancing and promoting the development of an innovation culture). Moreover, the NI Economic Strategy states that NI can deliver export-led growth by ensuring local companies are internationally competitive through investing in areas such as innovation, R&D and skills and attracting export-focused foreign investors.

The aims and objectives of the CNP were closely aligned with NI Government policy and strategies in place in 2007/08 (at the inception of the Pilot CNP) and in 2011 (launch of the Formal CNP), as well as mirroring work going on in the rest of Europe encouraging collaboration. At the inception of the Pilot there was a need to increase the levels of R&D and innovation in NI, which was still strongly emphasised in 2011. The Formal CNP had targets that linked directly to the economy and innovation (i.e. jobs created; private sector investment leveraged; improved human, physical, intellectual, market, and social capital; and the introduction of new business products / processes (linked to innovation)). Therefore there is a clear link between the CNP and wider policy objectives.

The CNP has also been closely aligned with the Department of Enterprise, Trade and Investment (DETI) MATRIX¹⁰ strategy that seeks to ensure greater exploitation of NI's science and technology capacity by focusing on key growth areas, similar to SMART Specialisation work at an EU level. Invest NI issued three thematic calls for the CNP linked to Matrix priorities in 2011 (in conjunction with the Matrix reports); 2013 (ICT and sustainable energy); and 2014 (Digital Media, Connected Health and Life Sciences, Big Data/IT, Agri-food, Advanced Materials, Advanced Engineering and Sustainable

⁷ Enterprise and Industry Directorate-General (2007) Innovation Clusters in Europe: A statistical analysis and overview of current policy support

⁸ Danish Agency for Science, Technology and Innovation (2011) The impacts of cluster policy in Denmark - An impact study on behaviour and economical effects of Innovation Network Denmark

⁹ DETI Regional Innovation Strategy for Northern Ireland 2014-2025

¹⁰ MATRIX was born out of the Regional Innovation Strategy (RIS) for Northern Ireland. In February 2007 it was tasked with bringing forward-focused advice on the future policies necessary for Northern Ireland to ensure economic growth and wealth creation through greater commercial exploitation of its science and technology capabilities.

Energy). The programme also accepts applications on an on-going basis from high growth emerging sectors. This is comparable to the approach used by other similar programmes that have a focus on key priority areas, while also being flexible to support other high growth emerging sectors (see section 8.2.3).

Recommendation 1:

Invest NI CNP should continue to be linked to MATRIX priorities whilst being open to opportunities from any high growth emerging sectors.

1.3.4 Demand for CNP

There were no projections as to the number of networks to be supported under the Pilot CNP (an economic appraisal was not completed). However the need for the Formal CNP was researched and evidenced in an economic appraisal in 2011.¹¹ The economic appraisal recognised that the projected figures may not be achieved due to uncertainty regarding the Invest NI budget and wider economy, and the appraisal included the need to review the demand for the CNP at the interim evaluation in 2015. The evaluation of the Formal CNP has identified that the initial projections were optimistic. Overall, 21 phase 1 projects were achieved against a pro rata target of 37 for the evaluation period; and 6 phase 2 projects against a pro rata target of 23 for the same period. Funding is currently in place until later in 2016.

Recommendation 2:

The format of any future intervention (including evidence-based targets) should be based on an economic appraisal and the learnings from the interim evaluation of the Formal CNP.

1.3.5 CNP Objectives and Funding

The CNP objectives were set with the formal launch of the programme in 2011. These were as follows:

- **Develop the capability and capacity of NI's businesses** by facilitating the creation of regional clusters/networks in which private sector companies and other stakeholders (e.g. investors, researchers and academia) engage in collaborative networking activities for the purposes of developing new products, processes and/or services;
- Encourage the creation of networks that offer the potential to exploit emerging regional, national and international market opportunities through the application of emerging and convergent technologies;
- Contribute towards the **development of NI's Innovation Ecosystem** by encouraging firms to realise the benefits from undertaking innovative collaborative networking activities; and
- Contribute to promoting NI as an **innovative region**.

¹¹ Cogent (2011) Collaborative Network Programme Economic Appraisal – Section 3.13 (page 52). “On the basis of this evidence provided, it is likely that the latent level of demand for CNP support going forward would be in excess of the levels of activity funded as part of the pilot phase of the Programme (i.e. completion of 8 feasibility studies and the creation of 4 network projects per annum)”

Funding under the 2007 – 2011 CNP Pilot was made available in two distinct but interrelated phases, namely:

- **Phase 1 Feasibility / Scoping Studies:** to identify market opportunities, business capabilities and define a collaborative opportunity and proposed project plan. Funding ranged from 75% of cost or £15,000 (whichever was lesser) under the Pilot to 50% of cost or up to £25,000 whichever was lesser under the Formal programme.
- **Phase 2 Facilitation:** support was available up to a maximum of 50% of eligible costs or £250,000, whichever was the lesser.

Pilot CNP Budget and Spend

It was anticipated that the total value of the Pilot CNP would be £6,461,440 of which 45% (£2,901,102) would be provided by Invest NI and the remaining 55% (£3,560,338) would be from participating companies in the form of industry personnel / cash contributions. Overall £6,080,661 was spent, 44% (£2,654,501) of which came from Invest NI and the remaining 56% (£3,426,160) from participating companies in the form of industry personnel / cash. Therefore while industry contributions exceeded that of Invest NI, both were below the figures originally anticipated with an overall spend of £380,779 or 6% below budget.

Formal CNP Budget and Spend

In the 2011 economic appraisal¹² it was anticipated that the total network costs (Invest NI and industry contributions) to deliver 40 feasibility / scoping studies and 25 CNP projects would be £14.5M (with networks established between September 2011 and March 2015 and costs incurred between September 2011 and March 2018). Taking into account the period under review (September 2011 to December 2014), the pro rata budget is £9.9875M.

The actual cost incurred to date is £2,843,459; 38% (£1,090,727) of which has come from Invest NI and the remainder (62% or £1,752,732) from participating companies in the form of industry personnel / cash. Therefore targeted spend is considerably behind that anticipated (£2,843,459 compared to £9.9875M which equates to around 28% of anticipated spend incurred and a variance of over £7.1M). The breakdown is 21.8% of Invest NI budget spent to date (underspend of £3,903,023) and 35.1% of industry contributions incurred to date (underspend of £3,241,018). The high levels of underspend are partly due to fewer networks than anticipated being established (see table 6.12) and that Invest NI claims information was not available all network projects.¹³

1.3.6 CNP Operation and Delivery

Application Process: Under the Formal CNP a project board was set up to evaluate the first call for applications, but not for subsequent applications. The project board included representatives from the Matrix panel, Invest NI and external stakeholders and this is an effective way of ensuring that the project and network is sufficiently well developed and that the plan produced is realistic.

¹² Cogent (2011) Economic Appraisal of the Collaborative Network Programme

¹³ There are 6 networks that are still live and as yet have not submitted claims while another closed without submitting any claims

Recommendation 3:

It is recommended that the applications for Phase 2 support should include a panel comprising representatives from the Matrix panel, Invest NI and external stakeholders with strict criteria to assess network potential to contribute to priority sectors.

Claims / Vouching Process: The current claims process has generated significant negative feedback from the lead companies responsible for submitting claims on behalf on the network. The requirement to provide proof of salaries has resulted in considerable dissatisfaction with this aspect of the CNP. This has the potential to impact negatively on the Programme overall by having a “chilling” effect on the relationships between the Invest NI / CNP team and the networks, resulting in networks having less of an appetite for engaging in future projects. Feedback from the Invest NI / CNP team indicates that the inability to appropriately vouch/verify non-PAYE contributions actively mitigates against SMEs being involved in the Programme.

Research¹⁴ shows essential administration associated with the Programme should be proportionate and not act as a disincentive. Invest NI has been addressing this issue and the evaluators support their action to reduce this area of work. Feedback from the Invest NI / CNP team indicates that they spend a disproportionate amount of time steering networks through the claims process which detracts from the time available to spend on other value-added activities such as marketing the Programme, finding new networks and establishing relationships with existing ones.

Therefore it is important that the claims/vouching process is revised to overcome the negative perceptions amongst network members (current and potential) and to ensure that best use is being made of the resource available within the Invest NI CNP team, including implementing other recommendations in this report. In particular, action should be taken to reduce the administration involved in verifying in-kind contributions based on PAYE.

Recommendation 4:

We recommend that the Invest NI CNP team work to make the claims process more proportionate to the value of the funding. In particular, the process should be changed regarding how companies claim for their time, for example instead of using actual salaries, consideration should be given to using published salary information for the grade / jobs such as senior executive salary surveys from reputable sources.

CNP Company Database: The interim evaluation¹⁵ and economic appraisal set out a series of recommendations as to how the Formal CNP could improve or learn from the Pilot CNP. These

¹⁴ NESTA: The Effects of Cluster Policy on Innovation by Uyarra and Ramlogan Manchester Institute of Innovation Research 2012

¹⁵ Cogent (2011) Interim Evaluation of the Collaborative Network Programme

recommendations were generally implemented and as a result the operation and delivery of the Formal CNP has been strengthened.

Specific actions included the development of the application / assessment process, enhanced monitoring of the Programme and the development of a network company database. Whilst a list of companies was developed as recommended, it would be useful to have a more sophisticated database that not only includes names and contact details for companies but also details of network name(s) and phase(s) that each company is involved in and start and end dates for the involvement of each company in each network. This will help with any further analysis / evaluation of the profile of companies participating in networks and the extent of overlap between networks. A specific field in the database identifying whether companies are located in NI or not would also be useful for future evaluations to identify and isolate effects for NI only.

Recommendation 5:

The CNP database should be developed as detailed above.

Procurement of Facilitators: The network facilitator is a key role and should be supported through open and transparent recruitment / procurement processes. At present it is a requirement that facilitators are appointed through an open recruitment process. This process is led by the network and ensures that the appointment is made by the companies to meet their needs. This is critical to the building of trust between the facilitator and the companies involved and other options such as using a call-off list would put at risk the sense of ownership felt by the companies.

Recommendation 6:

Invest NI need to ensure all lead companies comply with procurement rules in relation to appointment of facilitators by including this requirement in the Letter of Offer (LoO) for each network.

Managing Risk: The Formal CNP manages risks at a project level. The risk of not delivering on the total number of networks should be managed at a Programme level.

Recommendation 7:

It is recommended that risks are managed at a Programme as well as a project level.

Funding and support provided under CNP: The survey highlighted that over 70% of companies from the Pilot Programme¹⁶ and over 80% of companies from the Formal Programme were satisfied with the different types of support available. Areas identified for development included the availability of help / support from other parts of Invest NI and that Invest NI / DETI should do more to influence other Departments to support the work of CNP projects. The second issue was highlighted by two

¹⁶ With the exception of salaries in kind which was over 60%

companies therefore it may not be reflective of all participants, **however it should be dealt with on a cross-departmental basis should the issue arise again on the Programme.**

Recommendation 8:

It is recommended that Invest NI/DETI review how they provide support to inform Departments on any other Projects requiring cross-departmental support.

Monitoring: The monitoring of economic benefits / impacts is difficult but is essential to prove VFM. Networks have not always captured monitoring data in the format / to the extent requested by Invest NI, and therefore there is potential for the full impact of the Programme to have been under recorded.

Recommendation 9:

We recommend that Invest NI set up an online monitoring system that sets out the data needed quarterly through boxes and questions that relate to programme targets. By automating the process it will allow for the generation of quarterly analysis with limited input from the Invest NI CNP team. The process should be set up so that the companies in a network complete it before their claim can be processed. Recommended information to be collected on performance in the preceding 3 months is set out below, however this should be adapted based on the specific LoO. It may be appropriate to have separate questionnaires targeting the facilitator, lead company or participating companies, as each of these will have a different perspective. The questions and target respondent(s) may vary depending on the scale and duration of the network. The request for information should make it clear if the respondent is to provide the perspective of the individual responding or on behalf of all network members. Data fields could include:

- Name of network
- Name of Facilitator
- Current Status: Phase 1 only / Phase 2 only / Phase 1 and Phase 2
- Concise summary of network activities in the last 3 months
- No of companies in the network at the start of the 3 months and at the end of the 3 months
- Feedback on facilitator competence and inputs - with satisfaction rating 1-5
- Contribution from companies – cash & in-kind during the last 3 months
- Development of the network
 - Assessment of the level of trust between members
 - Whether the network has the right members
 - Joint / collaborative working over last 3 months
- Quantitative impacts (these should match LoO and fit with CNP objectives)
 - No of jobs created
 - No of jobs safeguarded
 - Sales / turnover created
 - Sales / turnover safeguarded
- Qualitative impacts (these should match LoO and fit with CNP objectives)

- Human capital¹⁷ etc. – how many of your companies have achieved xxx in the last 3 months?
- Social capital¹⁸ etc. – how many of your companies have achieved xxx in the last 3 months?
- Physical capital¹⁹ - how many of your companies have achieved xxx in the last 3 months?
- Intellectual Capital²⁰ - how many of your companies have achieved xxx in the last 3 months?
- Market Capital²¹ - how many of your companies have achieved xxx in the last 3 months?
- 3 areas that are working well / supporting the network
- 3 areas that could be improved / would improve the performance of the network

Research²² indicates that the timescales for economic impacts to be realised is at least 5 years. Therefore there is an argument to put in place a mechanism to monitor networks for at least 5 years from the date of the LoO. Further, it is understood that Phase 2 networks can be funded for projects of between two and five years in duration and that the Formal CNP EA referred to funding allocations being made over a 5-year period.

Recommendation 10:

We recommend that the LoO for Phase 2 support should include a requirement to provide on-going monitoring of the network for at least 5 years to gather evidence of impacts. This should link to the proposed monitoring discussed at Recommendation 8 (to be carried out by the Invest NI / CNP team) and be applied in a proportionate manner making use of an online, predetermined proforma focused on collecting very specific impact information (related to programme and network targets) rather than placing an undue burden on the Invest NI / CNP team. There may also be scope to commission external research to gather and substantiate evidence when more of the networks are further developed.

1.3.7 Target Setting and KPIs

There were a mixture of SMART output / activity and outcome targets established for the Formal CNP. For example, output / activity targets related to number of feasibility / scoping studies and number of

¹⁷ Relates to 'people' objectives such as enhancement of staff skills, management skills, ability to attract skilled staff, ability to keep graduates in Northern Ireland and sharing staff

¹⁸ Includes aspects of development such as the establishment / maintenance of business contracts, improvements to the image of the industry and addressing local concerns and / or community needs.

¹⁹ Includes aspects of collaboration such as shared facilities, shared equipment or shared raw materials

²⁰ Includes aspects such as the sharing of information / knowledge, engaging in collaborative research, developing new processes with other network members and implementing new quality standards as a result of engagement in the network

²¹ Includes aspects such as developing new products / services, increased knowledge of the marketplace, identification of potential new suppliers and entering new markets

²² Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers

collaborative network projects. Outcome targets covered various aspects of the programme including: economic impact, return on investment, new jobs created in high value-added sectors, proportion of participating businesses reporting improvements/increases in a range of areas (related to Human, Physical, Intellectual, Market, and Social Capital), and the proportion of participating businesses introducing new or significantly improved business products (goods and/or services) or processes. These targets are entirely appropriate however in comparison with the benchmarked programmes there are too many KPIs.

All benchmark programmes that provide professional support and funding use KPIs to monitor success, however all those reviewed are less developed than those currently set for the CNP. The extent to which soft or hard measures are developed is a decision made by the funders in all of the programmes reviewed. For example, the Norway Arena Programme and the Catalonia Cluster Programme have a strong focus on measuring relationships and cooperation. The Norway Arena Programme focuses on improving collaboration and trust within the clusters as well as creating new linkages with external partners. As the Catalonia Cluster Programme does not provide funding it would be challenging to establish hard measures taking into account the services offered. The Finland Centre of Expertise Programme (which provides funding for networks) does have KPIs to measure new jobs and companies created. The targets for the Formal CNP include both hard and soft measures such as those evidenced in the benchmark programmes. However it did not incorporate soft measures focused on the types of outcomes that would be expected from networks / clusters at the initial stage of development that were evident in the Norway Arena Programme.

Recommendation 11:

We recommend that the number of KPIs for the Programme is reduced in line with the benchmark programmes (see section 8.2.1) and the type of KPIs should change as the network develops. Immature networks / those in start-up phase or seeking scoping funding should have KPIs based on 'soft' measures (trust, relationships, and activity within the network). Those seeking Phase 2 support should have KPIs that focus on 'hard' measures, such as number / type of collaboration projects and outcomes. The exact measures should be developed by Invest NI however these should be kept to a minimum.

1.3.8 Programme Performance

The performance of the CNP can be assessed qualitatively and quantitatively. The qualitative evidence relates to the extent to which network members were able to learn from each other and how attitudes / behaviours may have changed as a result. Evidence of impact at this level is likely to be an indicator of further business impacts that may be achieved in the future (in line with research that states that the full benefits from networks can only be measured over the long term).²³

²³ Research shows that it takes several years (at least five) from the date a network is established before the full benefits and impact on business and the economy are achieved. Ministry of Science, Innovation and Higher Education (2012) *Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers*

1.3.8.1 Qualitative Outcomes of Pilot and Formal CNPs

Both the Pilot and Formal CNPs developed the capabilities of companies. Survey respondents indicated that they had benefited in a number of ways:

- Information / knowledge sharing (76% of companies from the Pilot Programme and 84% from the Formal Programme);
- Increased knowledge of the marketplace (68% of companies from the Pilot Programme and 70% from the Formal Programme);
- The development of new behaviours such as engaging in collaborative research, development and design activities (46% of companies from the Pilot Programme and 56% of Formal Programme respondents); and
- The development of processes (32% of companies from the Pilot Programme and 40% of Formal Programme respondents).

Qualitative feedback highlights that the CNP has provided the basis for future company development that may not have happened otherwise, for example:

“the CNP was very useful in increasing our competitive awareness and understanding of the SME marketplace locally and we are more likely to engage local SMEs within larger bids than before the CNP experience” – member of the Tendering Innovation Network

“the CNP is an excellent Programme that enables NI SMEs to bring skills together to target global market opportunities that would not otherwise be accessible to a small company” – member of the Big Data Renewables network

1.3.8.2 Quantitative Outcomes from CNP – Pilot CNP

The Pilot CNP established a mechanism that allowed 259 companies to work together through 24 networks. Whilst PPEs / Final Reports²⁴ provide a range of information about those networks for which they have been completed, there were some limitations to the available data which meant that this could not be scaled up to give a picture of the results delivered through all networks. However based on scaling up data from a survey of Pilot CNP respondents it is estimated that the Pilot CNP:

- Safeguarded turnover of £8.633M-£14.8M;
- Created £24.05M in increased turnover; and
- Created 318 jobs and safeguarded a further 49 jobs.

There are some caveats and limitations associated with this scaling up approach that are detailed in section 5.8.1.

The Pilot CNP also leveraged contributions of £3,426,160 from participating companies in the form of industry personnel / cash.

²⁴ However detailed information relating to impacts in final reports has been included where available in section 5.5

In terms of cost-effectiveness, there is also a clear return on the funding that Invest NI provided for the Pilot CNP (see section 5.10). Comparing the estimate of GVA achieved (between £5.05M and £6M) and Invest NI costs (£3,234,456) yields a ratio of between £1.56: £1.00 and £1.86: £1.00

An assessment of the measures affecting economy, efficiency and effectiveness (see section 5.9) demonstrates the following:

- **Economy**²⁵: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;
- **Efficiency**²⁶: the estimated GVA impacts (achieved) are more than Programme costs (the difference is between £1.813M and £2.765M); cost per network is £134.8K and cost per company is £12.5K; and
- **Effectiveness**²⁷: while there were no specific Programme targets specified, there is evidence of tangible impacts. Furthermore 28 (70% of 40) companies indicated achievement of the objectives they had set at the start of the Programme.

Based on company survey results the level of additionality is 52%; indicating that more than half of the impacts reported would not have happened without the CNP.

In addition the GLANTEK network case study²⁸ refers to R&D funding to scope options to extend a contract with Bombardier (£3.2mn over 10 yrs. and working with two network companies). [Note this network was funded through the Pilot Programme for both Phase 1 and Phase 2].

1.3.8.3 Quantitative Outcomes for the Formal CNP

The Formal Programme supported 136 organisations to work together through 24 networks. As with the Pilot, there are limitations to the available data in PPEs / final reports²⁹ which meant that this could not be scaled up to give a picture of the results delivered through all networks. However based on scaling up data from a survey of Formal CNP respondents it is estimated that the Formal CNP:

- Safeguarded turnover of £16.28M;
- Created turnover of £15.36M; and
- Created 239 jobs and safeguarded a further 687 jobs.

There are some caveats and limitations associated with this scaling up approach that are detailed in section 6.8.1.

The Formal CNP also leveraged contributions of £1.75M (to December 2014) from participating companies in the form of industry personnel / cash. In addition, there is evidence of some specific instances where participants in the Formal CNP leveraged funding from other sources however the role of the CNP in obtaining additional funds is not evidenced in each case.

²⁵ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

²⁶ Efficiency considers the benefits (the net outputs or outcomes) compared to the intervention costs

²⁷ Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

²⁸ See section 6.3.9 – Figure 6.12 which includes full details of this case study as an example of entering new markets

²⁹ However detailed information relating to impacts in final reports has been included where available in section 6.5

In terms of cost-effectiveness, at the interim stage there is a clear return on the funding that Invest NI provides to the CNP (see section 6.10). Comparing the estimate of GVA (achieved which is £6.34M) and Invest NI costs (£1,708,808) yields a ratio of £3.71: £1.00.

An assessment of the measures affecting economy, efficiency and effectiveness (see section 6.9) demonstrates that:

- **Economy**³⁰: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;
- **Efficiency**³¹: the estimated GVA impacts (achieved) are more than Invest NI Programme costs (exceeding by £4.635M); and cost per network is £63.3K and cost per company is £12.6K; and
- **Effectiveness**³² while only one the nine Programme targets have yet been achieved, 45 (80% of 56) companies indicated achievement of the objectives they had set at the start of the Programme.

Based on company survey results the level of additionality is 67.5%; indicating that some of the impacts might not have happened without the CNP.

In addition, the European Connected Health Alliance network³³ refers to four network members reporting increased domestic sales, with one company specifying £75K; increased export sales (3 networks, amount not specified); secured investment (4 networks, amount not specified); increased employment (3 networks one specified 2 jobs); and safeguarded jobs (3 networks, number not specified). The Energy Skills Training network Case Study³⁴ also refers to how one of the network companies, based on the experience and relationships established, was able to successfully tender and win work for 22 staff at a pre-assembly site in Germany, work that the company would not previously have had the experience to consider.

1.3.9 Performance against Programme Targets

Performance against the targets for the Formal Programme³⁵ shows that that only one of the nine targets has been achieved, however progress has been made towards each of the others and this is matched by an underspend in costs.

To date the actual costs for Phase 1 and 2 networks in the Formal Programme are considerably less than those anticipated (i.e. only around 28% of anticipated spend has been incurred to date). This is partly due to the fact that fewer networks than anticipated have been established (see section 6.11)

³⁰ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

³¹ Efficiency considers the benefits (the net outputs or outcomes) compared to the intervention costs

³² Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

³³ See section 6.12.2 – figure 6.15 which includes full details of this case study as an example of influencing policy

³⁴ See section 6.3.6 – figure 6.7 which includes full details of this case study as an example of developing working relationships

³⁵ There were a mixture of SMART output/activity and outcome objectives established for the CNP Programme. For example, output/activity targets related to number of feasibility / scoping studies and number of collaborative network projects. Outcome targets covered various aspects of the programme including: economic impact return on investment, new jobs created in high value-added sectors, proportion of participating businesses reporting improvements/increases in a range of areas (related to Human Capital, Physical Capital, Intellectual Capital, Market Capital, Social Capital), proportion of participating businesses introducing new or significantly improved business products (goods and/or services) or processes.

and also that Invest NI claims information was not available for 7 network projects (six Phase 1 and one Phase 2).³⁶

1.3.10 Communications/ Marketing

The targets set out in the economic appraisal for the number of networks established through the Formal CNP up to March 2015 are not on schedule to be achieved, based on performance as at December 2014. Therefore consideration should be given as to how the Programme can be further promoted / marketed in order to increase the number of networks applying to the Programme and being funded.

The survey of companies highlighted the importance of Client Executives or other companies in their sector setting out the benefits of collaboration. Case studies are also important in order to demonstrate how other companies have benefited from participation. Moreover it is beneficial to present any current technological / exporting opportunities to existing networks as they arise to help them grow and develop. Closer working with Client Executives / others in Invest NI that are able to identify these opportunities should be encouraged.

Recommendations 12 and 13:

The Programme should be marketed to companies in the target sectors that are not currently availing of the support and this should be done through case studies demonstrating how the CNP delivers business benefits in their sectors.

An online forum should be set up and dedicated to the CNP where Invest NI can post information on the work of networks, particularly in relation to collaborative bids won, joint R+D projects, network exports etc. This will help increase awareness of the benefits of the CNP as well as helping the networks develop and grow.

1.3.11 How CNP Complements Other Innovation Supports

A review of innovation supports in NI shows that the CNP complements the work of other programmes and schemes. While several other programmes such as Knowledge Transfer Partnerships (KTP) and Innovation Vouchers provide a mechanism for SMEs and HEIs to work together, the CNP is the only support that exists to help companies and organisations build a network to work together towards a common goal focused on innovation, exporting or both. The Programme provides funding for a facilitator who works with the companies to identify their needs; the business opportunities that they can pursue together and to develop the systems / processes so that network members can not only learn from each other, but learn how to work with each other.

Therefore CNP activities provide an important building block to help companies understand the benefits of collaboration, work on business opportunities in a collaborative way, and ideally support them to the stage where they can start to work collaboratively on R+D and exporting opportunities

³⁶ For 6 of these the network is still live and Invest NI records state that no claims have been submitted, records could not be sourced for 1 network

without government funding. The unique approach utilised by the CNP is that it supports the development of the companies involved.

1.3.12 Benchmarking and Research

Cluster Excellence: The provision of professional support to develop clusters / networks is common across the different benchmarks. All those included in this research recognise the importance of members developing strong positive relationships and building trust otherwise the cluster / network cannot be successful. Therefore most invest in developing the professional competence of networks by providing advice and guidance; completing maturity assessments on networks to identify needs; training facilitators; providing toolkits on developing best practice networks and / or coaching facilitators / coordinators. The Cluster Excellence Model³⁷ is used to provide a benchmark of the quality of professional support provided to the clusters.

Research recommends that the support provided varies depending on the stage of development³⁸ of the cluster as set out below:

³⁷: <http://www.clusterexcellence.org/>

³⁸ http://www.cluster-analysis.org/downloads/Clusters_web_singlepage_06092012.pdf

Table 1:1: Support required for network development

Type of Cluster	Description	Support to be Provided
Immature Networks	A newly established network or an existing cluster with limited strengths / expertise.	<p>The network support should focus on energising and developing the existing potential and building maturity. Support should consist of two elements:</p> <ul style="list-style-type: none"> • Financial support to develop the capacity of the cluster management organisation; and • Information / market intelligence on R&D, business development and support that addresses the specific development needs of cluster participants to develop their capacities and to facilitate joint projects that promote the development of the cluster. The role of the facilitator is key to network success. <p>Invest NI should ensure the facilitators appointed by the network are trained and understand their role so that the capacity / maturity of the network is developing through pursuing joint collaborative projects.</p>
Matured Networks	Networks that are vibrant, have a clear sense of purpose, with evidence of a strong performance and well developed relationships and trust.	<p>The growth of a mature network can be helped by policies and programmes that support joint projects coming forward from the participants (i.e. joint R+D; joint Exporting etc.)</p> <p>Such networks are strategically aligned to the economy and successful in terms of skills development however they need to be taken to the next level – export and R&D support. These networks need support on a case-by-case basis, based on the expected return to the economy, their needs and maturity.</p>
Networks in Transition	Networks can be in transition for a number of reasons– for example relationships floundering; lack of linkages within and outside the network; or lack of new / competitive products being developed.	<p>At this stage networks require support to assess their performance (including reasons for poor performance), understand the opportunities available and work to deliver on these. An implementation plan to deal with any issues from the maturity assessment support is critical alongside help to identify market / technology opportunities.</p> <p>The support for networks in transition should be a mix of:</p> <ul style="list-style-type: none"> • Professional support from the Invest NI CNP team (to deal with any relationships / trust etc. issues) • Information / support to identify any technological / export opportunities for the network (to be completed with other teams in Invest NI) and to facilitate joint projects that promote the development of the network.

Source: http://www.cluster-analysis.org/downloads/Clusters_web_singlepage_06092012.pdf - adapted by PACEC to relate supports to Invest NI structure

The CNP is particularly focused on supporting collaborative networks that can be categorised as being at the ‘embryonic / immature’ and / or ‘established’ stage of development and have not reached the mature stage. Therefore the provision of financial and information / market intelligence on R&D, and business development support by the CNP is appropriate to the focus of the programme. To ensure that the most appropriate support is offered to a cluster / network it is essential to understand its stage

of formation. The maturity assessment tools that are part of the Cluster Excellence Model are a way to ensure that the support provided through the rest of the Programme is valid and based on needs.

Recommendation 14:

We recommend that Invest NI further develop the support they provide to companies / networks. The Cluster Excellence accreditation or similar EU programmes should be explored but at minimum the tools / supports that are available from best practice Cluster Excellence organisations should be offered - i.e. Facilitation Training and Maturity Assessments.

We recommend that Invest NI investigate becoming accredited as a Cluster Excellence organisation as this would:

- Provide Invest NI with the standing to apply for additional funding from Europe; and
- Ensure a standard of support is provided (training etc.).

Skills and training: Research³⁹ (see section 8.3) suggests that a facilitator should be credible and be able to engage with the sector. The other skills are: commercial acumen, communication, ability to be independent but focused on the goals of the network, and results driven. The successful Cluster Programmes in Europe focus on equipping facilitators with tools and checklists that they can use at different stages of the development of the network.

Overall, 71% of companies surveyed on the Pilot CNP and 82% of companies surveyed from the Formal CNP were satisfied with the knowledge, skills, experience of their facilitators. However 50% of Facilitators felt they would benefit from training in relation to their role and how to identify and deal with risks in relation to their project. The review of best practice Clusters in section 8 highlights the importance of facilitator training. While Invest NI provided Facilitator Training in the Pilot CNP this was not continued under the Formal CNP due to resourcing problems. It is important that training is provided otherwise the success of the networks may be at risk.

Recommendation 15:

We recommend that Invest NI examine the cost / benefits of either providing facilitator training in NI or utilise the accredited training being run by others (if this is an option) in order to ensure that appropriate training is provided.

1.3.13 Future of the Networks

Support from other Parts of Invest NI: Whilst the Formal CNP is not yet delivering significant results with regard to evidence of collaborative R+D / innovation (although this was a key driver in the rationale for support; see section 1.3.3 and 3.1), this is not entirely unexpected as there is likely to be a time lag between the intervention and the impacts being realised. Feedback from consultations and

³⁹ For example NESTA (2012) The Effects of Cluster Policy on Innovation; and Zagorsek, H., Svetina, A. C., and Jaklic, M. (2008) 'Leadership in Clusters: Attributes of Effective Cluster Leader in Slovenia', Transformations in Business and Economics, Vol. 7, No. 2, pp. 98-113.

from research on cluster development shows there are at least three reasons why this could be the case:

- Difficulty in recording these impacts⁴⁰;
- Networks not significantly mature enough to move to this level of working⁴¹; and
- Those clusters / networks which are ready to work collaboratively need support as a collaborative rather than individual companies.⁴²

Recommendation 16:

We recommend that Invest NI complete Maturity Assessments on networks at the end of their Phase 2 funding and use this work to assess the readiness of the network to grow and develop. In addition there should be a separate assessment of the future business opportunities for the network. This report should be used to identify opportunities for collaboration such as collaborative R+D, collaborative innovation and/or collaborative exporting and should be completed in conjunction with Invest NI colleagues in the relevant departments (cluster, R+D / exporting). If the network is assessed to be mature and the business opportunities identified warrant government investment, then a plan should be developed which transitions the network to the relevant Invest NI team.

Recommendation 17:

We recommend that the Invest NI CNP team continues to retain responsibility for network projects from LoO through to the end of CNP funding. Networks supported by the CNP will sit on a spectrum – ideally developing from the initial stages when they are “embryonic” and require capacity building support, through to when they are “established” and are able to collaborate. The expectation would be that at the end of Phase 1 support the networks would be working collaboratively.

We recommend that the Invest NI teams (cluster, R+D and exporting) review their supports to encourage and support collaborative applications from the networks that reach the established stage and develop a close working relationship with the CNP team to ensure an effective handover. At this stage the need for continued facilitator funding from Invest NI should be considered on a case-by-case basis.

⁴⁰ Ministry of Science, Innovation and Higher Education (2012) Let’s Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers. This documents states that ‘Monitoring and evaluation of clusters, cluster programmes and cluster policy is important, but methods, key performance indicators and data collection differ across countries. A single set of agreed upon evaluation and impact assessment methods and key performance indicators does not exist. The needs and scopes of the analyses also vary, making it difficult to compare programmes, cluster policies and impacts across regions and nations.

⁴¹ Ministry of Science, Innovation and Higher Education (2012) Let’s Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers. States a newly established cluster or a cluster with limited strengths can be expected to be rather less vibrant. Cluster support should therefore focus on developing or “awakening” the existing potentials, which can include “natural or geographical factor advantages, cultural factors, unique skills”

⁴² CNP Programme Manager

The CNP is an effective model for identifying the skills needed in a sector (amongst other strategic priorities), assessing these against supply and identifying any gaps. It works because the network is led by the private sector, with private sector members while also including those involved in delivering on the supply side. It provides the granularity of information needed to plan ahead, ensure specialist detailed information is available, and that there is buy in from the sector.

Recommendation 18:

CNP networks should be encouraged to analyse the skills needed for growth against the supply and identify gaps. This information should be used to inform skills policy.

2 INTRODUCTION

PACEC (formerly RSM McClure Watters (Consulting) Ltd) was appointed by Invest Northern Ireland to undertake the final evaluation of the Pilot Collaborative Network Programme (Pilot CNP) and the interim evaluation of the Formal Collaborative Network Programme (Formal CNP).

2.1 Terms of Reference

The evaluation period for the Pilot CNP is **December 2007 to August 2011** and the **interim evaluation** period for the Formal CNP is **September 2011 to December 2014**.

The objectives of the evaluation are to:

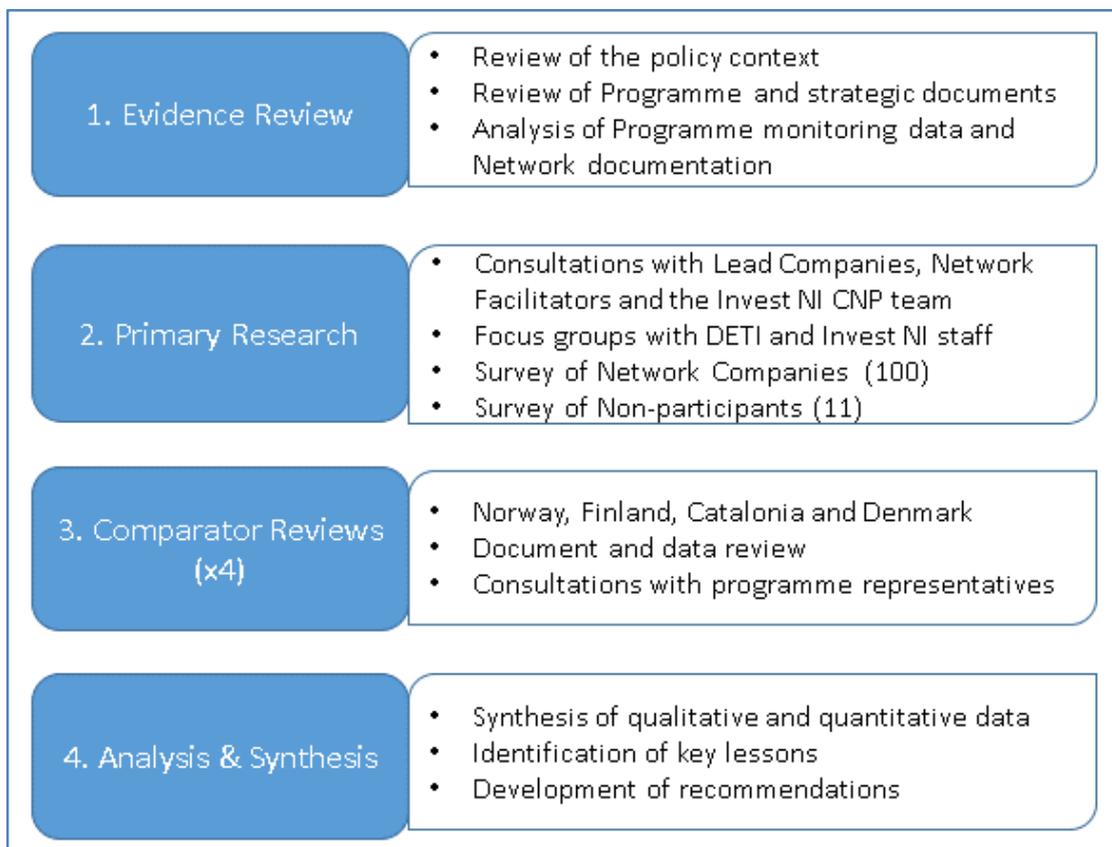
- Determine the extent to which the principle objectives and targets of the intervention have been met;
- Assess the extent to which the CNP support has, and is, contributing to the development of the following in the companies participating in the networks:
 - Human capital (people);
 - Intellectual capital (know how);
 - Market capital (global positioning); and
 - Social capital (growth of networks/partnership).
- Assess the economic as well as the wider and regional benefits associated with the CNP to include:
 - Promotion of innovation;
 - Knowledge transfer;
 - Skills development; and
 - Creation of high-quality jobs and reduction of brain drain.
- Assess the contribution the CNP has made in acting as a seed bed for the creation of Competence Centres and industry-led communities and stimulating projects in the areas/sectors that offer greatest potential to add value to Northern Ireland's innovation ecosystem.
- Assess the extent to which the CNP support and networks have informed and / or shaped government policy and or intervention.
- Assess the skills, competencies and qualifications of the network facilitators and their effectiveness in the leadership, management, innovation and development of the networks.
- Determine the extent to which the intervention represents good Value for Money (VfM) and appropriate use of public funds.
- Draw conclusions and make recommendations to inform any future direction and delivery of the Programme.

2.2 Methodology

The methodology for this evaluation comprised a mix of primary research and desk based analysis that provided both qualitative and quantitative evidence. The findings from the research informed the

assessment of delivery and impact⁴³ of both the Pilot CNP and the Formal CNP. The four components of the methodology are outlined in figure 2.1

Figure 2.1: Research Methodology



The detailed terms of reference and the rationale for the methodology are contained in Appendix A.

2.3 Evaluation Challenges

In conducting this evaluation there were three main challenges:

Timing of Impacts: A number of the networks have only been established therefore the full impacts will not be evident for some time. Research ⁴⁴ shows that it takes several years (at least five) from the date a network is established before the full benefits and impact on business and the economy are achieved.

Memory Decline: As part of the evaluation some consultees who were network members under the Pilot CNP were asked to provide detailed and quantifiable information relating to events approximately 4-5 years ago. While prompts and interviewer experience were utilised to elicit details, there is a risk

⁴³ Only the findings from the surveys informed the findings on impact

⁴⁴ Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers

of misinterpreted or partial information being provided. This also impacted on survey response rates from companies that had difficulty recalling their precise involvement in the CNP.

Survey Numbers: Whilst the survey numbers at an overall Programme level are significant, the split between Pilot CNP and Formal CNP results in very small numbers and caution should be used when grossing up across the whole programme.

2.4 Format of the Report

The remainder of this report is set out as follows:

- Section 3: Strategic Context and Need;
- Section 4: Operation and Delivery;
- Section 5: Performance of the Pilot Programme;
- Section 6: Performance of the Formal Programme;
- Section 7: Consultation Findings: Feedback from CNP Facilitator and Lead Company Interviews
- Section 8: Benchmarking and Research; and
- Section 9: Conclusions and Recommendations.

Supporting detail is also provided in the Appendices, these are:

- Appendix A: Terms of Reference & Rationale;
- Appendix B: Questionnaire for Network Participants;
- Appendix C: Survey Responsiveness / Non response Bias;
- Appendix D: Summary of PPE Evidence; and
- Appendix E: Benchmarking.

Feedback from face-to-face interviews is mainly referenced in sections 4.2.4; 4.2.8; 4.2.9; 4.2.10 & 4.2.12 and section 7 (and also Appendix F). Feedback from surveys is mainly included in sections 5.3 and 6.3. Findings from the face-to-face interviews reinforced and were consistent with many of the points arising from the survey.

3 STRATEGIC CONTEXT AND NEED

This section reviews the strategic context under which Pilot and Formal CNP operated and the evidence of need for the support.

3.1 Strategic Context

Government policy over the period 2007-2014 demonstrated a commitment to supporting companies to collaborate in order to increase their levels of exports, R+D, innovation and overall performance.

Table 3:1: Government Policies and Strategies (2007 – December 2014)

Policy	Summary
Programme for Government (PfG) 2008 - 2011	The PfG 2008 – 2011 had a strategic priority to grow a dynamic and innovative economy through increasing Northern Ireland’s manufacturing and private services productivity ⁴⁵ and increasing employment. ⁴⁶ CNP objectives throughout the period show a contribution to both, and link to DETI/ Invest NI corporate objectives for the period as shown below.
DETI and Invest NI Corporate Objectives 2008-11	The DETI 2008-2011 Corporate Plan had as its goal “to grow a dynamic, innovative economy” with the objective to encourage more businesses to engage in R&D and innovation. Invest NI’s Corporate Plan for 2008-2011 had an action to increase the number of strategic collaborative networks involving both business and knowledge institutions.
Regional Innovation Strategy 2008-2011	The Regional Innovation Strategy 2008-2011 highlighted that Northern Ireland’s businesses needed to become more innovative and creative in order to compete in the global market and there was a need for championing and exploiting innovation and R&D. A key strategic objective of this plan was to ‘encourage and support NI businesses in building the capacity to take forward innovative ideas into new products, services and processes’. An associated action was that “Invest NI’s Collaborative Networking Programme (CNP) should support companies to work together for a common business benefit” .
Programme for Government (PfG) 2011-2015	The PfG 2011-15 continued to recognise collaboration as a tool that could help companies become more competitive and build a larger and more export-driven private sector.
DETI / Invest NI Corporate Plans 2011-2015	In the 2011-2015 DETI Corporate Plan there is a target to stimulate innovation, R&D and creativity and to secure 120 collaborative projects in R&D . Invest NI provides a number of supports to help companies become more innovative and to collaborate – one of which is the Formal CNP .

⁴⁵ Productivity- Department Strategic Objective 1 - Promote a Competitive and Outward Looking Economy; Department Strategic Objective 2 - Attract and support high quality investment, both foreign and locally-owned; Department Strategic Objective 4 - Promote Higher Value Added Activity through Innovation and the Commercial Exploitation of R&D; and Department Strategic Objective 6 - Increase the Level of Skills to aid Productivity Improvements in Manufacturing and Tradable Services

⁴⁶ Employment - Department Strategic Objective 3: Increase employment opportunities by attracting high quality inward investment and supporting domestic investment; and Department Strategic Objective 4: Promote Business Growth

Policy	Summary
	Invest NI's 2011-2015 Corporate Plan outlines the need to increase expenditure on innovation support by one-third during 2011-2015, with the goal of increasing the number of strategic collaborative networks involving both business and knowledge institutions.
Northern Ireland Economic Strategy (2012 – 2020)	<p>The Economic Strategy for NI has an overarching aim to improve the economic competitiveness of the NI economy, noting that the key driver for this is innovation, R&D and workforce skills. It highlights the need to rebalance the economy by growing the private sector and devoting significant resources to develop capacity, particularly in the key MATRIX market sectors. It contains specific targets to:</p> <ul style="list-style-type: none"> • Support £300m investment by businesses in R&D, with at least 20% coming from SMEs; • Support 500 businesses to undertake R&D for the first time and secure 120 Collaborative Projects in R&D; and • Expand the Collaborative Network Programme targeting future market opportunities. <p>The strategy also emphasises that NI can deliver export-led growth by ensuring local companies are internationally competitive through investing in areas such as innovation, R&D and skills, whilst also attracting export-focused foreign investors. In addition, it is noted that the majority of research activities in advanced innovation economies take place on a collaborative basis between businesses, higher education and public research institutes.</p>
Regional Innovation Strategy for Northern Ireland 2014-2025	<p>The 2014-2025 Regional Innovation Strategy outlines the importance of collaborative research and development as a driver of innovation, stating a commitment to establishing industry-led collaborative networks, particularly those focused on the market opportunities identified in the Economic Strategy.</p> <p>It notes that Northern Ireland demonstrably lags behind the rest of the UK in terms of the number of firms engaging in innovation. Therefore there is a need to encourage more firms to invest in innovation and the strategy states that consideration will be given to how potential enhancements to existing programmes could attract further companies to undertake innovative activity, particularly with a collaborative focus. It is suggested that NI will be on target in the area of knowledge exchange as measured by the following:</p> <ul style="list-style-type: none"> • Co-operation and collaboration on innovation activities (% of innovators); • HE income from collaborative activities (£m); • Drawdown from Horizon 2020; and • The increase in collaboration and cluster development on an international basis. <p>Medium term targets are set for collaboration amongst innovation firms as well as Private Sector Turnover from innovation.</p>
Success through Skills 2: The Skills Strategy for Northern Ireland (2010)	<p>This strategy aims to enable people to access and progress up the skills ladder, in order to:</p> <ul style="list-style-type: none"> • raise the skills level of the whole workforce; • raise productivity; • increase levels of social inclusion by enhancing the employability of those currently excluded from the labour market; and • secure Northern Ireland's future in a global marketplace. <p>It notes that the first skills strategy (2004) defined the different types of skills required and these remain current objectives:</p>

Policy	Summary
	<ul style="list-style-type: none"> • The essential skills of literacy, numeracy and Information and Communications Technology (ICT); • Employability skills, including team working, problem solving and flexibility; and • Work-based (occupational/sector) skills, including skills and competences established in the National Qualifications Framework and employer specific skills that builds on the qualifications framework.
Matrix Reports	The first Matrix ⁴⁷ report launched in October 2008 identified that NI needed to develop a more innovative culture of collaboration across industry, government and academia and recommended the creation of new business-led collaborations to assist high technology SMEs to exploit new business opportunities. Thereafter successive reports have been produced detailing how new technologies and market opportunities can be developed within the Northern Ireland economy.

Cluster-based approaches have become an important element of economic development practice in Europe. Cluster concepts have in many places moved from being an experimental approach used on the sidelines of the main policy areas, to become an integral part of the policy process, from innovation and regional policies to manufacturing and service-oriented strategies, as well as involving social and environmental policies. In this context the focus of the debate has shifted from whether cluster-based approaches are useful in principle to how they can be used and implemented in the most effective way.⁴⁸

In addition to this, by providing support for collaboration the CNP is reflective of wider EU developments / policy directions where cluster-based approaches. The pan-European survey on national and regional cluster programmes initiated in 2011 and published in 2012 found that⁴⁹:

- Fewer countries in Europe have dedicated cluster programmes in place compared to 2008 as a result of a beginning trend to broaden the scope from clusters towards regional development and of making better use out of clusters by implementing regional innovation and development policies rather than to fund clusters themselves. This trend is expected to increase towards new regional cooperation models;
- Cluster programmes have become more selective. Today, they focus more on the support of matured clusters, world class clusters and clusters in Emerging Industries than in 2008. In the past, almost all types of clusters were supported. Exceptions from this trend are the catching-up countries. They mainly focus on supporting embryonic clusters or the set-up of cluster initiatives;
- Today, cluster management excellence is in the focus of almost all cluster programmes. This was not the case three years ago;

⁴⁷ MATRIX was established as a business-led, market-focused panel of experts to advise the government on the development of an approach to help Northern Ireland become an internationally leading region and identifies four imperatives for the Northern Ireland economy: collaboration, global approach, skills and training and R&D

⁴⁸ The TCI Network on European Cluster Policy: Enhancing Delivery, Broadening Impact (2015)

⁴⁹ European Cluster Observatory (2015) Cluster Programmes in Europe

- Supporting cluster internationalisation is still an important part of most of the programmes. Besides funding of dedicated measures, the development of new business support tools by the cluster management organisation has become an important programme design feature.
- Many cluster programmes provide separate budgets for specific support activities of cluster managements. This enables the programmes to better support cluster organisations according to their demands. Internationalisation, cross-clustering and cluster management excellence are still key areas for specific support actions;
- Nowadays, the majority of programmes contains non-monetary support schemes intended for cluster organisations to increase professionalisation and to develop new business support services for the benefit of their cluster actors; and
- The majority of the cluster programmes is well linked to national or regional specialisation or innovation strategies.

The Programme objectives and targets for the CNP all link to the DETI / Invest NI strategic objectives and targets and contribution toward these is assessed in section 5.10 (Pilot) and section 6.11 (Formal). Northern Ireland does not have the number or scale of companies to warrant the investment in cluster policies on the scale being undertaken by our European counterparts, but the CNP provides the mechanism that allows networks to develop in speciality areas.

The core focus of the Pilot Programme was to support the development of business-led collaborative networks that focus on undertaking time limited collaborative initiatives that offer the potential to stimulate economic development within NI. More specifically the objective of the CNP was (is) to: *‘Develop the **capability and capacity** of regional clusters/networks by attracting private sector companies, investors, researchers and academia to maximise collaborative opportunities in the development of new products, processes or services’.*⁵⁰

Since the Formal CNP was launched in 2011 the focus on building capability and capacity has been maintained, but there is also recognition that CNP has a role to play in supporting the wider innovation ecosystem. The Formal CNP aims⁵¹ are to help **businesses achieve critical mass and economies of scale; improve capabilities to address market opportunities and strengthen NI’s innovation ecosystem by acting as a seed bed and building block for the potential creation of Industry Innovation Communities.**

3.2 Rationale for CNP

The rationale underpinning the Pilot CNP was that it could help address market failure with regard to NI being an SME economy and therefore underperforming with regard to innovation / collaboration and exporting. It was recognised that companies needed to move from a situation of developing new products / process internally in a closed environment to “Open Innovation⁵²”, which involves working with stakeholders outside the business to bring in new ideas and technologies and collaborate with others to become more competitive. NI experiences market failure in the following areas:

⁵⁰ Cogent (2011) Interim Evaluation of the CNP

⁵¹ Cogent (2011) Economic Appraisal of the Collaborative Network Programme

⁵² Chesbrough, who coined the term “Open Innovation” describes in his book *“Open Innovation: The New Imperative for Creating and Profiting from Technology”* (2003) how companies have shifted from so-called closed innovation processes towards a more open way of innovating.

- **Prevalence of SME Economy:** When the Pilot CNP was established in 2007 NI had the highest concentration of SMEs in the UK accounting for 81% of employment (in the UK as a whole SMEs accounted for over half of employment (58.7 per cent)).⁵³ SMES face a number of barriers which prevent them from engaging in export and innovation activities and central to this is the skills base, knowledge and the attitude to risk / change of the SME owner manager⁵⁴. Skills have a positive effect on labour productivity and innovation activity and the evidence suggests there is a relationship between a country's levels of skills and its economic growth.⁵⁵ However the Invest NI Innovation Strategy notes that skill shortages within NI include lack of leadership, technological, R&D and creative thinking skills.⁵⁶ The CNP was therefore seen as a way in which the capacity / capability of SMEs could be built.
- **Levels of Innovation / R+D activity:** NI was behind the rest of the UK in R&D spend in 2007 and while between 2008-2013 business R&D expenditure increased by 150% and spend (as a percentage of GVA) is now above the UK average,⁵⁷ R&D spend is heavily dependent on a small number of larger companies. Moreover, whilst innovation activity levels have increased, NI was the least innovation active country in the UK 2013 UKIS.⁵⁸
- **Limited Export:** In 2012 NI exports of goods (at 19% of GVA) were broadly the same as the UK average, however the overall export performance of the UK (at 29% of GDP) was significantly below other successful economies, which indicates that NI also lags well behind these export-focused countries.⁵⁹

Therefore the evidence indicated a need in 2011 for government intervention to overcome these failures in the market. The rationale for support still exists today.

A BIS paper on Innovation, Research and Growth issued in 2014, highlighted that innovative businesses grow twice as fast as non-innovators⁶⁰ and they are also less likely to fail.⁶¹ However, innovative SMEs face significant barriers to innovation. Research suggests that the smaller the firm, the less likely it is to engage external actors and information sources⁶². Innovative SMEs need help to exploit opportunities for knowledge exchange. SMEs are inexperienced in working with external innovation partners and therefore they are likely to need more support in selecting partners and then developing their external relationships⁶³. Likewise SMEs also need help to share knowledge with Higher Education Institutions/HEIs⁶⁴.

⁵³ DETI (2007) The Northern Ireland Economic Bulletin 2007

⁵⁴ NI Executive (2014) Innovation Strategy for Northern Ireland 2014 - 2020

⁵⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/266304/bis-13-1320-smes-key-enablers-of-business-success.pdf

⁵⁶ NI Executive (2014) Innovation Strategy for Northern Ireland 2014 - 2020

⁵⁷ NI Executive (2014) Innovation Strategy for Northern Ireland 2014 - 2020

⁵⁸ DFP (2014) UK Innovation Survey 2013: Northern Ireland Results

⁵⁹ NI Executive (2012) NI Economic Strategy

⁶⁰ Mason, Bishop & Robinson (2009), Business Growth and Innovation, NESTA.

⁶¹ Roper & Xia (2014), Innovation, Innovation Strategy and Survival, Enterprise Research Centre

⁶² BIS (2014), UK Innovation Survey: Highly Innovative Firms and Growth

⁶³ Vahter, Love and Roper (2013). 'Openness and innovation performance: are small firms different?' Enterprise Research Centre Research Paper No.12. Available at: <http://enterpriseresearch.ac.uk/wp-content/uploads/2014/01/ERC-RP12-ERC-Vahter-et-al-Open-Innovation.pdf>

⁶⁴ PACEC (2012). 'Strengthening the Contribution of English Higher Education Institutions to the Innovation System: Knowledge Exchange and HEIF Funding'. Available at: <https://secure.pacec.co.uk/documents/HEIF11-15-FullReport.pdf>

Businesses have been found to innovate more when their surrounding area is innovative, partly due to knowledge spillovers and agglomeration effects⁶⁵. However support is needed to help SMEs connect with other businesses/ HEIs but their key barriers are lack of funding and time to devote to finding and building relationships with the right partners.

All this research points to the need to support SMEs to collaborate and in doing so it will help them become more innovative. Given that Northern Ireland's economy is dominated by SMEs, government support is needed to help overcome these barriers.

3.3 Pilot and Formal Programmes – Evidence of Need and Demand

3.3.1 Need for the Pilot Programme

The interim evaluation⁶⁶ of the Pilot CNP completed in 2011 states that a programme level economic appraisal was not undertaken prior to commencement, and consequently a range of information was not established and documented. The Pilot CNP commenced as a result of Invest NI recognising the opportunity to bring in-house a cluster development programme which they had previously contracted to a third party organisation but also to ensure that NI had a structured approach to clustering/collaboration, as implemented elsewhere in the EU.⁶⁷

3.3.2 Need for the Formal CNP

An economic appraisal⁶⁸ was completed for the Formal CNP in 2011 and the need/demand was estimated for the period September 2011- March 2015 based on:

- The numbers of networks supported under the Pilot CNP;
- The number of enquiries from companies to the Invest NI CNP team that they were not able to progress due to funding constraints; and
- Consultation with the MATRIX secretariat which suggested that going forward they would like to see a number of potential collaborative network projects created to address emerging market opportunities linked to its defined thematic priority areas⁶⁹.

As a result, based on the evidence of latent demand and the assumption that an Invest NI budget would be available, the following demand was projected for the Formal CNP:

- Phase 1 - completion of 11 Feasibility/Scoping studies per annum (with the exception of Year 1)
- Phase 2 – creation of 7 network projects per annum (with the exception of Year 1).

Potential constraints identified in the economic appraisal were as follows:

- Availability of Invest NI Funding;

⁶⁵ ONS (2013), Business Enterprise Research and Development - 2012

⁶⁶ Cogent (2011) Interim Evaluation of the Collaborative Network Programme

⁶⁷ Information provided to PACEC from the Invest NI CNP team (October 2015)

⁶⁸ Invest NI & Cogent Management Consulting (2011) Economic Appraisal of the Collaborative Network Programme

⁶⁹ Advanced Engineering; Agri-Food Report; ICT; Life & Health Sciences; Public Procurement Report; Advanced Materials; Telecoms Report; Sustainable Energy; Intellectual Property; and Social Innovation. Some the reports refer explicitly to the need to support innovation and collaboration as a central tenant of sector success e.g. Global Wind Alliance / Energy Skills / Smart Grid Networks are referenced in the Energy report as key Programmes

- Participating companies being willing to make a contribution (in cash and/or matched salaried contribution) to the completion of a feasibility/scoping study and/or the creation and facilitation of the network project. It was recognised that any downturn in the economy (or sub-sectors therein) could reduce levels of available finance within NI companies, thus reducing their ability to participate in the Programme, and which would in turn impact upon overall levels of demand for the Programme. Conversely, any upturn in the economy could result in higher levels of demand for the support provided by the new Programme.

The appraisal team recommended that a review should be undertaken to confirm the validity and appropriateness of these targets at the interim evaluation stage of the Formal CNP.

Assessment: The demand for the Formal CNP (projected number of applications/networks) was optimistic, however, there were a number of issues that had a bearing on the actual number of applications coming forward:

- The number of applications resulting from open calls did not materialise as projected, demonstrating that whilst there is a need for the Programme, companies were either not aware of the support or did not recognise the benefits of collaboration. However the CNP also recorded a notable marketing underspend in this period, suggesting insufficient time / resources were dedicated to promotion of the Programme (see section 4.2.3). This was in part due to the time required by the Invest NI CNP team at the application, monitoring and claims stages of the Programme which required a more rigorous approach during the Formal CNP, in line with Invest NI's Intervention Principles (see section 4.2.8);
- The time that it takes companies to come together and work through their needs and formulate a proposal is in practice much longer than was originally anticipated. This process needs to move at a pace that all the companies in the emerging network are comfortable with and this has meant that networks have not come forward as quickly as expected. The (potential) networks are typically groups of small companies with limited resources so therefore they do not always have the time needed to participate in the completion of a Phase 1 application, or in the transition between Phase 1 and Phase 2. It is also worth clarifying that in the application phase (1 & 2) there is no funding available for the facilitator, or for anyone to complete the application form or manage the process – therefore it can turn out to be a very long process; and
- The investment of time required by the Invest NI CNP team to help the networks develop from Phase 1 or get to the stage where they can make their application for Phase 2.⁷⁰

3.4 Relationship with Other Instruments

The interim evaluation of the Pilot CNP⁷¹ found that by encouraging early stage cross-sectoral and cross-disciplinary collaboration, the Programme offered the opportunity to build a level of trust amongst NI businesses in which the benefits of collaboration could be clearly identified. In doing so, it was felt that the Programme was acting as an important seedbed for the creation of Competence Centres and Industry led Innovation Communities (IICs) which could potentially exploit clearly identified emerging market opportunities. Moreover, consultation feedback suggested that the Programme encouraged NI businesses to consider the longer-term benefits of moving away from a

⁷⁰ Note the Terms of Reference for this evaluation did not require any time analysis to be conducted

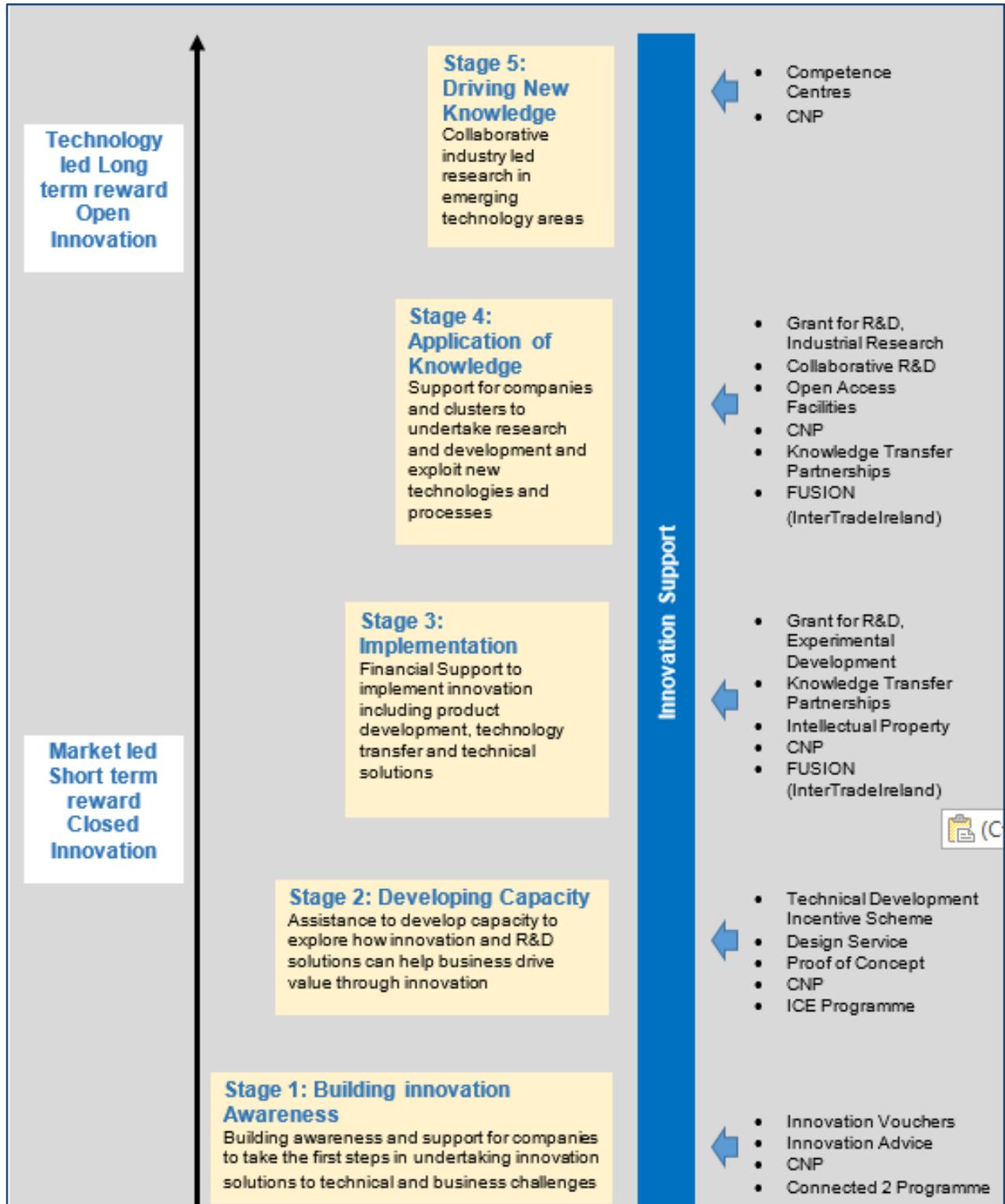
⁷¹ Cogent (2011) Interim Evaluation of the Collaborative Network Programme

process of ‘closed’ to ‘open’ innovation to generate ideas and bring them to market. In such a situation, NI businesses would be more willing to place greater emphasis on commercialising both their own ideas/Intellectual Property (IP) as well as innovations from other firms and seek ways to bring their in-house ideas to market by deploying pathways outside their current businesses. In addition to this it was suggested that the Programme has encouraged companies to collaborate across a range of sectors (e.g. ICT and Health) and professions (e.g. academia, business and clinical professions) to exploit innovative converging technologies (e.g. communication systems and medical devices) which are well regarded as playing a dominant role in shaping the future NI economy, society and industrial infrastructure.

There is a wide range of interventions supporting research and knowledge transfer and these are located at different stages of the Invest NI “innovation escalator”.⁷² The diagram on the following page illustrates how these supports work together with the CNP to support innovation, catering for a range of needs and capacities within SMEs and shows how the collaborative network support can play a role in aiding companies’ progress from being closed innovators to open innovators.

⁷² DEL (July 2015) Labour Market Bulletin 25

Figure 3.1: Innovation Escalator⁷³



⁷³ Based on Invest NI diagram as sourced from the DEL (July 2015) Labour Market Bulletin 25 p165 and adapted by PACEC October 2015 based on survey feedback

The CNP has the potential to operate at all levels of the innovation escalator. It operates at stage 1 by building awareness through the work of the Invest NI CNP team in marketing the benefits of collaboration / clustering to Client Executives and businesses. At stage 2, it is a way of building business owners commitment to innovation through demonstrating that there are benefits to collaborating with others (businesses and academics). From Stage 3 onwards, the network will be maturing and it is expected that members can make joint applications for funding such as Innovation Vouchers / R+D etc.

Work completed by the Ministry of Science, Innovation and Higher Education⁷⁴ demonstrates that the maturity of the network dictates the extent to which it can operate along the innovation spectrum and ultimately be successful with regard to delivering results on R&D, exporting and business success.

The CNP's role is distinctive from other supports in the Innovation Escalator, as it exists to support the development of the network, so that the network is capable of thereafter accessing the other supports and delivering economic benefits for its members and the economy.

The CNP therefore does not overlap or duplicate with any other supports on the Innovation Escalator, instead it provides the funding and support to enable some of the other supports to be accessed as a collaborative effort rather than as individual companies.

3.5 Summary

Government policy is focused on helping the NI economy become more innovative, more export focused and more competitive. However, as an NI SMEs face a number of barriers which prevent them from engaging in export and innovation activities and central to this is the skills base, knowledge, and attitude to risk / change of the SME owner manager.⁷⁵ Collaboration with larger companies and higher education institutions is a way in which SMEs can achieve knowledge / skills exchange. The CNP supports SMEs to collaborate with others and is therefore a way in which the capacity / capability of SMEs can be built and ultimately business benefits derived for those involved and the wider economy.

Innovation and collaboration are key elements of the NI economic and innovation strategies, both of which highlight the importance of collaborative research and development as a driver of economic competitiveness and innovation. Moreover both contain a commitment to establishing / expanding industry-led collaborative networks. Therefore the CNP can make a demonstrable contribution to wider government priorities as it has a core focus on cooperation and collaboration in innovative activities.

⁷⁴ Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers states

⁷⁵ NI Executive (2014) Innovation Strategy for Northern Ireland 2014 - 2020

As no economic appraisal was carried out for the Pilot CNP a range of information was not established or documented to demonstrate a need for the Programme. The need for the Formal CNP was detailed in an economic appraisal completed in 2011 which highlighted latent demand for the Pilot Programme, however this did not materialise to the extent projected for the Formal CNP. Given the uncertainty around the Invest NI budget and wider economy, the appraisal included the need for a review of demand for the CNP at the interim evaluation stage. Therefore it is suggested that targets for the remaining Formal CNP period⁷⁶ should be adjusted based on an appraisal of future need/demand

⁷⁶ Approval has been given for the end date for the Collaborative Network Programme scheme to be extended by a further 18 month period until 30th September 2016 (resulting in the original end date for the run out period being 30th September 2019) – Programme Amendment Request (October 2014)

4 OPERATION AND DELIVERY

4.1 Aims and Objectives of the CNP

Pilot Programme

The objective of the Pilot CNP was to: ‘develop the capability and capacity of regional clusters/networks by attracting private sector companies, investors, researchers and academia to maximise collaborative opportunities in the development of new products, processes or services’.⁷⁷

Formal Programme

The aims of the Formal CNP are⁷⁸:

- Develop the capability and capacity of NI’s businesses by facilitating the creation of regional clusters/networks in which private sector companies and other stakeholders (e.g. investors, researchers and academia) engage in collaborative networking activities for the purposes of developing new products, processes and/or services;
- Encourage the creation of networks that offer the potential to exploit emerging regional, national and international market opportunities through the application of emerging and convergent technologies;
- Contribute towards the development of NI’s Innovation Ecosystem by encouraging firms to realise the benefits from undertaking innovative collaborative networking activities; and
- Contribute to promoting NI as an innovative region.

Changes from the Pilot to Formal CNP

The aims of the Pilot were focused on skills / capacity development. Based on the findings from the Interim Evaluation, the Formal CNP continued to recognise the importance of skills and capacity development, but also the need to focus on networks linked to market and technological opportunities and recognition that the CNP could make a contribution to the wider innovation ecosystem.

The level of support available at Phase 2 remained the same during the Pilot and Formal Programmes. The support changed for Phase 1 over the same period, with the maximum of 75% of the total feasibility study costs or £15,000 changing to a maximum of 50% or £25,000 (whichever was the lesser). The economic appraisal stated that the reduction was needed to ensure that the private sector contributed £1 for every £1 provided by Invest NI in terms of Programme delivery costs.⁷⁹

⁷⁷ Cogent (2011) Interim Evaluation of the Collaborative Network Programme

⁷⁸ Cogent (2011) Economic Appraisal of the Collaborative Network Programme

⁷⁹ Cogent (2011) Economic Appraisal of the Collaborative Network Programme: page 61 / footnote 56 states: “Please note that the maximum proportion on contribution from Invest NI has been reduced for 75% to 50% to ensure that the private sector is contributing £1 for every £1 provided by Invest NI in terms of programme delivery costs”

4.2 CNP Delivery model – Inputs and Activities

The design of the Formal CNP developed from the 2007 – 2011 Pilot Programme in terms of the delivery model and type of support offered. The following section reviews different aspects of the delivery and operation.

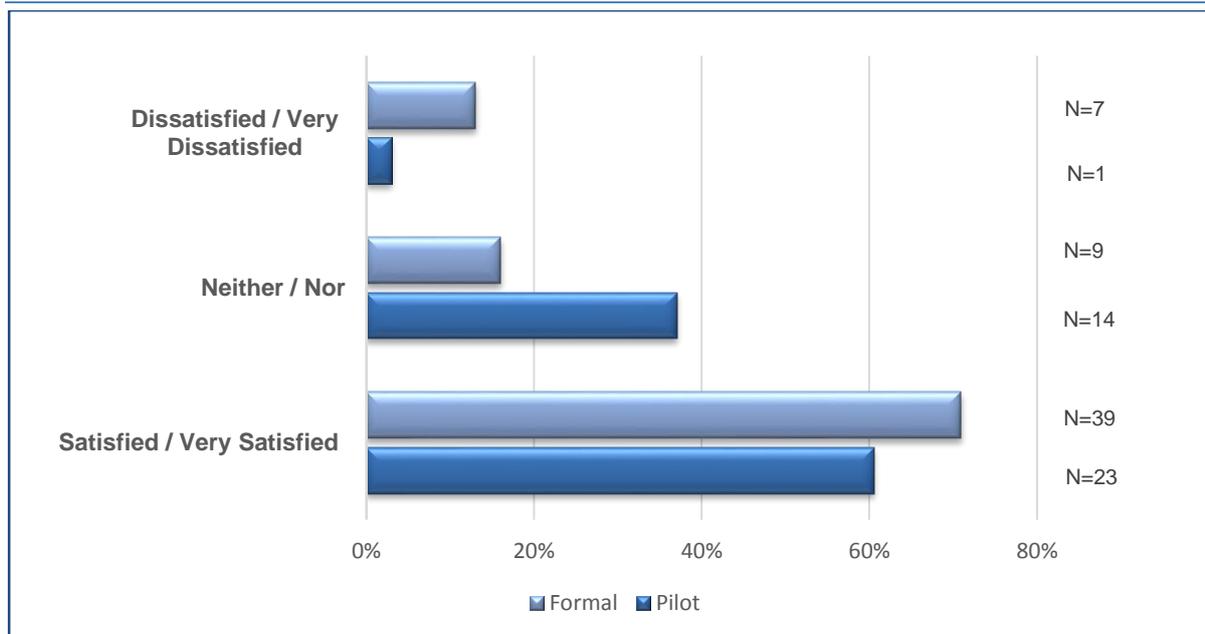
4.2.1 Recruitment

The approach to recruiting networks changed with the launch of the Formal CNP in September 2011, based on feedback contained in the interim evaluation report. It highlighted the need for a closer alignment between the sectoral/market opportunities being identified by the MATRIX Panel and the types of collaborative networks being established. Therefore, while interest could still be registered on a rolling basis, three specific open calls were conducted in 2011 (in conjunction with the Matrix reports), 2013 (specifically for the ICT and sustainable energy) and in 2014 (this was a generic call which welcomed applications in line with MATRIX but which called for “other” applications too). This approach is in line with those in those in the benchmarked countries (see section 8) that focus on priority sectors, but have also been flexible and include applications outside these areas should they warrant the investment.

4.2.2 Application / Assessment Process

The Phase 2 application form was developed as a result of a recommendation from the interim evaluation in 2011 to include more detail on the proposed work programme, SMART objectives, the key risks involved and project management processes. In addition, the Invest NI CNP management team completed more rigorous assessments of Phase 2 projects in line with Invest NI Intervention Principals (see section 4.2.8) to ensure they were ready and appropriate to be Phase 2 projects. Under the Formal CNP a project board was set up to evaluate the first call for applications. This included representatives from the Matrix panel, Invest NI and external stakeholders. Feedback from the Invest NI management team highlighted that this process was effective in getting companies to pitch what they could do and also involved strict criteria for selection based upon Matrix thematic areas. As shown in figure 4.1 satisfaction with the application process increased between the Pilot and Formal Programmes despite the process being strengthened. In total 61% of respondents to the company survey were satisfied or very satisfied with the application process under the Pilot Programme while 71% of respondents were satisfied or very satisfied with the application process under the Formal Programme.

Figure 4:1: Satisfaction with the application process – Pilot and Formal Programme



Source: PACEC CNP Company Survey Feedback (June 2015)

Therefore the application/assessment process was working effectively under the Pilot and Formal Programme.

However it is important that rigour is maintained to ensure that there is a strong focus on linking with the Programme for Government and strategic priorities for the remainder of the Programme.

4.2.3 Marketing / Promotion

There was a small marketing spend for the Pilot Programme. However whilst the economic appraisal for the Formal CNP projected marketing costs of £150,000 (£40,000 in years 0, 1, 2, and £30,000 in 9 months of year 3 (April – December 2014)), the actual spend to December 2014 on the Formal Programme (£60,245) represents only 40%⁸⁰ of the budget (to be spent by March 2015 (see table 4.1)).

⁸⁰ £60,245 / £150,000 = 40%

Table 4:1: Marketing Costs 2007 - 2014

Type of Activity	Number per year									Cost	
	Pilot					Programme				Pilot	Formal
	2007	2008	2009	2010	Jan - Aug 2011	Sept – Dec 2011	2012	2013	2014		
Workshop / Events / Seminars			-		1	1	1	2	2	£6,339	£38,795
Networking	-	-	-	-	-	-	1	-	-	-	£1,500
Case Studies	-	-	-	-	-	√	-	√	-	-	£18,931
Visits	-	-	-	-	-	-	-	-	1	-	£1,019
Total										£6,339	£60,245
Overall Total											£66,584

Source: Invest NI CNP Team (August 2015) In addition to the activities set out above, the Invest NI CNP team attended or participated in events which had limited or no spend attributed to the Programme.

Key marketing activities for the Formal CNP (as set out in economic appraisal) were to include:

- Dissemination of Programme information amongst Invest NI Client Executives (e.g. as part of awareness raising workshops);
- Development and maintenance of a Programme specific webpage on the Invest NI website to include, amongst other things, details of the Programme (e.g. aims, objectives, application process etc.) and case studies highlighting the positive benefits derived from Programme participation;
- Targeted mailshots; and
- Media advertising.

Work has been on-going with Client Executives in promoting the CNP, however case studies are constantly needed which demonstrate in detail how the CNP has helped deliver economic benefits (see recommendation 2). The survey of CNP network members highlighted that Client Executives were the best way to market the Programme, while mail shots were not seen as effective.

Previously an online forum had been piloted and was a useful tool in order to share and store information with the networks. However the tool was discontinued due to service provider contract changes and no other suitable solution was found. There are alternative solutions now available and it would be advantageous to enable future networks to avail of such an online collaborative tool.

It is noted that there has been a reduction in the number of groups that have received the application material, filled it out and submitted it. Further information detailing the barriers to returning applications is provided later in the report (for example, see Section 4.2.7 / Table 4.8 Reasons why companies did not proceed with CNP). It is therefore important that the marketing not only focuses on stimulating interest in the programme, but also in communicating the benefits so that companies and networks follow through on their application.

4.2.4 Training / Development

Table 4:2: Network Training / Development Costs 2007 - 2014

Type of Activity	Number per year									Cost	
	Pilot					Formal Programme				Pilot CNP	Formal CNP
	2007	2008	2009	2010	Jan - Aug 2011	Sept – Dec 2011	2012	2013	2014		
Facilitator Training	1	2	-	1	-	-	1	1	1	£22,922	£3,517
Network Training	-	-	6	2	-	1	4	2	-	£21,914	£22,808
Toolkit	-	-	-	1	-	-	-	-	-	£1,730	£0
Total										£46,566	£26,326
Overall Total											£72,891

Source: Invest NI CNP Team (August 2015)

The majority of the facilitator / network training (62% of the total training spend) was completed during the Pilot CNP. The reason for reduction in spend was due to the Invest NI CNP team not having sufficient time to devote to training, given the time required to monitor the progress and performance of the networks and to engage with the claims process.

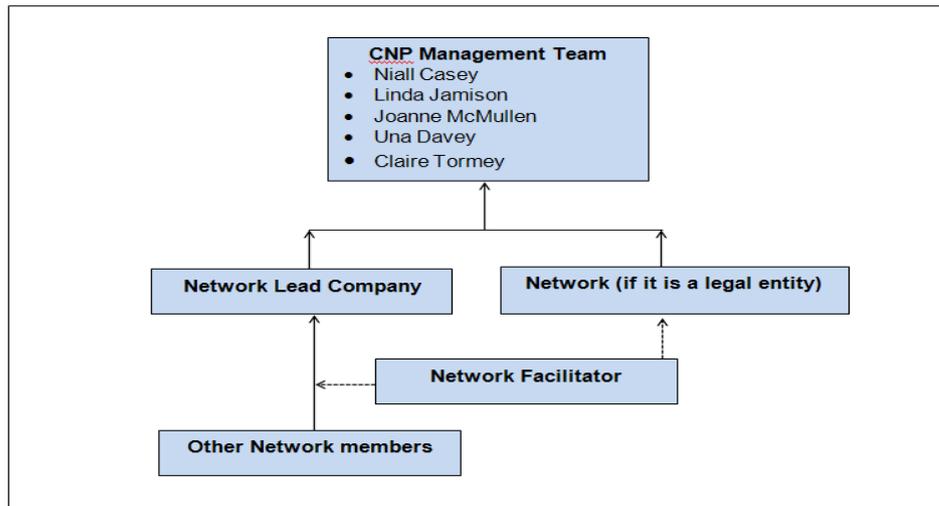
Interviews with lead companies and the facilitators also highlighted the importance of training with regarding to understanding their role and competences they were expected to demonstrate. Research (see section 8.3) has shown the facilitator skills are key to the success of the network and in recognition of this EU Programmes invest in facilitation training. It is recommended that training is seen as an investment in future facilitators (see section 8.3).

4.2.5 Programme Management- Structure, Resources and Costs

Programme Management Structure

The programme is managed by a team comprising of 1 Network Manager (Grade 7), 2 Network Executives (Deputy Principals), and 1 part-time administrator (EO2). The team reports directly to the Skills & Strategy Solutions Director (Grade 5).

Figure 4:2: Overview of CNP Management Structures:



The remit of the Invest NI Skills & Strategy Solutions, CNP Management Team is to manage and monitor the overall progress of the CNP. Activities undertaken by the Team include:

Table 4:3: Activities undertaken by the Invest NI S&SS CN Programme Management Team

Activities undertaken by the Invest NI S&SS CN Programme Management Team
<ul style="list-style-type: none"> Management of the application process and subsequent approval of all network projects; Facilitation of workshops to assist companies with work prioritisation and network structure/formation; Setting of network targets in conjunction with the participating companies; 'Monitoring' of all submitted expenditure claims; Monitoring the progress of all Networks; Addressing all queries in relation to the Programme; Signposting companies to additional forms of support; Responding to Ministerial briefing requests in relation to networks; and Linking with other INI staff and programmes, including Enterprise Europe, Trade and Client Executives Engaging with relevant stakeholder in respect of network challenges and opportunities

Invest NI resources used to manage and administer the CNP changed between the Pilot and Formal Programmes, with more Senior Manager time utilised in the second part of the Formal Programme.

Pilot Programme

Table 4.4 shows the actual resource utilised against the projected resource for 2007 – August 2011.

Table 4:4: Proposed and Actual Cost of Staff Resources December 2007 – August 2011

Level	Proposed % of time input	Actual % of time input	Proposed Costs December 2007 - August 2011 (Fully Loaded Costs) ⁸¹	Actual Cost December 2007 - August 2011 (Fully Loaded Costs) ⁸²	Variance
Director (Grade 5) (x1)	10%	10%	£37,500	£37,500	£0
Network Manager (Principal) (x1)	20%	20%	£49,043	£49,043	£0
Networking Executive (DP level)	100%	100%	£194,722	£194,722	£0
Networking Executive (DP level)	75%	100%	£136,669	£182,225	£45,556
Admin Support (EO2) (X1)	40%	40%	£63,560	£63,560	£0
Total	n/a	n/a	£481,494	£527,050	£45,556

Source: Invest NI

The cost of staff resources in the Pilot CNP was £45.6K more than was projected, due to the one Networking Executive working full time on delivery rather than only 75% of a FTE. This resource was used to help with the monitoring of the Programme.

It is also worth noting that over the course of the programme, the level of Admin support was reduced due to three periods of maternity leave; whilst the post was covered for some of this time through secondments and temporary staff, this did have implications for the delivery of the programme. As there were costs associated with the cover, the overall staff admin cost has not been adjusted.

Formal Programme

The economic appraisal projected that 40 scoping studies and 25 Phase 2 collaborative networks would be funded during the period September 2011 – March 2018 (this equates to 37 Phase 1 and 23 Phase 2 for the period September 2011 – December 2014) and that 3.5 FTE resources would be required to deliver this level of work. In the appraisal it states: *“that Invest NI confirmed during consultation that they would require 75% of the time from an additional Networking Executive and an increase in the time input from the administrative staff member (from 40% to 50%) to support the additional networks that would be created each year”*.

However, to date 21 feasibility / scoping studies and 6 Phase 2 network projects have been funded and in terms of staff utilised, only 2.7 FTEs were utilised during September 2011 – December 2012

⁸¹ Based on average cost per grade (fully loaded per annum) multiplied by proposed proportion of time spent on CNP, divided by 12 (months) and multiplied by 45 (months – the duration of the Pilot Programme December 2007 – August 2011)

⁸² Based on average cost per grade (fully loaded per annum) multiplied by actual proportion of time spent on CNP, divided by 12 (months) and multiplied by 45 (months – the duration of the Pilot Programme December 2007 – August 2011)

and 3.5 FTEs during January 2013 – December 2014. Separately, it is worth noting that the two DP posts were vacant between January and April 2013 and January and June 2013 respectively. Further as noted above, over the course of the programme the level of Admin support was reduced due to three periods of maternity leave; whilst the post was covered for some of this time through secondments and temporary staff, this did have implications for the delivery of the programme. As there were costs associated with the cover, the overall staff admin cost has not been adjusted.

Nevertheless during September 2011 – December 2014 there was an over spend of £89.3K on staff resources. This was due to the appointment of a full time project manager alongside two DPs. The Network Manager was needed to oversee the changes being implemented post the interim evaluation on the Pilot CNP, particularly with regard to the monitoring process.

Table 4:5: Proposed and Actual Cost of Staff Resources – Formal Programme September 2011 – December 2014

Level	Proposed % of time input	Actual % of time input	Proposed Costs September 2011 – December 2014 (Fully Loaded Costs) ⁸³	Actual Costs September 2011 – December 2014 (Fully Loaded Costs) ⁸⁴	Variance
Director (Grade 5) (x1)	10%	10%	£33,333	£33,333	£0
Network Manager (Principal) (x1)	20%	20% ⁸⁵	£17,438	£17,438	0
	20%	100% ⁸⁶	£26,156	£130,782	£104,626
Networking Executive (DP level)	100%	100%	£173,086	£155,778 ⁸⁷	-£17,309
Networking Executive (DP level)	75%	100%	£121,483	£137,681 ⁸⁸	£16,198
Admin Support (EO2) (X1)	50%	40%	£70,622	£56,497	-£14,124
Total	n/a	n/a	£442,119	£531,510	£89,391

Source: Proposed % from Cogent (2011) Economic Appraisal of the Collaborative Network Programme and Actual from Invest NI

However staffing numbers are only one aspect of the resourcing issue. Staffing changed over the period and the staff appointed from outside the CNP team have needed time to build their knowledge and expertise, and this has also impacted on delivery. However it is also noted that Invest NI staff had

⁸³ Based on average cost per grade (fully loaded per annum) multiplied by proposed proportion of time spent on CNP, divided by 12 (months) and multiplied by 40 (months – the duration of the Formal Programme September 2011 – December 2014)

⁸⁴ Based on average cost per grade (fully loaded per annum) multiplied by actual proportion of time spent on CNP, divided by 12 (months) and multiplied by 40 (months – the duration of the Formal Programme September 2011 – December 2014)

⁸⁵ September 2011 - December 2012

⁸⁶ January 2013 – December 2014

⁸⁷ DP post was vacant January – April 2013 therefore actual cost included for this period for this post is zero

⁸⁸ DP post was vacant January – June 2013 therefore actual cost included for this period for this post is zero

to spend more time than originally anticipated monitoring network projects through attendance at network meetings and in dealing with the issues arising as a result of the claims process.

4.2.6 Programme Governance and Risk

Pilot CNP

The interim evaluation of the Pilot CNP highlighted that risks which could have jeopardised the successful delivery of the Programme were not established prior to commencement of the Programme.

Formal CNP

There is no overall risk management plan for the Formal Programme. Risks are managed at a project level and reviewed quarterly as part of the monitoring reports produced.

The economic appraisal identified a number of risks for the Formal CNP, as set out below alongside an assessment of how these risks were managed.

Table 4:6 Assessment of Management of Risks identified in Economic Appraisal (2011)

Identified Risk	Assessment
Networks supported not aligned to addressing emerging market opportunities	CNP themes supported the thematic areas identified through MATRIX as priorities for NI. This risk was therefore managed through the process of how the networks were selected.
Projects not commercially focused	Projects were assessed to ensure they were commercially focused at the application stage. This risk was managed through this process.
Lack of input from Network Members and/or member dispute limits the success of the Network Project	Invest NI managed this risk by requiring Lead Companies to comment on members' contribution through the monitoring reports. Members are also required to make in – kind and cash contributions.
Network loses focus and momentum	Invest NI managed this risk by completing meetings with networks after reviewing their monitoring reports. These meetings were used to discuss progress and agree areas for action.
Inappropriate calibre of Network members	Invest NI managed this risk by requiring that the capability of network members were reviewed as part of the scoping study and that action was taken as a result if gaps / issues were identified before any Phase 2 funding was approved.
Inappropriate calibre of Network Facilitator	Invest NI managed this risk by developing a facilitator competency framework and job description / person specification to guide companies in making appointments.
Accrual of economic benefits outside NI	<p>NI established a process which should have ensured that Networks were adequately documenting their economic impacts / benefits, however there are two key reasons why this has not been the case:</p> <ul style="list-style-type: none"> • The close out reports do not provide quantified evidence. For example these may refer to influencing a particular strategy however it does not detail the role the network played / the impact of this. Similarly, while jobs or other economic impacts are referred to the value of these are not quantified or there is a lack of robust evidence on skills developed / knowledge gained and how this has been used. This is a similar finding to the Post Project Evaluation reports. • Some of the economic benefits will take time to be achieved and will be generated after the funding is completed. An example of this is the DNI 2020 network that initiated business parks being fibred to premises and £250K of investment was made at Sandy Row business Park that has resulted in making the area more valuable and increased business tenants in the park. As a result 7 further business parks are now fibred.

Source: Cogent (2011) Economic Appraisal of the Collaborative Network Programme and Invest NI information (June 2015)

Invest NI managed the risks at a project level, however the one risk not identified in the economic appraisal was that the Programme would not deliver on the target number of networks. This risk should have been highlighted at the outset and managed at a Programme level.

At a project level, the recording of economic benefits could be improved through more detailed close out reports accompanied by a close out workshop, however it is recognised that it will still be difficult to capture all the benefits given the time it takes for these to happen.

4.2.7 Range of Activities Supported

Phase 1: Feasibility / Scoping Study Phase

Activities and costs eligible for funding under Phase 1 of the Programme include:

**Table 4:7: Eligible Feasibility Activities and Costs funded as part of the CNP
(Pilot and 2011 – 2015 CNP)**

Eligible Activities	Eligible costs
<ul style="list-style-type: none"> • Scoping activity • Facilitation • Market analysis • Capability analysis • Development of Rules of Engagement • Development of a Business Plan • Developing of Marketing Plan • Development of a Project Plan 	<ul style="list-style-type: none"> • Facilitation and consultancy fees • Travel and subsistence • Salaries in kind⁸⁹

Source: Terms of Reference for the Evaluation

The activities supported under Phase 1 of both the Pilot and Formal CNPs are detailed in table 4.8.

⁸⁹ The monitoring and vouching process was changed in the CNP 2011 – 2015 period

Table 4:8: Phase 1 - Range of Activities Supported

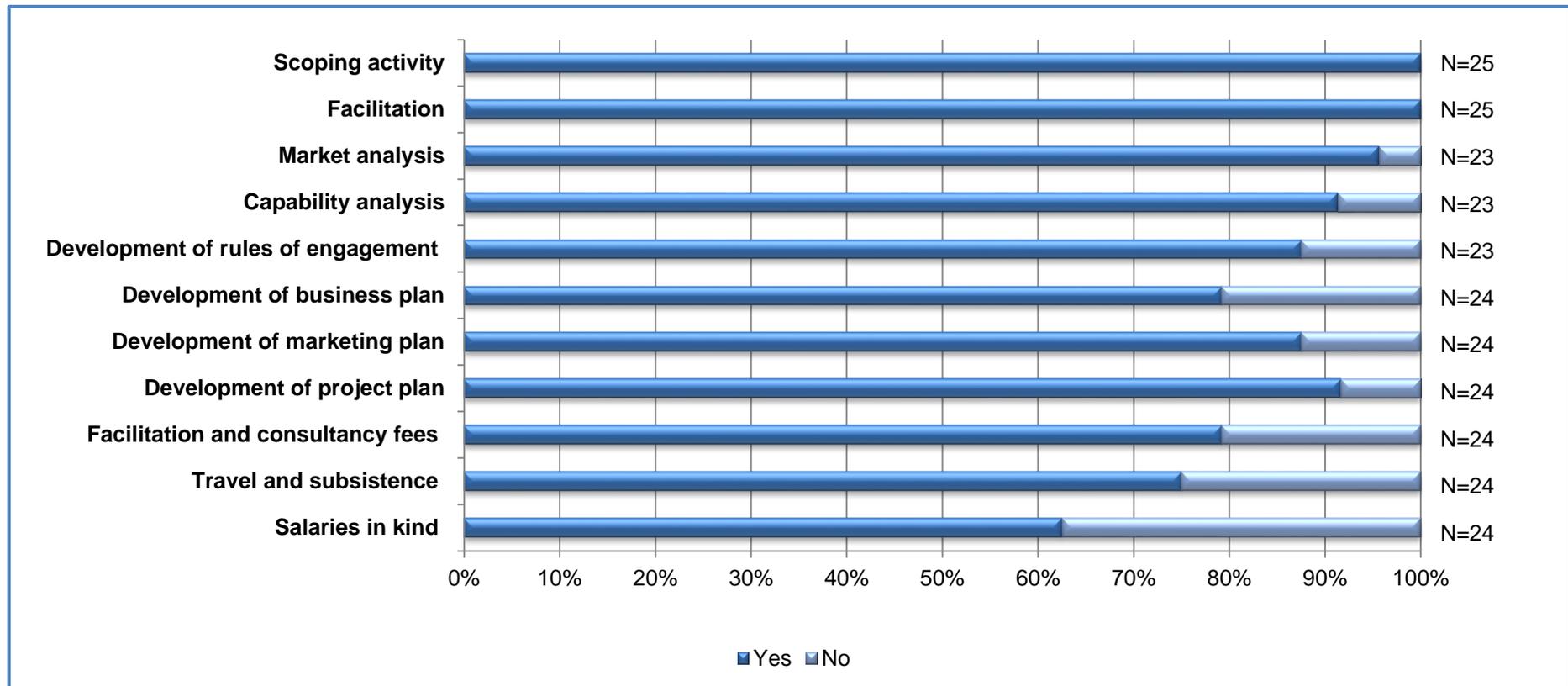
Activity / Support	Number of Phase 1 Networks ⁹⁰		% of Networks	
	Pilot	Formal	Pilot (n= 19)	Formal (n=21)
Facilitation	19	21	100%	100%
Scoping activity	19	21	100%	100%
Capability analysis	12	10	63%	48%
Market analysis	11	7	58%	33%
Development of a Business Plan	4	10	21%	48%
Development of a Project Plan	7	2	37%	10%
Development of Rules of Engagement	2	6	11%	29%
Developing of Marketing Plan	2	1	11%	5%
Total	19	21		

Source: CNP LoOs (received May 2015)

Survey feedback from companies involved in the Pilot and Formal CNPs indicates that the activities funded by Invest NI were appropriate (see figures 4.2 and 4.3).

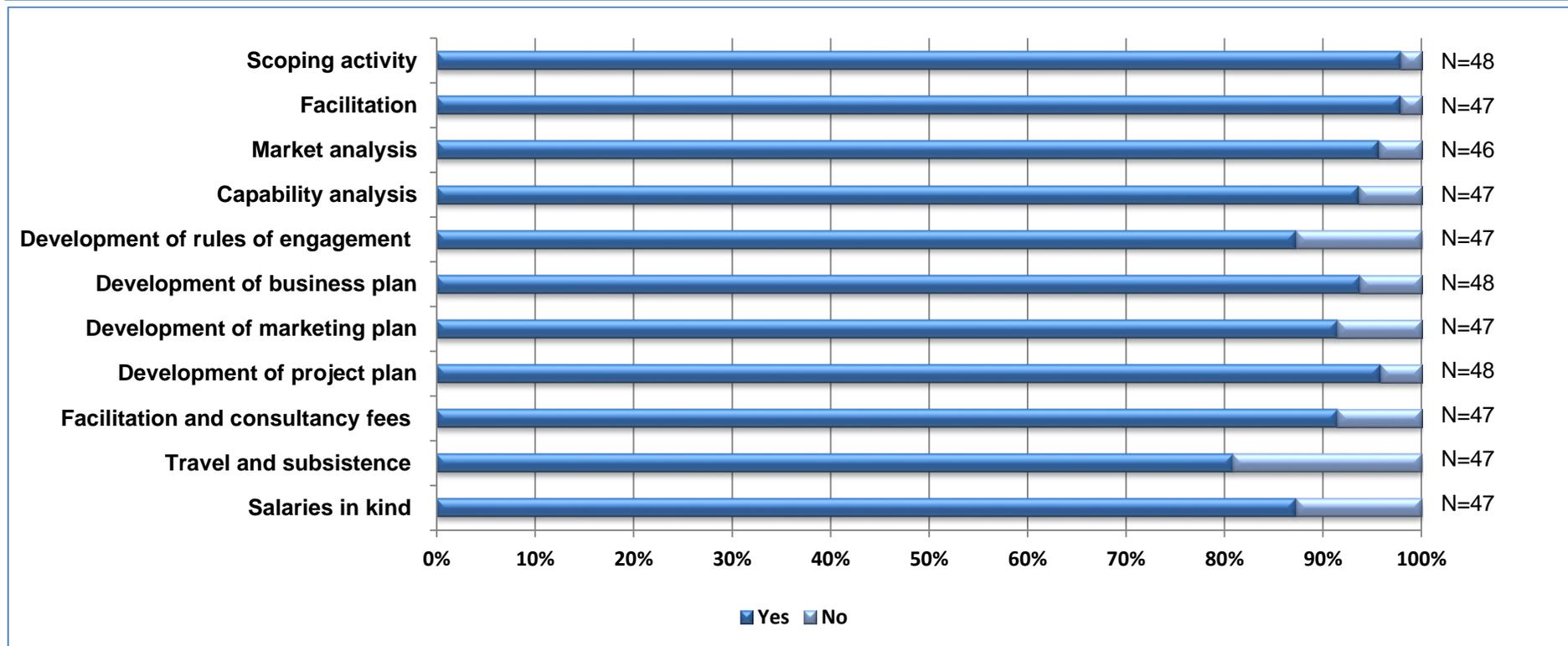
⁹⁰ Each network completed several activities

Figure 4:3: Do you think the activities & costs eligible for funding under Phase 1 are the right things to be funded? – Pilot Programme (2007 – August 2011)



Source: PACEC CNP Company Survey Feedback (June 2015), *N refers to the number of responses to each option / activity

Figure 4:4: Do you think the activities & costs eligible for funding under Phase 1 are the right things to be funded? – Formal Programme (September 2011 – December 2014)



Source: PACEC CNP Company Survey Feedback (June 2015) *N refers to the number of responses to each option / activity

The main differences in the responses between the Pilot and Formal CNP is the increased percentage highlighting that development of a business plan and salaries of facilitators were the right things to be funded (increased by 15% and 25% respectively from the Pilot to the Formal Programme).

Phase 2: Facilitation Phase

Activities and costs eligible for funding under Phase 2 of the Programme include:

Table 4:9: Eligible Facilitation Activities and Costs funded as part of the CNP (Pilot and 2011 – 2015 CNP)

Eligible Activities	Eligible costs
<ul style="list-style-type: none"> Project management Facilitation of the network Organisation of workshops / seminars / best practice events & study visits Management of the shared web-based community Marketing of the network. 	<ul style="list-style-type: none"> Facilitation labour costs Travel and subsistence Salaries and wages of staff directly involved with the collaboration project Overheads and administrative costs directly involved with the collaboration project Consultancy costs Salaries in kind

Source: Terms of Reference for the Evaluation

The activities funded under Phase 2 of both the Pilot and Formal CNPs are detailed in table 4.10.

Table 4:10: Phase 2 - Range of Activities Supported

Activity	Number of Phase 2 Networks ⁹¹		% of Networks	
	Pilot	Formal	Pilot (n=12)	Formal (6)
Facilitation of the network	12	6	100%	100%
Workshops / seminars / best practice events & study visits	5	4	42%	67%
Project Management	5	0	42%	0%
Marketing of the network / Management of the shared web-based community	3	1	25%	17%
Total	12	6		

Source: CNP LoO (received May 2015)

It is noted that a number of Phase 1 networks did not proceed to Phase 2 under the Formal CNP. There are a varying reasons why companies did not proceed, including that the network did not develop as planned and some members left, the project did not develop sufficiently, and some felt the vouching process was too bureaucratic. Feedback included that “the CNP was good but the

⁹¹ Each network completed several activities

*administration was a burden, which meant it was too focused on processes rather than outcomes” and “in one year 112 days were spent on claims and audit submissions while we were only funded for 92 days work, therefore more time was spent on admin than helping companies. In addition, very senior people from leading firms were involved in our network who were not willing to let public sector staff look at their bank accounts, especially as they were giving their time for free”.*⁹²

All Phase 2 networks were provided with funding to pay for facilitation of the network for between one to three years.⁹³ Networks also used workshops / study visits, project management support and marketing in line with the needs of their networks. Feedback from lead companies and facilitators confirmed that the activities funded were appropriate as they were based on the needs identified at the Phase 1 stage.

However 43% of survey respondents for the Pilot Programme and 57% under the Formal Programme stated the need for additional funding to support on-going collaborative activities.

Reasons why did companies not proceed with CNP

Table 4.11 sets out why 10 companies who were interested in collaboration did not proceed with their application to the CNP. The answers varied, however 3 out of the 10 suggested the reasons were due to scheme or its processes not meeting their needs.

Table 4:11: Why did you not proceed with your involvement in the Collaborative Network Programme?

Response	No. of Respondents	% of Respondents
Application process too cumbersome	1	10.0
Scheme was not sufficiently flexible to meet our requirements	1	10.0
Loss of momentum within the network	1	10.0
Specific salary /in-kind information requested was burdensome	1	10.0
Shifting priorities in my business	1	10.0
The network decided to focus on different priorities no longer aligned to my business needs	2	20.0
Other*	3	30.0
Total	10	100%
*Other please specify:		
Other participants pulled out losing momentum and drive for collaboration		
Decided that other organisations were carrying out the proposed activities		
Information was required that other companies within the network were not comfortable giving out		
Comments: One respondent skipped this question		

Source: PACEC CNP Network Non-Participants Survey (May 2015)

The CNP engaged with a number of companies that did not proceed to application stage (c.221); therefore the above represents a c.5% sample of these.

⁹² Information from consultations with lead companies and facilitators

⁹³ DETI / DFP Casework for the Collaborative Network Programme (2011)

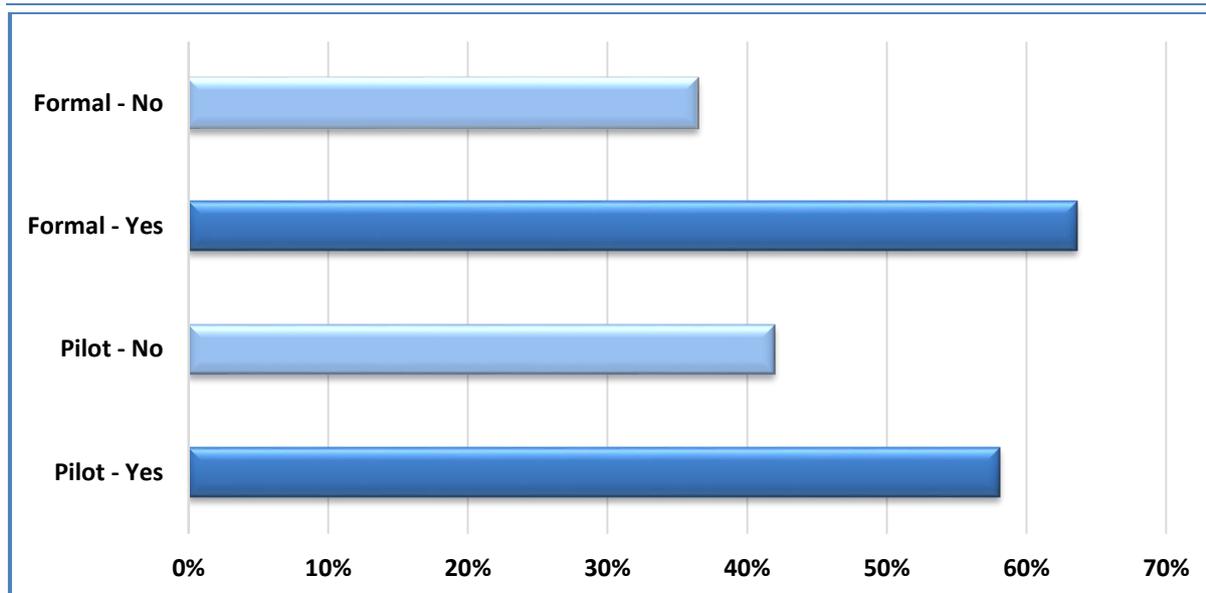
4.2.8 Intervention Rates

The intervention rates used for each network vary as they are based on need, the business opportunity and the Value for Money presented. Following the introduction of the Invest NI Intervention Principles these were used in the Formal CNP to add rigour to the assessment of programme applications and casework. In particular the application and assessment focused on the following⁹⁴:

- Strategic Fit;
- Proposed Assistance & Market Failure;
- Project Risk;
- Viability;
- Additionality;
- Mobility;
- Displacement;
- Economic Efficiency;
- Control Calculations & Cost-effectiveness;
- Affordability;
- Value for Money Conclusion & Recommendation; and
- Conditions of Support.

As illustrated in figure 4.5 feedback from the company survey found that 58% of respondents under the Pilot CNP and 64% of respondents from the Formal CNP felt the funding awarded under Phase 2 was sufficient to carry out their Project.

Figure 4:5: Was the funding awarded for Phase 2 sufficient to carry out the project?



Source: PACEC CNP Company Survey Feedback (June 2015)

⁹⁴ Guidance and Principles for Invest NI Support (2014)

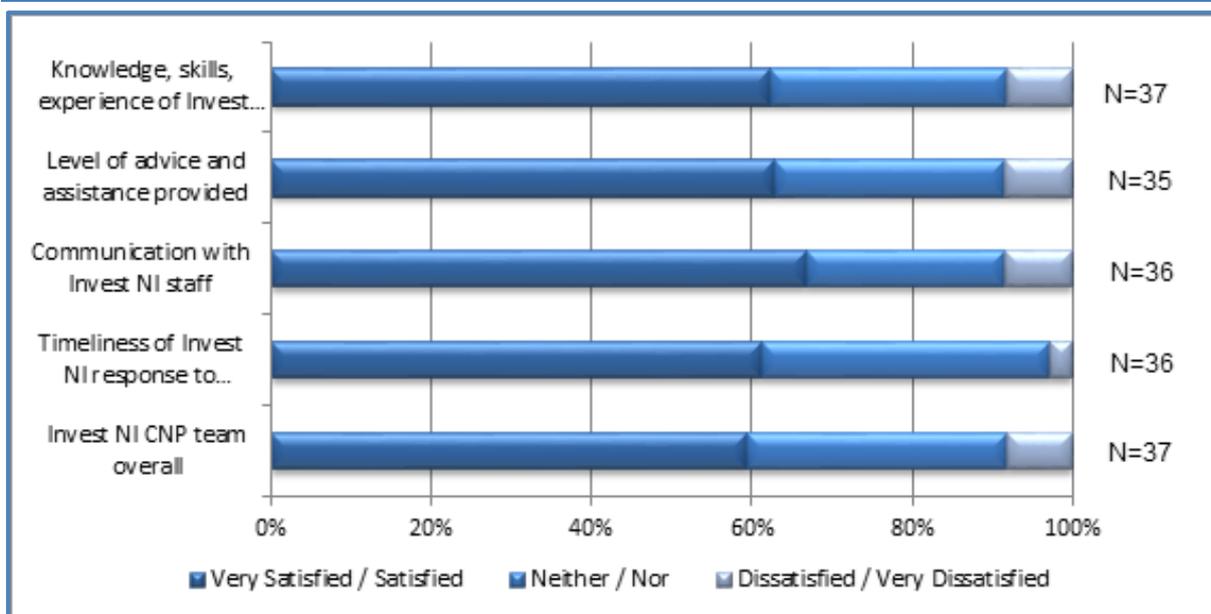
Survey respondents who felt the funding was insufficient were looking for an increased percentage of funding and / or greater signposting to other Invest NI supports. Approx. 25% of the lead companies interviewed felt that Invest NI follow-on support (to the CNP support) should be better aligned to the needs of the collaborative network. At present (with the exception of the collaborative R+D support / Innovation Vouchers) they have to apply as individual companies despite the funding being needed to support a group of companies.

4.2.9 Invest NI Engagement with participating businesses

Pilot CNP

Feedback provided by network members under the Pilot CNP indicates a high level of satisfaction with Invest NI support, with 59% of respondents stating they were satisfied or very satisfied with the CNP team. Specifically, as illustrated in figure 4.6 over 60% were satisfied or very satisfied with communication by Invest NI staff (67%), level of advice and assistance provided (63%), knowledge, skills, experience of Invest NI staff (62%), and timeliness of responses to queries by Invest NI (61%).

Figure 4:6: Satisfaction with the CNP – Pilot Programme



Source: PACEC CNP Company Survey Feedback (June 2015)

Analysis of the qualitative feedback also suggests satisfaction with the Programme and the CNP team; for example one Network member under the Pilot Programme stated that:

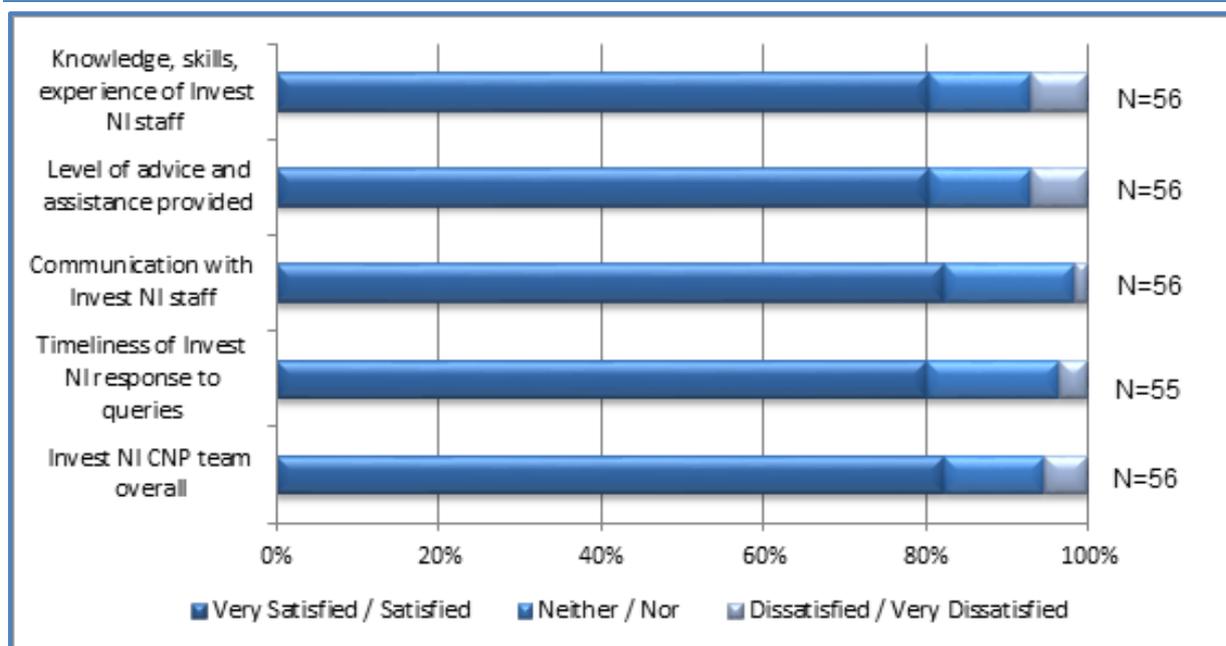
“The future of business is in collaboration; the Programme represents a great opportunity for businesses to expand their network and build working relationships with other businesses. Invest NI’s support to the network in getting us started was particularly helpful and it wouldn’t have happened otherwise” – Member of the Medical Devices in Connected Health Network

A small number of companies (8%) indicated that there could be more input / support from the Invest NI/ DETI team with Departmental colleagues to ensure that the outcomes of the network are realised. For example, the Smart Grid network developed technology to manage the supply of energy from wind farms into the network in Northern Ireland to ensure that generated energy was not lost and that the grid was not overloaded. Whilst the proposal was widely supported by those in the sector it required the approval from the Utility Regulator which could not be agreed.

Formal CNP

Feedback provided by network members under the Formal CNP indicates a high level of satisfaction with Invest NI, with 82% of respondents stating they were satisfied or very satisfied with the CNP team. Figure 4.7 shows that 80% or above were satisfied or very satisfied with communication by Invest NI staff (82%), level of advice and assistance provided (80%), knowledge, skills, experience of Invest NI staff (80%), and timeliness of responses to queries by Invest NI (80%).

Figure 4:7: Satisfaction with the CNP – Formal Programme



Source: PACEC CNP Company Survey Feedback (June 2015)

Analysis of qualitative feedback also highlights a high level of satisfaction with the CNP team, for example one network company member from the Formal CNP stated that:

“The CNP Team listen, ask intelligent questions [and] they are clearly very experienced; the CNP is a very good Programme to get something off the ground when only the public sector can provide the seed finance; we believe the CNP is excellent and the CNP invest team is superb. As a result of the work we have completed other CNPs are under discussion with members of the community we have helped build” – Member of the European Connected Health Alliance Network

Only a small number of companies (5%) stated that they were dissatisfied with the Invest NI CNP team. The reasons given all related to the claims process rather than the advice and support provided.

4.2.10 Financial Management and Claiming Processes

Phase 2 network projects were (are) required to submit quarterly claims detailing the nature and level of costs incurred during the period. Invest NI vouch a proportion of costs to ensure that they are eligible under the Programme’s funding stipulations. The interim evaluation of the Pilot Programme recommended that the financial management and claiming process be developed to improve the monitoring of actual costs against the cost categories established as part of the Letter of Offer. As a result, the claim process for the Formal CNP involves completion of the following⁹⁵:

- Gross Earnings Hourly Rate (GEHR) Form: For Phase 1 and Phase 2, each network member provides details of annual salary (either actual and or below actual salary). As part of the claims vouching process, a sample of members will be asked to provide underlying supporting documentation e.g. employment contract, payslip and BACS statement.⁹⁶
- Timesheets: completed by each network member, signed and countersigned.
- Evidence of invoiced eligible expenditure incurred e.g. facilitation costs.

Lead companies interviewed highlighted their dissatisfaction with the claim process and in particular with the need for companies to provide actual salary information that adds a layer of complexity. The Invest NI CNP team are aware of this and advised they are attempting to move to an hourly rate that relates to the salary expected at the level of the network member, based on published salary survey information. The Invest NI team also highlighted an issue around the inability to vouch/verify non-PAYE contributions, stating that this is having a detrimental effect on the Programme in terms of deterring SMEs from being involved. Feedback also highlighted that the length of time taken to process claims was disproportionate to the amount it related to. Three lead companies and six facilitators noted their frustration with the time taken for claims to be processed. For example, one lead company reported that after they had paid their network facilitator it took 6 months to get a £30k payment processed which had a significant impact on the SME’s cash flow. Invest NI have a target of 35 working days to process each claim from logging to payment, however a sample of claims analysed between 2012 – September 2014 shows that the average true processing time⁹⁷ was 119 days and the average processing time including rejections⁹⁸ was 74 days. This significantly exceeds the Invest NI target and feedback from the CNP team suggests this is in part due to inconsistent guidance on what is required from the networks to complete claim forms, and the need for further information from the networks in line with their LoO.

⁹⁵ Invest NI Collaborative Network Claims Guidance (2014)

⁹⁶ The latter is only relevant to those selected for an in-depth vouch, following a risk assessment carried out by the Claims Team

⁹⁷ True processing time relates to the time from when a claims is received from the client to when it is finalised and paid. This takes into account all processing time as well as the time taken to request / receive new information once the claim has been rejected.

⁹⁸ Relates to the time taken to conclude a claim after it is resubmitted and taking into consideration some elements of processing already completed when the claim was first submitted

Representatives from lead companies also noted that the administration associated with the vouching and claims process was overly burdensome and in addition to detracting the facilitator from network focused activities, the level of detail required also deterred some companies from participating in the network.

In addition, a small number of lead companies and facilitators suggested there was inconsistency in terms of what was acceptable, with the perception that some facilitators received less stringent verification checks than others, and that the process was not applied consistently.

4.2.11 Monitoring Process

Pilot and Formal CNP- Phase 1

Network projects funded under Phase 1 of both the Pilot and Formal CNPs were not required to submit quarterly monitoring reports however the Invest NI CNP team met with network members as appropriate to discuss progress and produce a final written report. However it would be more beneficial for companies to provide quarterly updates on progress to reduce the time allocated by Invest NI staff to review meetings.

Pilot Programme- Phase 2

All networks funded under Phase 2 of the Pilot Programme were required to provide quarterly reports and a final summary report documenting the progress made by the network during the period, including the progress towards the SMART targets established. Periodic monitoring meetings were also held by Invest NI in conjunction with each network to discuss on-going progress.

Networks were required to submit quarterly reports to Invest NI using a template that covered:

- Targets;
- Outputs;
- Progress to date; and
- Risks and Future Plans.

Feedback from companies that participated in the Pilot CNP showed that 42% were satisfied or very satisfied with the monitoring process, while 47% were neither satisfied nor dissatisfied and 11% were dissatisfied / very dissatisfied. Additional feedback from those who were dissatisfied suggested the time spent on producing monitoring reports would be better spent on project delivery.

Networks were also required to complete a final performance report or ‘close out’ report within three months of project completion. A review of the final performance reports provided by Invest NI to the evaluation team indicates whilst the format of these varied across projects and most provide a high level overview of achievements, several lack quantified detail on performance against targets / impacts achieved. However it is recognised that research has shown it can take up to 5 years for impacts resulting from collaboration to be evidenced.⁹⁹

⁹⁹ Ministry of Science, Innovation and Higher Education (2012) Let’s Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers

Formal Programme - Phase 2

All network projects / lead companies were required to provide quarterly monitoring reports detailing progress against the agreed targets set out in the Letter of Offer.

Invest NI improved the quarterly report template after the interim evaluation of the Pilot CNP. A small number of the areas recommended in the interim evaluation are not detailed in the report template but are covered at the quarterly meetings the Invest NI CNP team holds with the networks. The areas are:

- Contribution that network participants made to the activity;
- Contingency arrangements in place to address/overcome any issues faced; and
- Potential/actual tangible and intangible benefits and impacts that were/could be derived as a result of undertaking the activity including the contribution of network participants to achieving these benefits/impacts.

Currently, companies are required to submit quarterly reports to Invest NI using a template that covers:

- SMART targets;
- Outputs against SMART targets;
- Progress to date; and
- Risks / Mitigation / Future Plans.

The evaluation team found that not all lead companies have complied with the monitoring template. As a result, meetings with the companies are used to expand on the information provided in the monitoring reports, however this process is time consuming for the Invest NI CNP staff.

Feedback from companies that participated in the Formal CNP found that 49% were satisfied or very satisfied with the monitoring process, while 44% were neither satisfied nor dissatisfied and 7% were dissatisfied.

4.2.12 Network Facilitators

Feedback from lead companies indicated that the skills and competencies required from facilitators are:

- Facilitation (ability to look after the interests of the group not individual interests);
- Project Management;
- Networking / Business Relationship Building Skills; and
- Business Acumen.

There were mixed views from lead companies as to whether the facilitator needed to have sector experience linked to the network, with 50% stating that sector experience was beneficial (mainly those networks that had a more technical focus). However the remaining 50% suggested this could be a disadvantage as sector involvement could result in the facilitator having pre-conceived ideas about the direction and outcome of the network, and in some cases, a vested interest.

While all lead companies interviewed stated that their facilitator had the desired skills, 50% of facilitators felt they needed training to clarify their role within the CNP context (these facilitators noted

they had accessed training provided by Invest NI and it had been helpful to clarify their role, understand what was expected of them and to meet other facilitators).

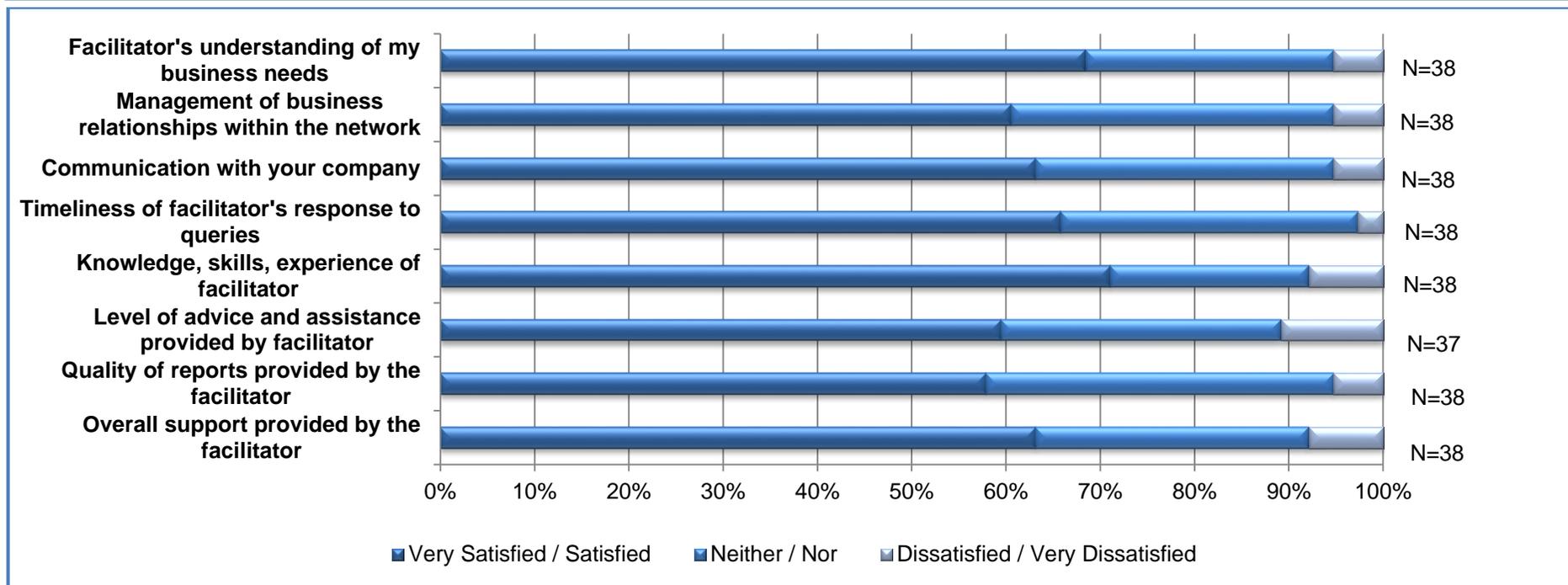
As shown in figure 4.8, feedback provided by network members under the Pilot CNP indicates a high level of satisfaction with network facilitators; specifically over 66% were satisfied or very satisfied with:

- Knowledge, skills, experience of facilitator (71%);
- Facilitator's understanding of my business needs (68%); and
- Timeliness of facilitator's response to queries (66%).

Figure 4.9 shows that network members under the Formal CNP expressed higher levels of satisfaction, with over 80% stating they were satisfied or very satisfied with:

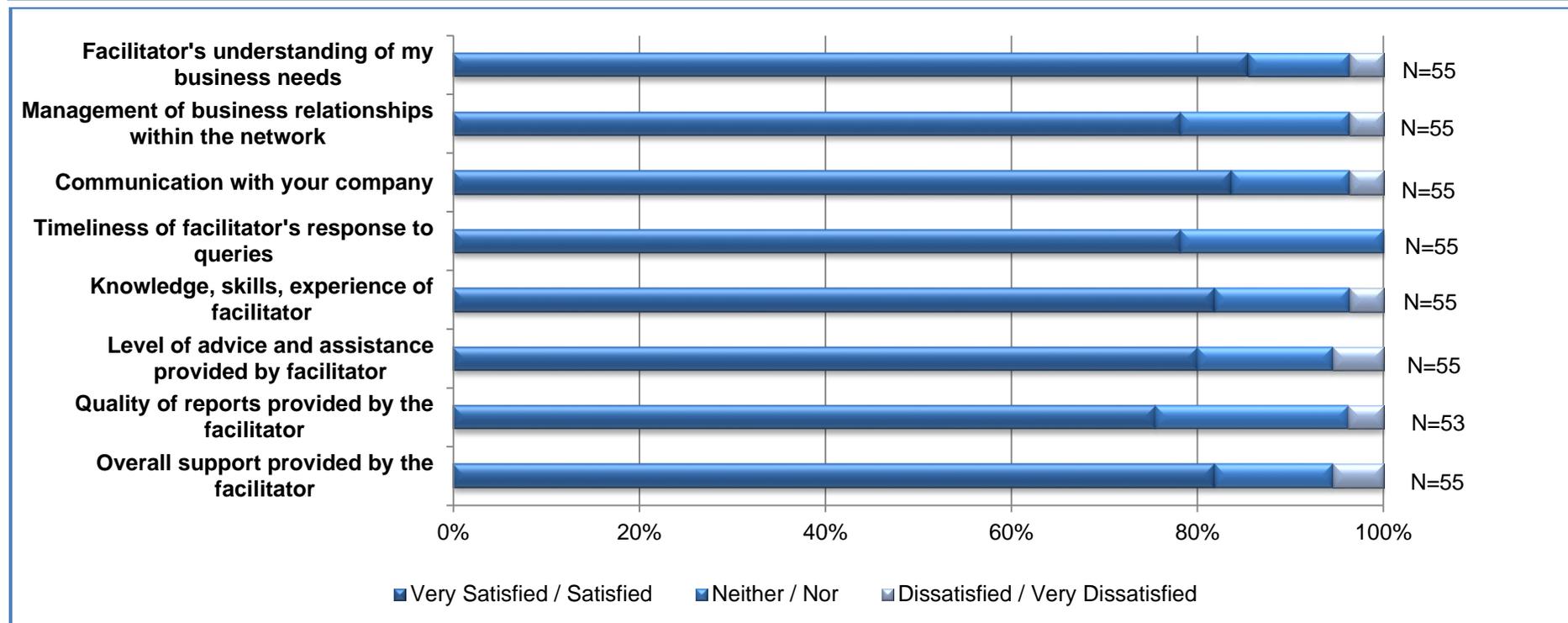
- Facilitator's understanding of my business needs (85%);
- Communication with your company (84%);
- Knowledge, skills, experience of facilitator (82%); and
- Overall support provided by the facilitator (82%).

Figure 4:8: Satisfaction with the Facilitators – Pilot Programme (Network Members)



Source: PACEC CNP Company Survey Feedback (June 2015)

Figure 4:9: Satisfaction with the Facilitators – Formal Programme



Source: PACEC CNP Company Survey Feedback (June 2015)

Whilst the interviews highlighted low dissatisfaction levels, a small number of companies felt the facilitator was not clear on their role or that members of the network were allowed to move ahead with a project without all of the other network members gaining from the success. Figure 4.10 details qualitative feedback on a network facilitator; the members of this network felt this facilitator made a significant contribution to the success of the network.

Figure 4:10: Facilitator Case Study – Digital Circle Network (2008 – 2011)

Focus of Case Study – Role of Facilitator
<p>Context</p> <p>Digital Circle was a collaborative network that supported local digital content businesses to actively engage in collaborations that would result in business growth. The network focused on the four priority areas identified in the Northern Ireland Digital Content Strategy, namely Digital Animation; Mobile Content, Web Content, and e-learning/ Serious Gaming.</p> <p>Plan (what was done)</p> <p>The network was facilitated by Matt Johnson who was appointed in August 2008, four months after the network began. He was appointed following an application process and subsequent interview with an assessment panel comprising two Invest NI representatives, CEO of Momentum (Lead Company) and head of the Digital Circle Network Steering Group. Matt had significant experience within the sector having owned an IT company and is a specialist within the industry. However he noted that knowledge of the sector is not necessarily needed as it can mean Facilitators have a vested interest in the strategic direction / outcome of the Network, rather than only facilitation. Key outputs from the network include:</p> <ul style="list-style-type: none"> • Employment of a network facilitator; • Establishment of an advisory panel; • Establishment of action groups; • Exploration of Digital Circle opportunities; • Formation of collaborative networks; and • Progress reports tracked the programme provide insight in the outputs throughout the lifetime of Digital Circle. <p>Feedback from members of the Digital Circle network highlighted that the facilitator had significant personal credibility with the members and this played a key role in its success. They highlighted his previous experience and sector knowledge, while noting that he was seen as an independent broker and therefore trusted by the members. This is in line with best practice facilitation as identified in sections 7.2.2 and 7.3.</p> <p>Outcomes</p> <p>Key elements that contributed to the success of the network included:</p> <ul style="list-style-type: none"> • Access to contacts within the sector; • Adoption of an ‘inclusive’ approach to membership that was not restricted to only CEOs and included practitioners; • Flat management structure meant the facilitator was able to make decisions that would benefit the network/help it to meet targets agreed in the LoO without having a vested interest in the sector; and • Building of relationships with the Steering Group who trusted the facilitator to carry forward actions that would benefit the network.

Source: based on survey feedback / interviews (July-September 2015)

4.2.13 Cost of Delivering the Intervention – Contribution to Network Projects

4.2.13.1 Pilot Programme

Funding for the Pilot CNP was approved by DETI and Department of Finance and Personal (DFP) in 2007. The budget for the Pilot Programme Phase 1 and Phase 2 networks is based on Letters of Offer for all those networks included in this evaluation (see Appendix C). This comprised: £2,901,102 (45%) from Invest NI plus industry contribution of £3,560,338 (55%) in the form of cash and/or in-kind contribution (i.e. total of £6,461,440).

Table 4.12 summarises the proposed and actual costs for Phase 1 and Phase 2 projects during 2007 – August 2011.

Based upon the LoOs issued between 2007 and August 2011 it was anticipated that the total value of the Pilot CNP would be £6,461,440. It was intended that 45% (£2,901,102) would be provided by Invest NI and the remaining 55% (£3,560,338) would be by the participating companies in the form of industry personnel / cash contributions.

Overall £6,080,661 was spent, 44% (£2,654,501) of which came from Invest NI and the remaining 56% (£3,426,160) from participating companies in the form of industry personnel / cash. Therefore while industry contributions exceeded that of Invest NI, both were below the figures originally anticipated with an overall spend of £380,779 or 6% below budget.

Table 4:12: Summary of proposed and actual contribution for Phase 1 and Phase 2 projects (Pilot Programme December 2007 – August 2011)

Cost Category	Summary of total costs associated with the delivery of the CNP 2007 – August 2011											
	Proposed Costs/Contribution based on LoO issued			Actual Costs/Contribution			Variance					
	Invest NI Contribution	Industry Personnel ¹⁰⁰ / Cash ¹⁰¹	Total	Invest NI Contribution	Industry Personnel / Cash	Total	Invest NI Contribution		Industry Personnel / Cash		Total	
							£	%	£	%	£	%
Phase 1	271,055	391,738	662,793	235,578	257,637	493,215	-35,477	-13%	-134,101	-34%	-169,578	-26%
Phase 2	2,630,047	3,168,600	5,798,647	2,418,923	3,168,523	5,587,446	-211,124	-8%	-77	0%	-211,201	-4%
Total	2,901,102	3,560,338	6,461,440	2,654,501	3,426,160	6,080,661	-246,601	-9%	-134,178	-4%	-380,779	-6%

Source: Information provided by Invest NI to PACEC (2015)

¹⁰⁰ Industry Personnel and/or known as industry in-kind contribution is the time contributed by the network members in the delivery of the collaborative network SMART objectives

¹⁰¹ Cash contribution refers to the money which the network members have contributed towards the overall invoiced costs of the project.

4.2.13.2 Formal Programme

DETI and DFP approved funding in November 2011, operating under GBER (N215/2008) Article 36, until March 2015. The budget approved for the Programme comprised an Invest NI contribution of £8.6m¹⁰² to an anticipated total Programme cost of £15.9M; the balance of Programme costs (46%, £7.3M) were to be met by industry in the form of cash and/or in-kind contribution.¹⁰³ Approval has been given for the Formal CNP to be extended by a further 18 month period until 30th September 2016 (resulting in the end date for the run out period being 30th September 2019).¹⁰⁴ Table 4.13 summarises proposed and actual costs for Phase 1 and Phase 2 projects during September 2011 – December 2014 (period under review).

Table 4:13: Summary of proposed and actual contribution for Phase 1 and Phase 2 projects (Formal Programme Sept. 2011 – Dec. 2014)

Cost Category	Based on 37 Phase 1 and 23 Phase 2 (pro rata planned no. of Networks Sept 11 - Dec 14) based on EA costs pro rata for Sept. 11–Dec 14			Based on 21 Phase 1 and 6 Phase 2 (Actual no. of Networks Sept 11 - Dec 14) based on EA costs, scaled back to reflect actual no. of networks			Proposed Costs based on LoO issued to actual networks (Sept 11 - Dec 14)			Actual Costs (Sept 11 - Dec 14)		
	Invest NI	Industry	Total	Invest NI	Industry	Total	Invest NI	Industry	Total	Invest NI	Industry	Total
Phase 1: Feasibility Study Costs	£931,250	£931,250	£1,862,500	£528,547	£528,547	£1,057,095	£471,020	£499,169	£970,189	£332,242	£511,107	£843,349
Phase 2: Network Facilitation Costs	£4,062,500	£4,062,500	£8,125,000	£1,059,783	£1,059,783	£2,119,565	£1,055,904	£1,303,326	£2,359,230	£758,485	£1,241,625	£2,000,110
Sub-total	£4,993,750	£4,993,750	£9,987,500	£1,588,330	£1,588,330	£3,176,660	£1,526,924	£1,802,495	£3,329,419	£1,090,727	£1,752,732	£2,843,459

Source: Cogent (2011) Economic Appraisal of the Collaborative Network Programme and Information provided by Invest NI to PACEC (2015)

Note: There are 6 networks that are still live and as yet have not submitted claims while another closed without submitting any claims.

¹⁰² DETI / DFP Casework

¹⁰³ Request For Amendment To Collaborative Network Programme (2011)

¹⁰⁴ Programme Amendment Request (October 2014)

In the 2011 economic appraisal¹⁰⁵, it was anticipated that the total network costs (Invest NI and industry) associated with delivering 40 feasibility / scoping studies and 25 Collaborative Network Projects would be £14.5M (with networks established between September 2011 and March 2015 and costs incurred between September 2011 and- March 2018). Taking into account the period under review (September 2011 to December 2014), the pro rata budget is £9.9875M with the pro rata number of networks expected to have been established by December 2014: 37 Phase 1 and 23 Phase 2 networks.

In fact, between September 2011 and December 2014, fewer Networks than expected were awarded LoO (21 Phase 1 and 6 Phase 2). So the anticipated costs could be estimated on the basis of the budget already identified for this period (£9.9875M), scaled back to reflect the actual number of networks i.e.: £3.177M. Alternatively, based on the actual LoOs issued, the anticipated value associated with this lesser number of networks is £3.329M. The higher level of investment in the LoOs (£3.329M) compared to the pro rata budget (£3.177M) is mainly due to a higher level of industry investment (£1.802M compared to £1.588M) with the Invest NI contribution slightly lower than expected.

Considering actual costs incurred to date: £2,843,459, 38% (£1,090,727) has come from Invest NI and the remainder (62% or £1,752,732) from participating companies in the form of industry personnel / cash. Therefore targeted spend is considerably behind that anticipated (£2,843,459 compared to £9.9875M i.e. around 28% of anticipated spend incurred, variance of over £7.1M). The breakdown is 21.8% of Invest NI budget spent to date (underspend of £3,903,023) and 35.1% of industry contributions incurred to date (underspend of £3,241,018). Across Phase 1 and Phase 2 networks, the Invest NI spend has been 36% and 19% of anticipated costs respectively. The high levels of underspend evident here are due in part to the fact that fewer networks than anticipated have been established (see table 6.12) and also that Invest NI claims information was not available for all network projects.¹⁰⁶

4.3 Actions Taken Since the Economic Appraisal/ Lessons Learned

4.3.1 Progress on Actions from the Interim Report Recommendations

The following table sets out progress against the recommendations made in the interim evaluation of the Pilot CNP in 2011 that demonstrates that all areas have been actioned.

¹⁰⁵ Cogent (2011) Economic Appraisal of the Collaborative Network Programme

¹⁰⁶ There are 6 networks that are still live and as yet have not submitted claims while another closed without submitting any claims

Table 4:14: Progress on Actions from the Interim Report Recommendations (at December 2014)

Recommendation from Interim Evaluation ¹⁰⁷	Progress to Date
<p>1. Continued support to encourage Collaborative Networking Activities</p> <p>Action Agreed: The Invest NI CNP team will launch a new/updated Collaborative Network Programme of support in line with the recommended option of the economic appraisal.</p>	<p>Achieved</p> <p>Programme launched on 14 December 2011</p>
<p>2. Undertake a robust final evaluation of the Pilot Phase of the CNP</p> <p>Action Agreed: The Invest NI CNP team will undertake a robust final evaluation of the Pilot phase of the CNP.</p>	<p>Evaluation completed by PACEC 2015</p>
<p>3. Undertake a robust Programme level Economic Appraisal</p> <p>Agreed Action: An economic appraisal to be undertaken in line with Northern Ireland Guide to Expenditure Appraisal and Evaluation (NIGEAE) standards</p>	<p>Achieved</p>
<p>4. Provision of funding for projects which offer greatest potential to contribute to the development of NI's Innovation Ecosystem.</p> <p>Action Agreed: It is anticipated that many of the CNP projects will come forward as a result of proposed thematic calls for projects. These calls will result from "Pathfinder" events to be held in collaboration with NISP Connect, DETI & Matrix</p>	<p>Achieved</p> <p>Three thematic calls have been issued:</p> <ul style="list-style-type: none"> • 2011: in conjunction with the Matrix reports • 2013: ICT and sustainable energy • 2014: Digital Media, Connected Health and Life Sciences, Big Data/IT, Agri-food, Advanced Materials, Advanced Engineering and Sustainable Energy. <p>The Programme also has an "open call" on-going.</p>
<p>5. Review procedures implemented, and materials used, to monitor and evaluate the progress of any future Programme.</p> <p>Given the reported difficulties faced by the evaluation team in tracking and documenting the progress of individual network projects, Invest NI should review and amend the quarterly report template and encourage Lead Companies to place greater emphasis on completing these in a more robust manner.</p> <p>Action Agreed: The Invest NI CNP team will undertake to update marketing material, the application process,</p>	<p>Partially Achieved</p> <p>Application Process: Reviewed and Actioned</p> <p>Quarterly Report Template: A template for the quarterly report was developed by Invest NI. However this does not cover each of the recommended points.</p> <p>End of Project Report Template: A standard template for Post Project Evaluations has been developed by Invest NI and is used for all Post Project Evaluations.</p>

¹⁰⁷ Cogent (2011) Interim Evaluation of the CNP

Recommendation from Interim Evaluation ¹⁰⁷	Progress to Date
(guidance on SMART objectives, & selection/evaluation criteria will be included in the application pack (including eligible costs)), reporting templates and standard end-of-project reports.	
6. Ensure that companies provide accurate salary details of all employees involved in delivering the Network projects	Achieved This has been completed as part of the vouching process however due to the complexity of the information being sought Invest NI are piloting the option of using salary survey information instead.
7. Review the guidance provided to companies in relation to the structure and content of the Feasibility/Scoping Studies. Action Agreed: The Invest NI CNP team will provide networks with a suitable template for Scoping Studies to address the requirements of the review.	Achieved Scoping study guidance developed however on-going development is needed.
8: Develop a database containing the contact details of all companies participating in each of the Network projects. The Evaluation Team recommends that Invest NI develops a database containing the contact details (organisation names, contact name, address, phone number and e-mail address) of all organisations involved in each network project.	Achieved A database of companies was available for the evaluation however during the fieldwork stage it was evident that in some cases this was inaccurate and did not include all companies. An onus needs to be placed on Lead Companies to keep this up to date annually. However it is understandable that the database cannot be maintained by the Invest NI CNP team once the LoO has expired as several members / companies who participated in networks move on and have no obligation to inform Invest NI of any changes in contact information. This will make it difficult to keep the database fully up to date.

Source: Cogent (2011) Interim Evaluation of the CNP / Update based upon information provided by the CNP management team

4.4 Equality Considerations

As the CNP is focused on bringing companies together with similar aims and usually around sector specialisms, the onus is on the individual participating companies to comply with equality requirements.

Letters of Offer state that companies shall comply with the relevant statutory provisions in Northern Ireland imposing obligations on the client in relation to discrimination on the grounds of religious belief, political opinion (including in relation to section 75 of the Northern Ireland Act 1998), racial group, marital status, age, sexual orientation, gender, disability and having dependants.

In addition, the Formal Collaborative Network Programme was equality screened in 2011.

4.5 Learning from the Pilot to Formal CNPs

Key learning points from delivery of the Collaborative Network Programme are:

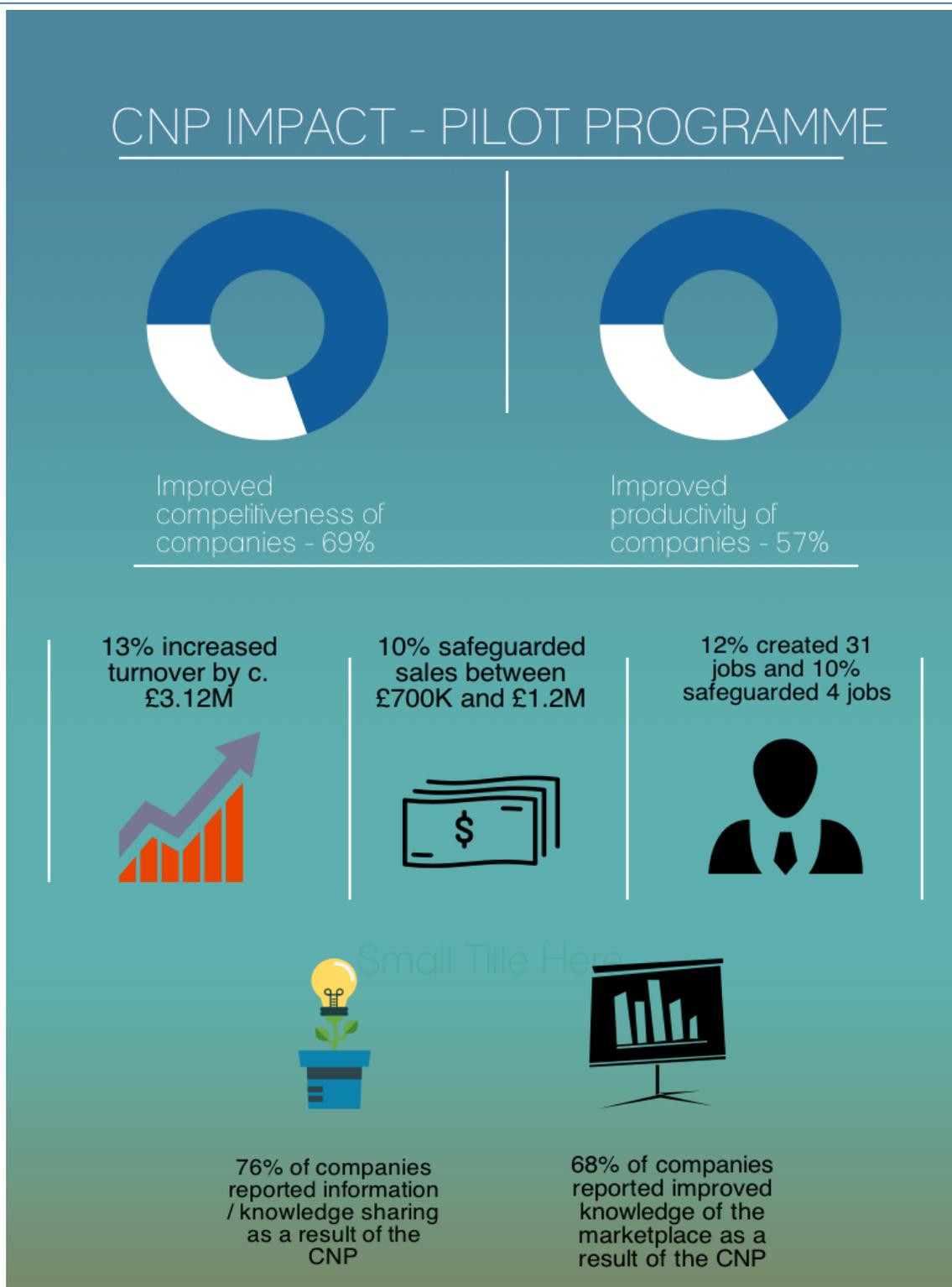
- **Marketing / Promotion:** Companies are more likely to consider collaboration if it is promoted by their Client Executive or other companies in their sector and the benefits it can bring to them are demonstrated. This relies on detailed case study work and / or the presentation of opportunities specific to their companies.
- **Facilitator Training:** Facilitators would benefit from training on their role and how to identify and deal with risks relating to their project.
- **The monitoring of economic benefits / impacts is essential to prove VFM:** networks / companies will deviate from the monitoring template if it is easy for them to do so, however this should be completed in a consistent format to make monitoring more robust and consistent. This process could be supported by placing the monitoring template online and in such a way that companies need to complete it before they can have their claim considered.
- **Invest NI CNP staff time:** The Invest NI CNP team had to spend more time / resource than expected meeting with companies in order to support the monitoring process when companies did not always produce the level of quantification required. As a result they did not have enough resource / time to spend on marketing the Programme or looking for opportunities to support more collaborative networking between networks. It is important that the monitoring process is developed so it can be completed by companies and produce the essential information required, without input from the Invest NI CNP team.
- **Claims / Vouching Process:** The current claims process has significant impacts for both networks/companies as well as the Invest NI CNP team:
- **Impact on networks/companies:** the claims process and the requirement to provide proof of salaries has resulted in negative feedback and significant dissatisfaction with this aspect of the CNP, whilst all other aspects received very positive feedback. This was felt to have a “chilling” effect on the relationships between the Invest NI / CNP team and the networks, resulting in networks having less of an appetite for engaging in future projects. According to the Invest NI / CNP team, the inability to appropriately vouch/verify non-PAYE contributions actively mitigates against SMEs being involved in the Programme.
- **Impact on Invest NI CNP team:** Research¹⁰⁸ shows essential administration associated with the Programme should be proportionate (and not act as a disincentive to current and potential network members). This is an area Invest NI has been working on and the evaluators support their action to reduce the administration associated with this area. Feedback from the Invest NI CNP team indicated that they spent a disproportionate amount of time steering networks through the claims process. This detracts from the time available to spend on other value-added activities such as marketing the Programme, finding new Networks and establishing relationships with existing ones.
- It is important that the claims/vouching process is revised to overcome the negative perceptions amongst network members (current and potential) and to ensure that best use is being made of the resource available with the Invest NI CNP team.

¹⁰⁸ NESTA: The Effects of Cluster Policy on Innovation by Uyarra and Ramlogan Manchester Institute of Innovation Research 2012

- Appointment of Facilitators: this is a key role and it is important that it is supported through open recruitment processes.
- Application / assessment process: these were developed after the interim evaluation of the Pilot CNP. Feedback from companies indicates that they are satisfied with these processes, despite them being more rigorous. This rigor is important and should be maintained with a particular focus on assessing the contribution the network can make to technological development and exporting success, in line with the focus of the Programme for Government.

5 PERFORMANCE OF THE PILOT PROGRAMME (DECEMBER 2007 – AUGUST 2011)

SNAPSHOT OF PILOT PROGRAMME SURVEY RESULTS



Based on survey results / sample of participants

5.1 Introduction

This section sets out the performance of the Pilot CNP based on survey feedback and monitoring reports. In total 19 feasibility/scoping studies and 12 Phase 2 network project have been funded to date. Overall there are 24 unique networks:

- 11 Phase 1 only;
- 5 Phase 2 only; and
- 7 Phase 1 **and** Phase 2 (8 were in Phase 1 and these became 7 in Phase 2).

The detail on the networks and companies involved in the Pilot CNP is included as Appendix C.

5.2 Company Survey Background

5.2.1 Survey Approach

An online questionnaire was developed in collaboration with Invest NI to address the following areas:

- Rationale for involvement in the CNP;
- Marketing and Promotion;
- Collaborative Network Development;
- Outcomes and Impacts;
- Additionality and Market Failure;
- Overall Satisfaction;
- Use of other supports; and
- Future of the Collaborative Network Programme.

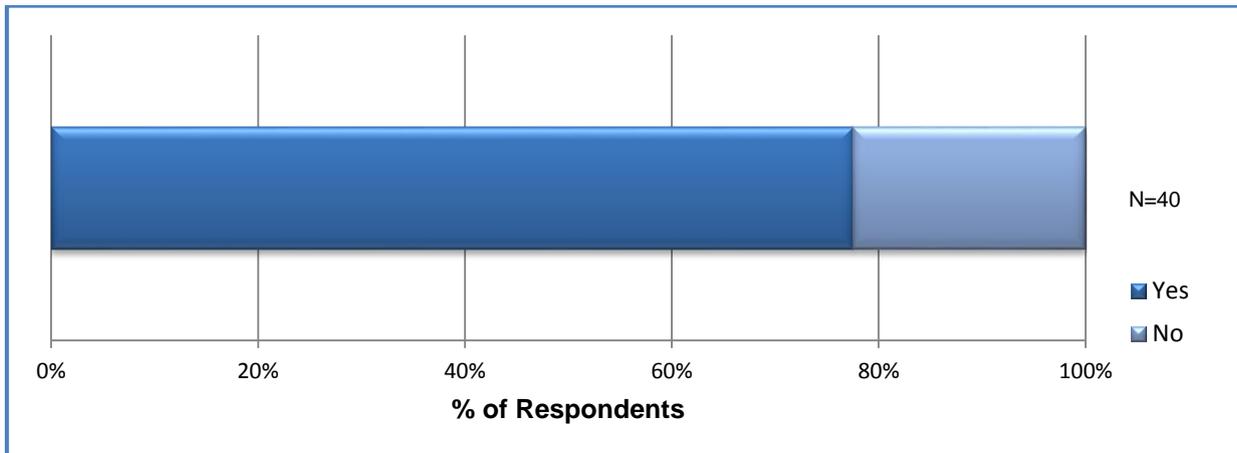
A copy of the questionnaire used is included as Appendix B. Contact details for 259 companies involved in the Pilot CNP were provided by Invest NI and the survey was issued by email to all. Follow up contact was made with potential respondents on up to 3 occasions (by email and phone) to encourage responses within the timescales for the evaluation. An assessment of non-response bias, representativeness and confidence intervals is contained in Appendix C.

5.3 Survey Results - Pilot CNP

5.3.1 Satisfaction with the Pilot CNP Programme

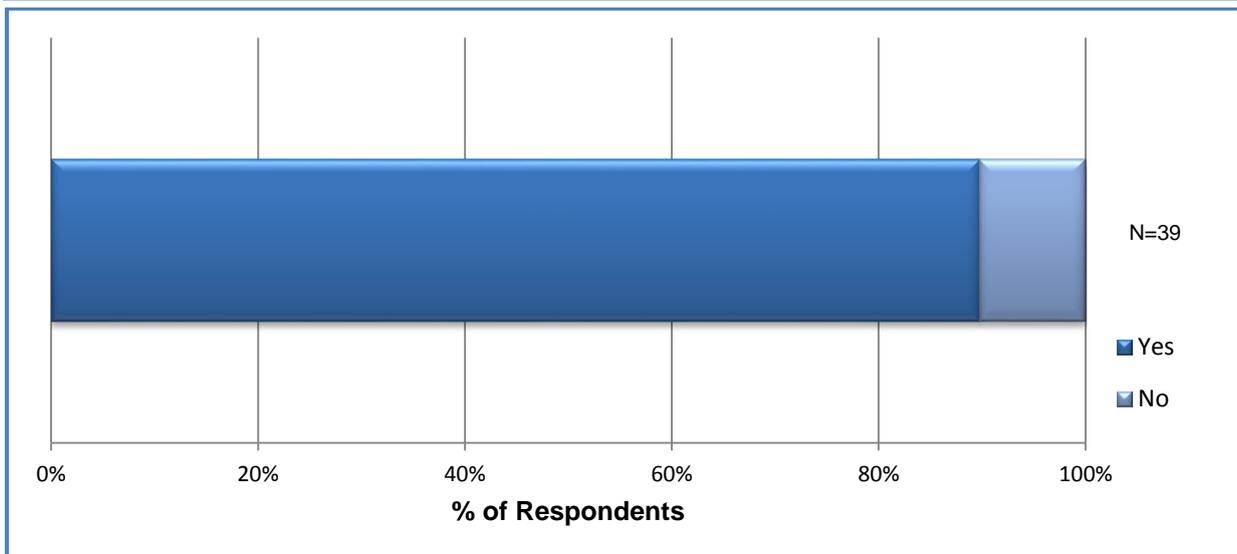
As shown in figures 5.1 and 5.2, companies expressed a high level of satisfaction with the CNP overall, with 78% stating that they would seek support from the CNP again. Similarly, 90% stated that they would recommend the CNP to other companies.

Figure 5:1: Percentage of Companies that would seek support from the CNP again



Source: Survey of Pilot Programme Network Companies (June 2015)

Figure 5:2: Percentage of Companies that would recommend the CNP



Source: Survey of Pilot Programme Network Companies (June 2015)

The qualitative feedback from the survey suggests that companies felt that the Programme helps them build their network of contacts, which is a significant contributory factor in both problem solving and winning new business. Feedback included:

“The CNP has potential to overcome barriers for NI companies trying to win new business in international markets - especially in new emerging markets such as the ocean energy sector” – member of the Global Marine Alliance network

“Brings experts together to explore [the] best possible outcome for a problem” - member of the Digital NI 2020 network

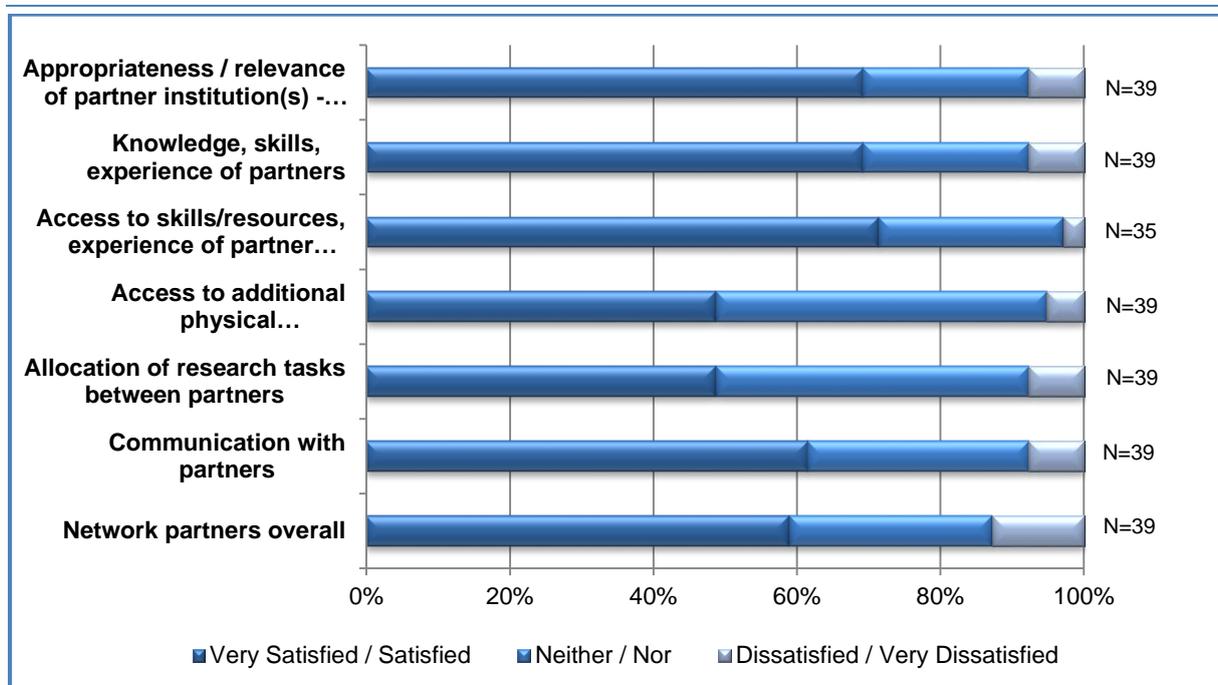
“The future of business is in collaboration; the Programme represents a great opportunity for businesses to expand their network and build working relationships with other businesses” - member of the Medical Devices in Connected Health network

5.3.2 Satisfaction with Network Partners

Respondents were very satisfied or satisfied with their network partners in relation to the following areas:

- Access to skills/resources, experience of partner institution(s) (71% N=25);
- Appropriateness / relevance of partner institution(s) - complementing my research group (69% N=27); and
- Knowledge, skills, experience of partners (69% N=27).

Figure 5:3: Satisfaction with the Network Partners



Source: Survey of Pilot Programme Network Companies (June 2015)

Companies’ Recommendations for Improvement

Key recommendations from those companies that felt the Pilot CNP could be improved included:

- Provision of additional funding to existing networks to support on-going collaborative activities (43% N=18);
- R&D costs should be covered by CNP funding (43% N=18); and
- Simplification of the claims process (43% N=18).

5.3.3 Rationale / Motivation for Participating in the Pilot CNP

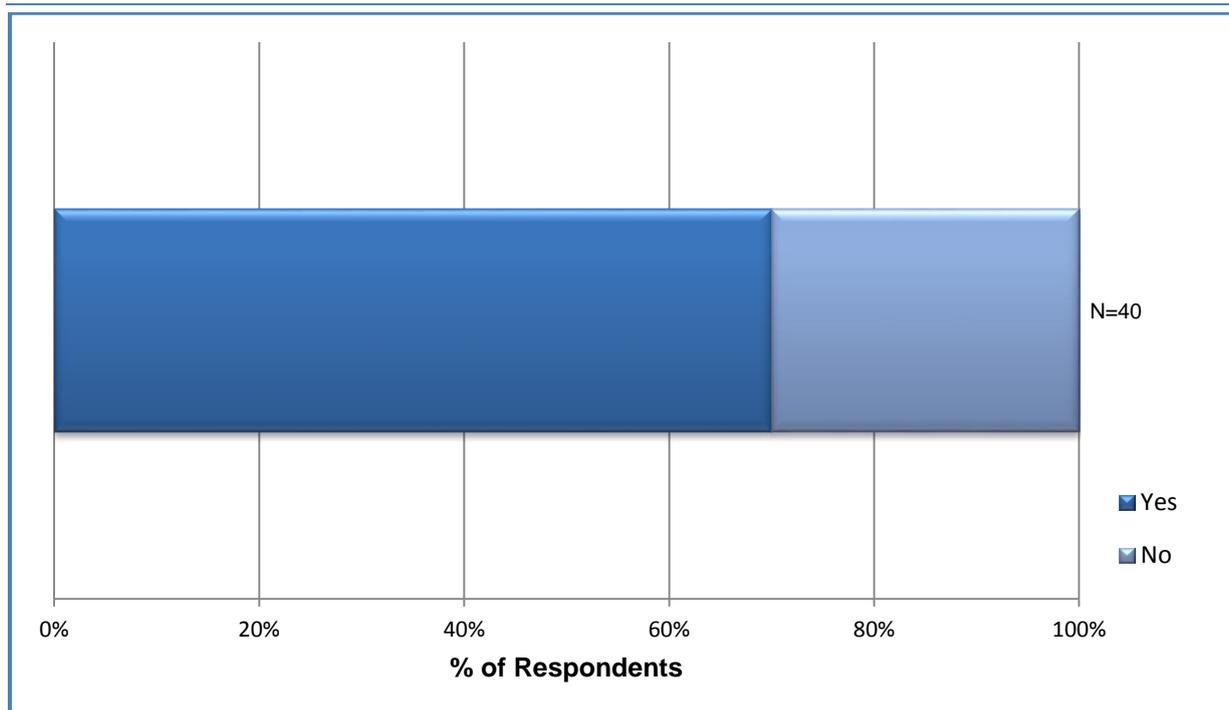
Companies had a variety of objectives that they hoped to achieve through participation in the Pilot CNP. The most frequent were:

- Develop new products (goods and/or services) (92%; N=36);
- Access to skills/abilities of partner(s) (88%; N=36);
- Increase knowledge of the marketplace (85% N=35);
- Develop new processes (85%; N=34);
- Access to physical resources (facilities, equipment) of partner(s) (70%; N=28); and
- Access to funding (63%; N=22).

5.3.4 Impact of Pilot CNP - Achievement of Company Objectives

Overall the Pilot CNP has been successful in supporting collaborative networks to achieve their objectives. As shown in figure 5.4, the majority of companies reported that their collaborative network helped them achieve the objectives they had set for it (70% N=28).

Figure 5:4: Percentage of companies reporting that their collaborative network achieved the objectives they had set

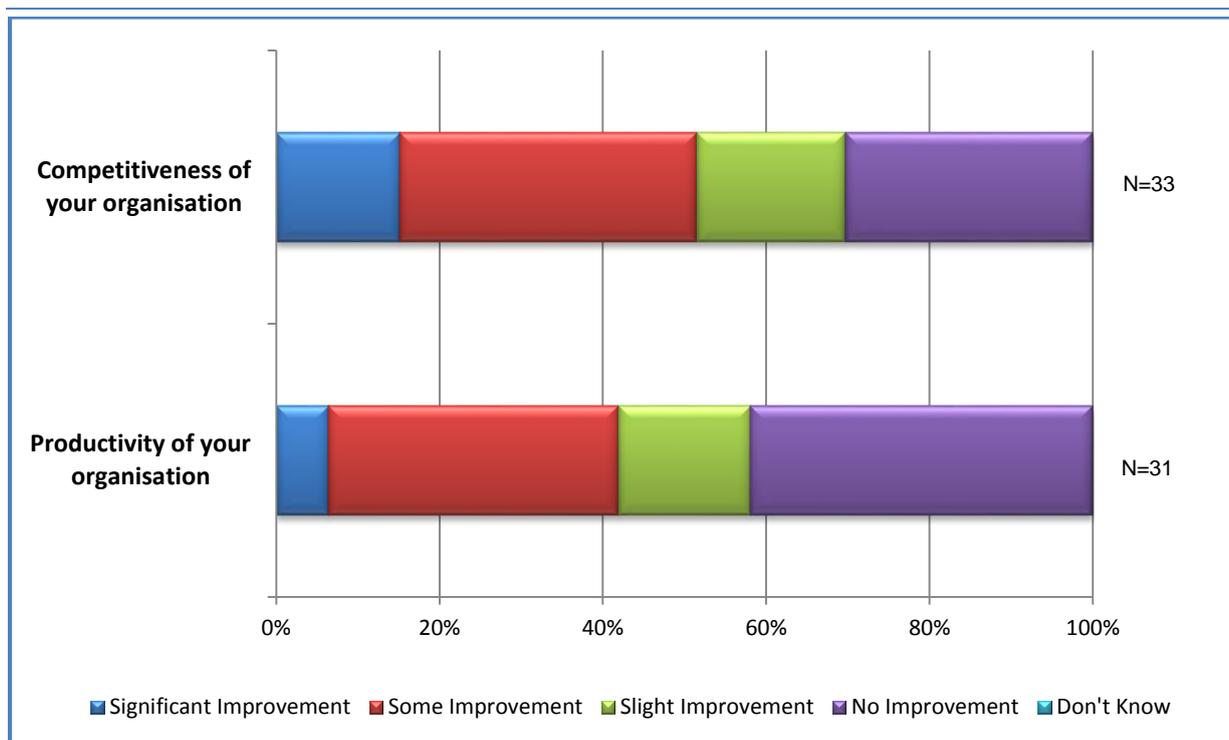


Source: Survey of Pilot Programme Network Companies (June 2015)

5.3.5 Impact of Pilot CNP – Competitiveness and Productivity

Furthermore, as shown in figure 5.5 69% (n=23) of respondents¹⁰⁹ stated there had been an **improvement in the competitiveness of their company** and 57%¹¹⁰ (n=18) stated that there had been an **improvement in the productivity of their company**.

Figure 5:5: Impact of the Pilot CNP on company competitiveness and productivity



Source: Survey of Pilot Programme Network Companies (June 2015)

Analysis of the qualitative feedback also highlights the positive impact the Pilot CNP had on competitiveness and productivity, including:

“Participating in [the] collaborative network led me to develop working practices that allowed me to be more efficient”- member of the Digital Circle Network

“It provided the basis to research the market, to meet clients and from that to engineer the company to exploit the opportunities” – member of the Global Wind Alliance network

¹⁰⁹ Calculated by adding the percentages of respondents that stated slight improvement, some improvement and significant improvement.

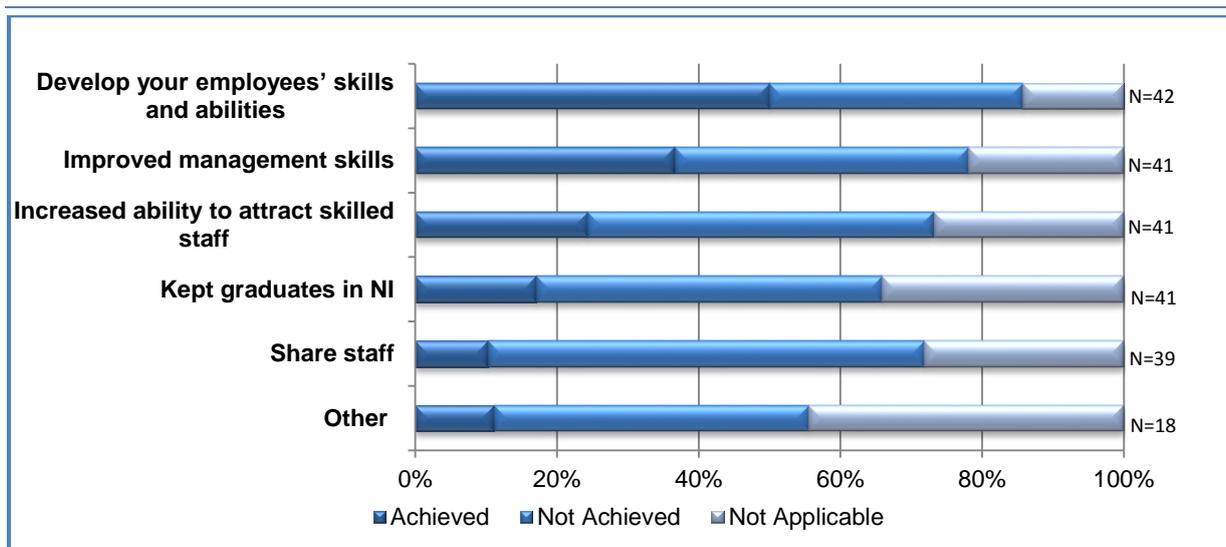
¹¹⁰ As above.

5.3.6 Other Impacts of Pilot CNP- Human Capital

Companies were asked to identify if, as a result of engaging with the Pilot CNP, their company had achieved any 'people' objectives such as enhancement of staff skills, management skills, ability to attract skilled staff, ability to keep graduates in Northern Ireland and sharing staff.

As shown in figure 5.6, a significant number of those surveyed developed employee skills and abilities (50%).

Figure 5:6: Has your company achieved any of the following 'people' objectives as a result of engaging with the Collaborative Network Programme?



Source: Survey of Pilot Programme Network Companies (June 2015)

As shown in table 5.1, the number of companies reporting development of employee skills and abilities is an increase on the c. 22% that reported this objective as being fully achieved in the interim evaluation of the Pilot Programme.¹¹¹

Table 5:1: Human Capital Objectives – Interim & Final Report Findings

Human Capital Element	Interim Report Findings –Achieved	Final Report Findings – Fully Achieved
Develop your employees' skills and abilities	c. 22%	50% (N= 21 / 42)
Improved management skills	not specified	37% (N= 15 / 41)
Increased ability to attract skilled staff	not specified	24% (N= 10 / 41)
Kept graduates in NI	not specified	17% (N= 7 / 41)
Share staff	c. 18%	10% (N= 4 / 39)

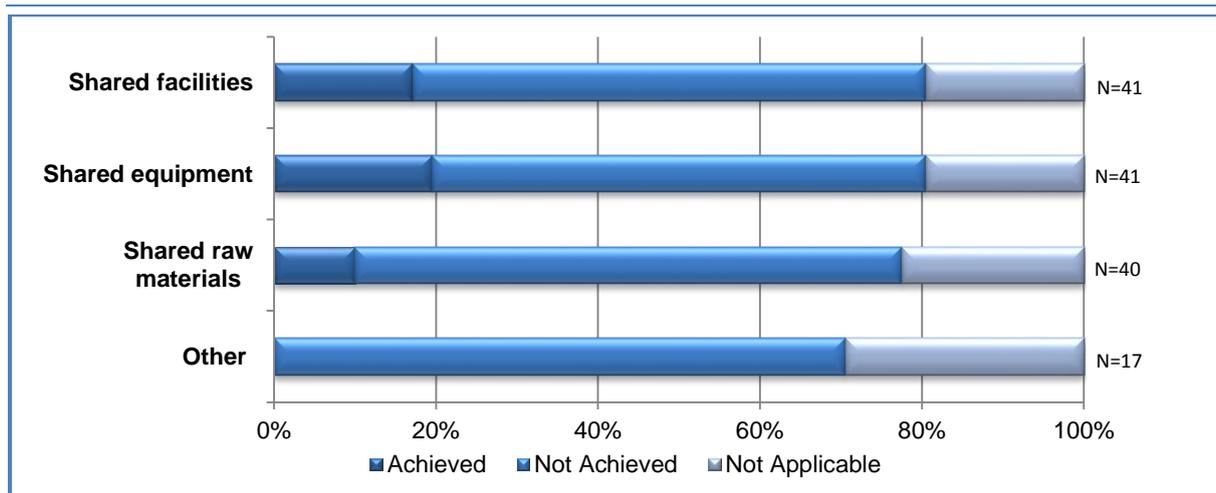
Source: Cogent (2011) Interim Evaluation of the Collaborative Network Programme & Survey of Pilot Programme Network Companies (June 2015).

¹¹¹ Cogent (2011) Interim Evaluation of the Collaborative Network Programme

5.3.7 Other Impacts of Pilot CNP - Physical Capital

Respondents were asked if they had achieved any physical capital objectives as a result of engaging with the Pilot CNP such as shared facilities, shared equipment or shared raw materials. As shown in figure 5.7, some respondents (no more than 20% for any aspect) indicated that they had achieved physical capital objectives.

Figure 5.7: To what extent have you achieved the following Physical Capital (things) objectives?



Source: Survey of Pilot Programme Network Companies (June 2015)

The survey shows a higher percentage of companies achieving physical capital objectives now compared to the results in the interim evaluation (see table 5.2).

Table 5.2: Physical Capital Objectives – Interim & Final Report Findings

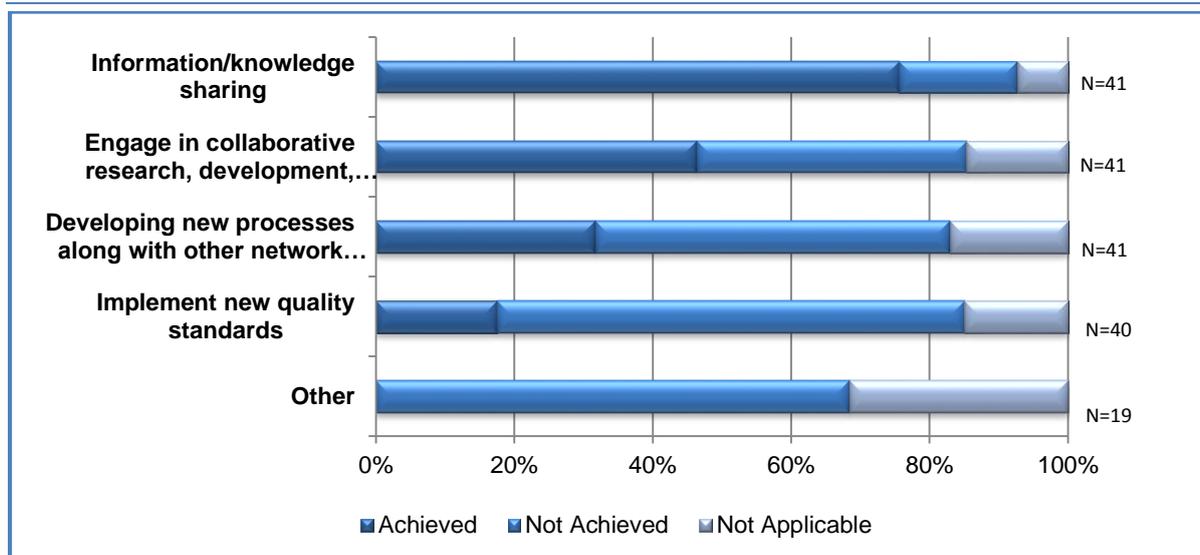
Physical Capital Element	Interim Report Findings – Achieved	Final Report Findings – Fully Achieved
Shared facilities	c. 15%	17% (N=7)
Shared equipment	c. 10%	20% (N=8)
Shared raw materials	c. 0%	10% (N=4)

Source: Cogent (2011) Interim Evaluation of the Collaborative Network Programme & Survey of Pilot Programme Network Companies (June 2015)

5.3.8 Other Impacts of Pilot CNP - Intellectual Capital (Know How)

Intellectual capital includes the sharing of information / knowledge, engaging in collaborative research, developing new processes with other network members and implementing new quality standards as a result of engagement in the network. Figure 5.8 shows that the Pilot Programme had a significant impact on respondents sharing of information/knowledge (76% N=31) and almost half reported engagement in collaborative research (46% N=19).

Figure 5:8: To what extent have you achieved the following Intellectual Capital (know how) objectives?



Source: Survey of Pilot Programme Network Companies (June 2015)

There has been a significant increase in the percentage of companies achieving intellectual capital objectives since the interim evaluation (see table 5.3).

Table 5:3: Intellectual Capital Objectives – Interim & Final Report Findings

Intellectual Capital Element	Interim Report Findings – Achieved	Final Report Findings – Fully Achieved
Information/knowledge sharing	c.42%	76% (N=31)
Engage in collaborative research, development, design activities	c.30%	46% (N=19)
Developing new processes along with other network members	c.22%	32% (N=13)
Implement new quality standards	not specified	18% (N=7)

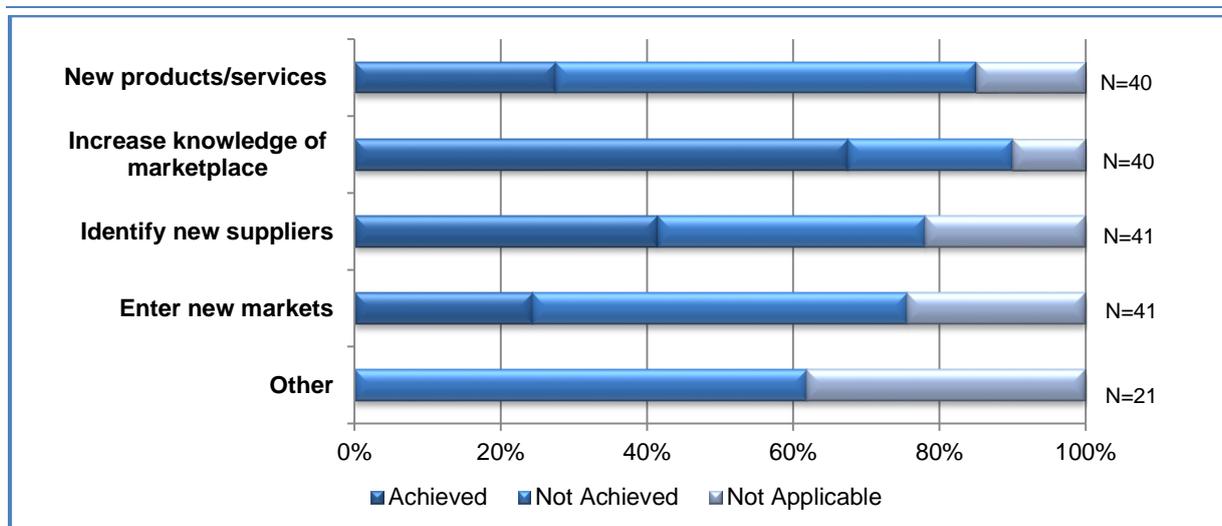
Source: Cogent (2011) Interim Evaluation of the Collaborative Network Programme & Survey of Pilot Programme Network Companies (June 2015)

5.3.9 Other Impacts of Pilot CNP - Market Capital (Global Positioning)

Survey respondents were asked to identify what market capital objectives they had achieved as a result of participating in the Pilot CNP. These included developing new products / services, increased knowledge of the marketplace, identification of potential new suppliers and entering new markets.

As shown in figure 5.9 the Pilot CNP has been very successful in improving respondents' knowledge of the marketplace (68% N=27), as well as helping companies to identify new suppliers (41% N=17).

Figure 5:9: To what extent have you achieved the following Market Capital (global positioning) objectives?



Source: Survey of Pilot Programme Network Companies (June 2015)

As shown in table 5.4 there has been a significant increase in the number of companies reporting the achievement of all market capital objectives compared to that reported in the interim evaluation.

Table 5:4: Market Capital Objectives – Interim & Final Report Findings

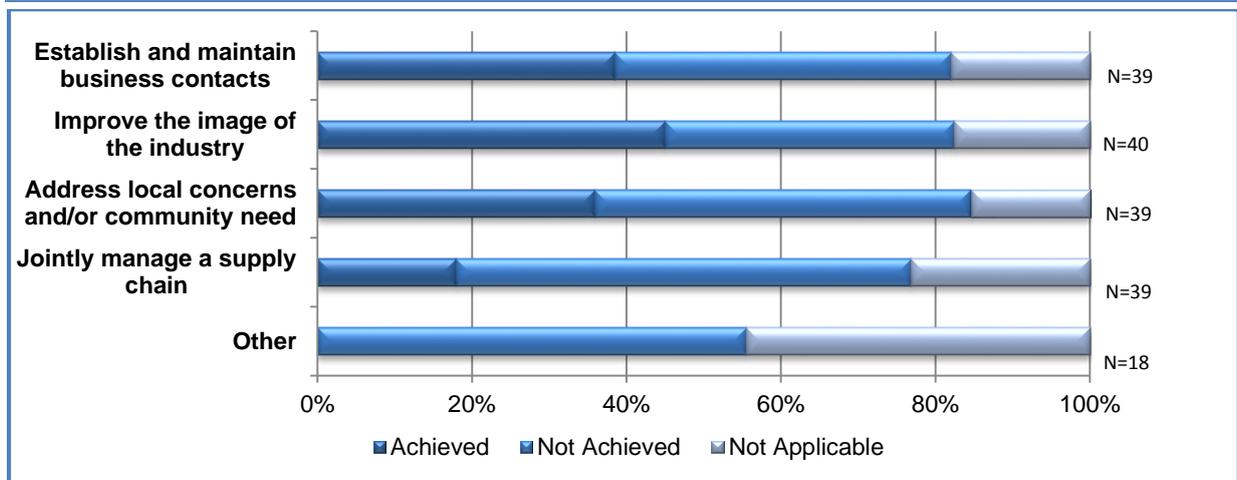
Market Capital Element	Interim Report Findings – Achieved	Final Report Findings – Fully Achieved
New products/services	c.15%	28% (N=11)
Increase knowledge of marketplace	c.36%	68% (N=27)
Identify new suppliers	c.15%	41% (N=17)
Enter new markets	c.5%	24% (N=10)

Source: Cogent (2011) Interim Evaluation of the Collaborative Network Programme & Survey of Pilot Programme Network Companies (June 2015)

5.3.10 Other Impacts of Pilot CNP - Social Capital (Growth of Networks/Partnerships)

Pilot Programme companies were also asked to identify the social capital outcomes they had achieved, including the establishment / maintenance of business contracts, improvements to the image of the industry and addressing local concerns and / or community needs. The findings illustrated in figure 5.10 show that the Pilot CNP has had a significant impact on improving the image of the industries / sectors network members were involved in (45% N=18) as well as helping them to establish and maintain business contacts (38% N=15).

Figure 5:10: To what extent have you achieved the following Social Capital (growth of networks/partnership) objectives as a result of the Collaborative Network Programme?



Source: Survey of Pilot Programme Network Companies (June 2015)

Table 5.5 shows that the performance against social capital objectives has increased since the interim evaluation of the Pilot CNP with the exception of establishing business contacts, which is slightly lower than previously reported.

Table 5:5: Social Capital Objectives – Interim & Final Report Findings

Social Capital Element	Interim Report Findings – Achieved	Final Report Findings – Fully Achieved
Establish and maintain business contacts	c.42%	38% (N=15)
Improve the image of the industry	c.22%	45% (N=18)
Address local concerns and/or community need	c.21%	36% (N=14)
Jointly manage a supply chain	c.0%	18% (N=7)

Source: Cogent (2011) Interim Evaluation of the Collaborative Network Programme & Survey of Pilot Programme Network Companies (June 2015)

5.3.11 Additionality, Displacement and Deadweight

Table 5.6 provides information to assist with the calculation of additionality and deadweight.

Table 5.6: If the Invest NI Collaborative Network Programme support that you used had not been available to you, would you have been able to proceed with developing your project?

Response	Frequency	Percentage
Would have gone ahead with the project, with same result	3	7%
Would have gone ahead with the project, but over a longer timescale	6	14%
Would have gone ahead with the project, but on a smaller scale	5	12%
Would have gone ahead with the project, but over a longer timescale and on a smaller scale	3	7%
Probably would not have gone ahead with the project	14	33%
Definitely would not have gone ahead with the project	8	19%
Other	3	7%
Total	42	100%

Source: Survey of Pilot Programme Network Companies (June 2015)

Overall these results show that the Pilot CNP has achieved the following:

- **Full additionality**¹¹²: 19% of respondents definitely would not have gone ahead with the project
- **Partial additionality**¹¹³: 66% of respondents would have gone ahead later and/or on a smaller sale or probably would not have proceeded: consisting of 14% (timing), 12% (scale), 7% (scale & timing) and 33% (probably would not have gone ahead with the project)
- **Deadweight**¹¹⁴: 7% of respondents would have gone ahead with the project on their own, this suggests few companies would be undertaking these activities without the CNP;
- **Displacement**¹¹⁵: Regarding receiving collaborative networking support from any other organisation or individual outside Invest NI CNP, 40% of respondents¹¹⁶ said that they would have been able to go ahead by:
 - Funding it themselves;
 - Use of extended networks to progress projects; or

¹¹² **Full additionality** - Programme's benefits are wholly attributable to the Programme, i.e. deadweight and displacement are zero

¹¹³ **Partial additionality** - activity would have been carried out earlier, or on a larger scale or to a higher specification or has displaced existing activity.

¹¹⁴ **Deadweight** - activity that would have occurred regardless of the policy

¹¹⁵ **Displacement** of activity within a local area (taking market share from other local firms producing the same or similar goods or services)

¹¹⁶ Respondents to the question: If the Invest NI Collaborative Network Programme had not been available to you how would you have gone about this? Only for those who would have been able to proceed with developing their project / business immediately, over a longer timescale or on a smaller scale

- Availing of a different scheme similar to the Collaborative Network Programme.

Therefore the Programme is calculated to be **52% additional** (based on weighted sum of 1 x full additionality + 0.5 x partial additionality + 0.0 x deadweight).

Considering displacement of impacts, Invest NI takes this into consideration in the process of assessing applications for Collaborative Networks. It seeks only to support those that are carrying out activity that would not otherwise take place and therefore is not taking market share from other local firms.

5.4 Impact of Pilot CNP – Survey Results 2015 (sample of all participants)

From the 2015 survey it is evident that companies achieved a number of economic impacts as a result of their engagement in the Pilot CNP. Details of tangible benefits (as reported in the survey) include the following:

BOX A: Pilot Key Impacts achieved by a sample of respondents (BASED ON SURVEY RESULTS)

Key Impacts reported by NI-based survey respondents were:

- 12% (n=5) of respondents stated that their company had **increased turnover**;
- 10% (n=4) had safeguarded existing sales;
- 12% (n=5) of respondents said that they **had created jobs**;
- 10% (n=4) stated that they had **safeguarded existing jobs**.

Some of these respondents were able to quantify the economic impacts as follows (number of respondents and total (collective) impacts reported by them):

- **Increased Turnover** – 4 respondents reported increased turnover of £3.12M;
- **Existing Sales Safeguarded** – 2 respondents reported safeguarded sales of between £700K and £1.2M overall;
- **Jobs Created** – 3 respondents reported 31 jobs created;
- **Existing Jobs Safeguarded** – 2 respondents reported 4 jobs safeguarded.

Source: Survey of Pilot Programme Network Companies (June 2015)

The detail of these figures is shown in table 5.7.

Table 5:7: Tangible Business Benefits as reported in the survey

Phase	Network	Company	Tangible Business Benefit	
			Sales / Turnover (created / safeguarded)	Employment (created / safeguarded)
Phase One & Two	Global Wind Alliance	CMS Global	£3M (additional) ¹¹⁷	10 (created) ¹¹⁸
Phase Two	Digital Circle	Noise Sauce/ Dphisound	£20K (additional)	1 (safeguarded)
	Digital Circle	South West College	£30K (additional)	Not specified
	Digital Circle	South West College	£70,000 per year (additional) £200,000 per year (retained / safeguarded)	1 (created) / 3 (safeguarded)
	Digital Circle	Kainos	£500K-£1m (retained / safeguarded)	20 (created)
Total			4 respondents reported increased turnover of £3.12M; 2 respondents reported safeguarded sales of between £700K and £1.2M overall	3 respondents reported 31 jobs created; 2 respondents reported 4 jobs safeguarded.

Survey respondents were also asked what economic impacts they expected from engagement with the Pilot CNP over the next 5 years. The responses are detailed in Box B:

¹¹⁷ Survey response stated: “when I launched the Global Wind Alliance I was a sole trader. We now have two companies, employing 10 people, with turnover last year just under £3m”

¹¹⁸ Survey response stated: “when I launched the Global Wind Alliance I was a sole trader. We now have two companies, employing 10 people, with turnover last year just under £3m”

Box B: Pilot Projected Future Economic Impacts based on a sample of respondents

Projected impacts reported by NI-based survey respondents

- 20% (n=7) of respondents **expected to create additional exports** over the next 5 years;
- 23% (n=8) of respondents **expected to create additional sales** over the next 5 years; and
- 34% (n=12) of respondents **expected to employ more people** over the next 5 years.

Some of these respondents were able to quantify the expected economic impacts from engagement with the Pilot CNP over the next 5 years as follows (number of respondents and total (collective) impacts reported by them):

- **Additional Exports** – 2 respondents specified £5.010M¹¹⁹ in additional exports;
- **Additional Sales** – 3 respondents specified £1.515M¹²⁰ in additional sales; and
- **Additional Employees** – 6 respondents indicated 35¹²¹ additional employees.

Source: Survey of Pilot Programme Network Companies (June 2015)

The projected impacts are important as research has shown that in general the impacts take at least 5 years to be generated.¹²²

These survey results (in Box A and Box B above) are used to generate the estimated total impact of the Pilot CNP – the approach and details of total impact are described in sections 5.7 and 5.8.

5.5 Impact of Pilot CNP - PPE / Monitoring Reports (based on available information)

The Post Project Evaluations (PPEs) provide a mechanism by which Invest NI can review the extent to which each network delivered on its objectives and targets, the impact achieved (including any economic benefits) and any key learning.

In total 17 PPE reports (15 relating to Phase 1 and 2 relating to Phase 2) and 25 final monitoring / external evaluation reports (15 relating to Phase 1 and 10 relating to Phase 2) were received.

The key findings from these are summarised in Appendix D and a summary of the results is shown table 5.8.

¹¹⁹ Additional Exports: £5m; £10K

¹²⁰ Additional Sales: £1m, £500K; £15K

¹²¹ Additional Employees: 20; 5; 3 (x2); 1-2 (x2)

¹²² Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers

Table 5:8: Summary of PPE Results, End of Project Evaluation Reports, etc.

Financial Capital	Human Capital	Physical Capital	Intellectual capital
<ul style="list-style-type: none"> • Employment: 6 jobs created • Sales / Turnover: £33,150,507 • Investment: £5,134,000 	<ul style="list-style-type: none"> • Commercial skills/ Business Acumen skills • R&D skills • Product Development Skills • Technical Skills 	<ul style="list-style-type: none"> • No information in PPEs / monitoring reports relating to physical capital 	<ul style="list-style-type: none"> • Links with HEIs and FE colleges

Source: PPE and Monitoring / End of Project Evaluation Reports

The table above shows that the projects generated a number of positive outcomes, particularly in relation to human and intellectual capital. In relation to human capital this included activities such as training needs analysis and sessions on investing in R&D, effective monitoring systems and relevant markets. These types of activities resulted in network members reporting a greater awareness of:

- skills gaps and export sales opportunities;
- the advantages of investing in R&D;
- the potential benefits of upgrading controls and monitoring systems for products; and
- complementary technologies and market factors.

Evidence on intellectual outcomes mainly relates to relationships established with universities and colleges, for example five companies involved in Capital Markets technology joined with two universities to create a jointly funded collaborative research network of PhDs. The outcomes reported for these activities included the ability to carry out and share research on specific subject areas and generate new knowledge that was then shared with other network members.

5.6 Consultation Findings: Feedback from CNP Facilitator and Lead Company Interviews

The majority of those interviewed had been involved with their project in both Phase 1 and Phase 2, one network only operated in Phase 1. Respondents had been involved in either Pilot or Formal network or both and feedback was common to both Pilot and Formal network.

Detailed feedback is included in Appendix F. A summary of key points relating to impacts, the current status of networks and learnings is presented in Section 7.

5.7 Approach to Estimating the Total Impact of Pilot CNP

It is important to note that there has been research into (and to a lesser extent evaluation of) existing supports in order to ascertain whether government support for clusters or networks¹²³ is an effective use of public funds. Underlying this question are challenges associated with estimating the impact of

¹²³ Northern Ireland refers to Networks, but the literature tends to focus on Clusters. Clusters were defined by Porter as: 'geographical concentrations of interconnected companies and institutions in a particular field'

such interventions. According to Uyarra and Ramlogan (2012)¹²⁴, there are many problems with trying to evaluate the impact of clusters / networks therefore little robust evidence exists of whether funding them is an effective use of government money. This is consistent with previous research from Martin and Sunley (2001)¹²⁵ which also concluded “it seems impossible to support or reject clusters definitively with empirical evidence, as there are so many ambiguities, identification problems, exceptions and extraneous factors.”

However the extent of EU policy and funding that is focused on clusters and collaboration would seem to suggest an implicit acceptance that such interventions are both necessary and effective and it should be noted that research¹²⁶ on the effectiveness of clusters and collaboration does indicate that in a number of cases:

- cluster programmes have provided a suitable framework to mobilise resources and actors towards advancing the innovation potential of the target regions and sectors of activities;
- most clusters include the provision of a variety of business support services e.g. assistance for technical innovation and mentoring support, which in many cases have been found to have an important bearing on the productivity of the clusters, particularly for SMEs; and
- the intervention led to collaborations that may not have occurred without the intervention.

However overall there is no clear and unambiguous evidence that cluster policy is able to sustainably deliver innovation outcomes, improve levels of entrepreneurship and employment, or improve firm productivity and competitiveness.

This section sets out the approach used to estimate the total impact of the Pilot CNP (i.e. using and scale up from the impacts reported in the survey and/or PPEs) and this illustrates some of the many challenges in assessing the impact of such interventions.

5.7.1 Selecting an appropriate data source

There are a number of data sources that can be used to calculate overall Programme impacts, with at least four potential options. Each of these is based on a sample, rather than all Pilot CNP participants.

- **Source 1: Interim Evaluation: Survey Responses** – provides an estimate of performance at a point in time (2011) for a sample of respondents who volunteered impact information in survey responses. The survey data also provides information on additionality that is applied to isolate the impacts attributable to the CNP. Information from this source may be scaled up across all networks/companies and over time to estimate overall impact at 2015 and beyond. Due to the relatively small number of survey respondents providing **quantitative**¹²⁷ information about impacts, coupled with the wide variety in the characteristics of companies participating in the networks, it is important to treat any findings with caution.

¹²⁴NESTA (2012) The Effects of Cluster Policy on Innovation

¹²⁵ Martin, R. and Sunley, P., 2001. Deconstructing clusters: chaotic concept or policy panacea?. Journal of Economic Geography, 3 (1): 5-35 and referenced in ‘The Effects of Cluster Policy on Innovation, NESTA 2012

¹²⁶ NESTA (2012) The Effects of Cluster Policy on Innovation

¹²⁷ It is important to note that many companies provided a substantial amount of information about the **qualitative** impacts of the CNP – however whilst this is extremely useful, information in this format cannot be used to estimate quantitative impact.

- **Source 2: Final Evaluation: Survey Responses** – provides an estimate of performance at a point in time (2015) based on a sample of respondents who volunteered impact information in survey responses. The survey data also provides information on additionality that is applied to isolate the impacts attributable to the CNP. Information from this source may be scaled up across all networks/companies and over time to estimate overall impact at 2015 and beyond. Due to the relatively small number of survey respondents providing **quantitative**¹²⁸ information about impacts (see Box A and Box B in Section 5.4), coupled with the wide variety in the characteristics of companies participating in the networks, it is important to treat any findings with caution.
- **Source 3: PPEs** – provides a range of information about those networks for which they have been completed however there is relatively little quantified data. The reports provide an estimate of performance at various points in time depending on when they have been completed (various dates between 2010 and 2013, as well as some dates not specified). Whilst there is the potential to scale up information from this source across all networks, in practice this is challenging given the relatively low volume of data as well as variability in timescales.
- **Source 4: Combining data from some or all of the sources above** – this approach was considered however there is a risk of double counting (e.g. if some of the same impacts are reported in one or more of the sources) and this is further compounded by the variable timescales that each of the sources relates to.
- **Other sources of information** (such as (primarily) qualitative information from consultations with facilitators) also provide some indication of impact. Where such information is available, this is included in section 5.6. However this does not provide an appropriate source from which impacts may easily be derived due to challenges in isolating the impacts attributable to the CNP, the risk of double-counting (if combining with other sources above) and other variability in the data reported.

Summary

An approach based on **survey data (source 1. or 2. above)** is deemed to be most robust source of data in contrast to the PPEs or some combination of survey data and PPEs.

It is important to note that whilst this provides an estimate of impact, the figures should be treated with caution due to the relatively small numbers of survey respondents on which these are based (and also the variability within the companies' participating in the CNP in terms of the company, the types of network, the type of activity undertaken and the level / duration of engagement). Further details on caveats associated with the estimated impact are included in section 5.8.1.

¹²⁸ It is important to note that many companies provided a substantial amount of information about the **qualitative** impacts of the CNP – however whilst this is extremely useful, information in this format cannot be used to estimate quantitative impact.

5.7.2 Selecting an appropriate method of scaling up impacts (from survey data to all participating companies)

A number of options are available to estimate the impact for all participating companies in the Pilot CNP based on survey data as follows:

- **Option 1: Interim Evaluation (2011) survey data – scaled up by number of Phase 2 network companies.** From the survey data impact per company is estimated, then scaled up by the number of companies in Phase 2 networks only (as Phase 1 focused on feasibility / scoping studies);
- **Option 2: Interim Evaluation (2011) survey data – scaled up by number of Phase 1 and Phase 2 network companies** From the survey data impact per company is estimated, then scaled up by the number of companies in Phase 1 and Phase 2 networks (as participants from both Phases responded to the survey and reported impacts);
- **Option 3: Final Evaluation (2015) survey data – scaled up by number of Phase 2 network companies.** From the survey data impact per company is estimated, then scaled up by the number of companies in Phase 2 networks only (as Phase 1 focused on feasibility / scoping studies); and
- **Option 4: Final Evaluation (2015) survey data – scaled up by number of Phase 1 and Phase 2 network companies** From the survey data impact per company is estimated, then scaled up by the number of companies in Phase 1 and Phase 2 networks (as participants from both Phases responded to the survey and reported impacts).

Options 1 and 3 are eliminated as they do not reflect the full range of participants in the networks and it is clear from survey responses that participants in both Phase 1 and Phase 2 reported impacts.

Option 2 is based on survey data from 4 years ago and with a slightly smaller sample of survey respondents than Option 4. It also relates to a time when not all networks in the Pilot CNP had been funded and those already funded would still have been under development with impacts yet to be realised.

In contrast, Option 4 is based on up-to-date information from a survey that was open to all networks funded under the Pilot CNP and which should now be mature / well developed, the number of responses to this survey is also slightly higher. Therefore it is argued that the impacts reported are somewhat more robust in the 2015 survey than in the 2011 survey. Finally, this approach is consistent with that being used for the Formal CNP evaluation (section 6).

Summary

An approach based on **2015 survey data scaled up across all participating companies in Phase 1 and Phase 2 networks (Option 4 above)** is deemed to be most robust approach to estimate the overall impact of the Pilot CNP. From this, the following estimates may be derived:

- **Mean impact per company (from the survey)** – this is the total impacts reported in the Pilot survey – as presented in Box A in Section 5.4. [This includes impacts reported in the company survey relating to turnover and jobs (created and sustained/safeguarded)]. These total impacts are divided by the number of companies which reported impacts and quantified these; and
- **Baseline Impact (all participating companies)** – this is calculated as the mean impact per company (as described above) multiplied by the total number of companies (in Phase 1 and Phase

2 networks) multiplied by the proportion of companies in the survey who reported achieving an impact.

Note: in scaling up the impacts the total number of companies participating in Phase 1 and Phase 2 networks is used. In this instance, the number is taken from the database of companies which were invited to participate in the survey. This provides a “snapshot” of the number of companies involved in the Pilot CNP. Due to the nature of the Programme there will have been some fluctuation in the number of companies involved. Some companies may have been involved in more than one network and/or companies may have joined or left a network throughout its lifetime. Given this potential duplication and fluctuation, the number of companies presented here is considered to be the most appropriate estimate. Separately, it is also worth noting that some companies may have been involved in activity in both the Pilot and Formal Programmes. These issues are further discussed in section 5.8.1.

5.7.3 Selecting an appropriate method of taking into account future impacts

The potential future impacts of the Pilot CNP are also explored. This considers projected impacts over next 5 years (as reported by survey respondents (see Box B in Section 5.4)) and uses a similar approach to scaling these up as for the current impacts (described above in section 5.7.2).

5.8 Estimated Total Impacts of the Pilot CNP (scaled up from survey results)

5.8.1 Achieved impacts (all participating companies)

Having selected an appropriate data source and method for scaling up impacts, the economic impact of the Pilot CNP has been estimated as follows - drawing on information shown in Box A in Section 5.4.

The table below includes information relating to jobs created and safeguarded as well as new sales and sales retained/safeguarded. For each of these categories of impact, the data presented includes the number of companies surveyed, the number of companies surveyed, the proportion of respondents and confidence interval associated with the level of response attained.

Note on Confidence Intervals: Based on the sample size, (known) population and a confidence level¹²⁹ of 95%, it is possible to provide a general estimate of confidence intervals (also called margin of error) for the survey responses.

The table also includes the number and proportion of respondents who reported positive impacts and the number and proportion who quantified positive impacts for each category. Using this information, the gross impact reported by survey respondents may be calculated and from this, the mean impact per company. Finally, this is used to calculate the total achieved impact for the whole population of companies participating in the Pilot CNP.

¹²⁹ Represents how often the true percentage of the population who would pick an answer lies within the confidence interval

Table 5:9: Achieved Impacts of Pilot CNP including Confidence Intervals (based on survey with 42 respondents) and scaling this up to reflect the whole population of companies in Pilot CNP

	New Jobs created	Existing Jobs safeguarded	New sales £	Existing sales retained / safeguarded £
No. of companies in the population (Phase 1 and Phase 2 networks)	259	259	259	259
No. of companies surveyed	42	42	42	42
95% confidence interval (based on sample size)	± 13.9%	± 13.9%	± 13.9%	± 13.9%
No. of companies reporting positive impact in survey	5	4	5	4
% of all surveyed	12%	10%	12%	10%
No. of companies quantifying impact in survey	3	2	4	2
% of all surveyed	7.1%	4.8%	9.5%	4.8%
Gross impact reported in survey	31 jobs	4 jobs	£3.12M	£700K-£1.2M => £950K
Mean impact per company (gross impacts divided by no. of companies reporting details of impact)	10.3 jobs	2 jobs	£780K	£350K-£600K
Estimated Achieved Impact across whole population: No of companies in population x % of companies reporting positive impact x mean impact per company	318.6 jobs	49.3 jobs	£24.05M	£8.633M-£14.8M

Source: PACEC (September 2015)

From the impacts estimated for the whole population, an estimate of GVA may also be determined as: estimated net additional GVA impact = sales x additionality x GVA to turnover ratio where:

- Sales = sum of sales safeguarded and sales created;
- Additionality (from 2015 survey) = 52.0%;

- GVA to turnover ratio (from NIABI) = 29.7%¹³⁰.

This gives an estimated GVA impact of **£5.05M - £6M** (based on total sales of £32.683M - £38.85M).

Due to a small proportion of companies involved in the CNP based outside NI (and hence impacts not attributable to the NI economy), the actual impacts may be up to 5% lower.

Caveats and Limitations

Whilst the analysis above provides an estimate of the impacts of the Pilot CNP, it is important to treat these with considerable caution. The context and related limitations of the grossing up exercises and the comparison of GVA to costs etc. are set out below.

- There are a number of potential sources of information to provide a basis for the estimated impacts reported in this document. These are discussed at length in Section 5.7 and whilst the approach adopted is deemed to be the most appropriate given the data available, it is not without its limitations:
- There are a relatively small numbers of companies quantifying impacts in the survey (the information forms the basis for the estimates); and
- There is some variability in the impact data reported (and whilst some outliers were excluded due to the potential to skew the analysis, this further reduced the available data on which to base the estimates).
- Assumptions regarding the total number of companies in the “population” - the number of companies participating in Phase 1 and Phase 2 networks is taken from the database of companies which were invited to participate in the survey. This provides a “snapshot” of the number of companies involved in the Pilot CNP. Due to the nature of the Programme, there will have been some fluctuation in the number of companies involved at any point in time. Some companies may have been involved in more than one network and/or companies may have joined or left a network throughout its lifetime. For example, the contact database included:
 - At least 8 Companies involved in more than one Pilot network;
 - At least 7 Companies involved in more than one Formal network; and
 - Around 10 companies involved in both Pilot and Formal networks.

Given this potential duplication and fluctuation, the number of companies presented here is considered to be the most appropriate estimate and likely to be conservative (see also Section 5.7.2).

- Representativeness of survey respondents: to assess representativeness using data available at the time of writing, the profile of the companies surveyed has been compared with those in the population.
- Pilot Programme
- Survey respondents included 42 from the Pilot Programme. The contact database included 259 companies representing 24 networks.

¹³⁰ Note: NI GVA as a % of NI Turnover = 29.7% (£18,976m / £63,953m) which is based on:

- Turnover by businesses in NI estimated to be worth £63,953 million in 2013 (excluding VAT)
- Total Approximate Gross Value Added (GVA) at basic prices for 2013 is £18,976 million.

(Source: Northern Ireland Annual Business Inquiry (Experimental) 2013 results on a Reporting Unit basis (DETI Statistics Bulletin, Published 10/12/14))

- Many, but not all Pilot networks were represented by the survey respondents which included – by network - 4 of 11 Pilot Phase 1 only networks, 3 of 5 Pilot Phase 2 only networks and 5 of 8 Pilot Phase 1 & Phase 2 networks;
- Survey respondents included – by company - 7 (17%) from Pilot Phase 1 only networks, 20 (48%) from Pilot Phase 2 only networks and 9 (21%) from Pilot Phase 1 & Phase 2 networks. There were also 6 (15%) companies from networks not specified/known. This profile is not dissimilar to the company database. By company, the database includes 60 (23%) companies from Pilot Phase 1 only networks, 142 (55%) from Pilot Phase 2 only networks and 57 (22%) from Pilot Phase 1 & Phase 2 networks.
- Survey respondents' involvement in the programme: the Programme team reviewed the details of companies which completed the survey. This indicated that over 75% of Pilot survey respondents were “involved” in the programme and only 10-12% with marginal involvement.
- Assumptions regarding NI-based vs non-NI-based companies. Whilst there is scope for companies based outside NI to be part of a collaborative network, any benefits they achieve will not contribute to the NI economy. Survey respondents included 3 companies not based in NI (2 Pilot and 1 Formal); none of these reported or quantified impacts i.e. all of the impacts reported and quantified in the survey were attributed to NI-based companies. In the scaling up of impacts, we have assumed that the total number of companies reflects NI-based companies only. Any adjustment for companies outside NI would be marginal (i.e. less than 5%).

5.8.2 Expected Impacts (all participating companies) – Anticipated over next 5 years

It is also possible to consider the expected impacts of the Pilot CNP over the next 5 years using data provided by survey respondents and scaling this up in the same way as done for the impacts (already achieved) described above in Section 5.8.1. These expected impacts are shown in table 5.10.

Table 5:10: Expected Impacts of Pilot CNP including Confidence Intervals (based on survey with 42 respondents) and scaling this up to reflect the whole population of companies in Pilot CNP

	Employ more people	Additional Sales	Additional Exports
No. of companies in the population (Phase 1 and Phase 2 networks)	259	259	259
No. of companies surveyed	42	42	42
95% confidence interval (based on sample size)	± 13.9%	± 13.9%	± 13.9%
No. of companies reporting positive impact in survey	12	8	7
% of all surveyed	28.6%	19.0%	16.7%
No. of companies quantifying impact in survey	6	3	1
% of all surveyed	14.3%	7.1%	2.4%
Gross impact reported in survey	35	1,515,000	5,010,000
Mean impact per company (gross impacts divided by no. of companies reporting details of impact)	5.8	505,000	2,505,000
Estimated Anticipated Impact across whole population: No of companies in population x % of companies reporting positive impact x mean impact per company	431.7	24,913,333	108,132,500

Source: PACEC (September 2015)

From the impacts estimated for the whole population, an estimate of GVA may also be determined as: estimated net additional GVA impact = sales x additionality x GVA to turnover ratio where:

- Sales = sum of additional sales and additional exports;
- Additionality (from 2015 survey) = 52.0%;
- GVA to turnover ratio (from NIABI) = 29.7%¹³¹.

This gives an estimated GVA impact (anticipated) of **£20.55M** (based on total sales of £133.05M).

Due to a small proportion of companies involved in the CNP based outside NI (and hence impacts not attributable to the NI economy), the actual impacts may be up to 5% lower.

Caveats and Limitations described in section 5.8.1 also apply to the expected impacts.

¹³¹ Note: NI GVA as a % of NI Turnover = 29.7% (£18,976m / £63,953m) which is based on:

- Turnover by businesses in NI estimated to be worth £63,953 million in 2013 (excluding VAT)
- Total Approximate Gross Value Added (GVA) at basic prices for 2013 is £18,976 million.

(Source: Northern Ireland Annual Business Inquiry (Experimental) 2013 results on a Reporting Unit basis (DETI Statistics Bulletin, Published 10/12/14))

5.9 Costs, Economy, Efficiency and Effectiveness

5.9.1 Anticipated Costs

Anticipated costs (Programme delivery element only) were £2,901,102 (Invest NI) and Industry contributions of £3,560,338¹³² – giving a total anticipated Programme delivery cost of £6,461,440. Anticipated costs (staff) were £481K (see Section 4.2.13)

5.9.2 Actual Costs

The following table summarises actual spend overall on the Pilot CNP to August 2011.

Table 5:11: Pilot CNP - Actual Costs (to August 2011)

	Invest NI Contribution	Industry Contribution	Total	Notes
Programme Delivery Costs				
Phase 1: Feasibility Study Costs	£235,578	£257,637	£493,215	See section 4.2.13 for detailed breakdown
Phase 2: Network Facilitation Costs	£2,418,923	£3,168,523	£5,587,446	
Sub-total	£2,654,501	£3,426,160	£6,080,661	
Programme admin costs				
Staff / salary costs (fully loaded)	£527,050	n/a	£527,050	See section 4.2.5 for detailed breakdown of staff costs from 2007 to August 2011
Marketing costs	£6,339	n/a	£6,339	See section 4.2.3
Training Costs	£44,836	n/a	£44,836	See section 4.2.4
Invest NI Toolkit	£1,730	n/a	£1,730	See section 4.2.4
Sub-total	£579,955	n/a	£579,955	
Full-economic cost	£3,234,456	£3,426,160	£6,660,616	

Based on the information in section 5.9.1 and table 5.12 there has been an underspend on Programme delivery costs (budget: £6.461M vs. spend of £6.080M) and an overspend on staff costs (budget: £481K vs. spend of £527K).

¹³² It is assumed that these anticipated costs are based on Letters of Offer issued prior to August 2011 i.e. 19 Phase 1 (11 Phase 1 only and 8 both Phase 1 and Phase 2) and 12 Phase 2 (5 Phase 2 only and 7 both Phase 1 and Phase 2).

5.9.3 Efficiency

The CNP Pilot involved 24 unique networks with 259 companies (since some companies may be involved in more than one network, this is not necessarily 259 unique companies). The ratios of spend per network and spend per company are included in table 5.13.

Table 5:12: Actual Spend per Network / Company

	Number	Invest NI costs	Invest NI + Industry costs	Invest NI cost per network / company	Invest NI + Industry costs per network / company
Networks	24	£3,234,456	£6,660,616	£134,769	£277,526
Companies	259	£3,234,456	£6,660,616	£12,488	£25,717

No targets were set for the Pilot CNP, therefore it is not possible to compare the actual cost per company or network with the target cost, however the greater the number of networks and companies supported the more efficient the Programme will be.

GVA Impact (Estimate) compared to Programme Costs

In the table below, the estimate of GVA are set against Programme costs incurred by the CNP (Invest NI costs only): **£3,234,456**.

Table 5:13: Comparison of GVA to Costs

	GVA (estimate from sales x additionality x GVA: sales ratio)	Invest NI costs	GVA minus Invest NI cost	Ratio of GVA to Invest NI cost
Estimated impact – achieved	£5.05M - £6M	£3,234,456	£1.813M - £2.765M	1.56 – 1.86

Source PACEC (September 2015)

This table demonstrates that GVA exceeds Invest NI costs with the ratio of GVA to Invest NI costs of 1.56 – 1.86.

5.9.4 Effectiveness

With regard to objectives no measurable targets were specified for the Pilot CNP. However, there is tangible evidence of 31 jobs being created, 4 safeguarded, increased turnover of £3.12M and safeguarded sales of between £700K and £1.2M. Also 70% of the companies surveyed indicated that they had achieved the objectives they had set at the start of the Programme and these related to Skills Development, Sales / Exports, Product Development and R+D. Additionality levels were moderate with 52% highlighting that they would not have gone ahead without Invest NI support.

5.9.5 Summary

An assessment of the measures affecting economy, efficiency and effectiveness demonstrates that:

- **Economy**¹³³: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;
- **Efficiency**¹³⁴: the estimated GVA impacts (achieved) are more than Programme costs (the difference is between £1.813M and £2.765M); cost per network is £134.8K and cost per company is £12.5K; and
- **Effectiveness**¹³⁵: whilst there were no specific Programme targets specified, there is evidence of tangible impacts. Furthermore 28 (70% of 40) companies indicated achievement of the objectives they had set at the start of the Programme.

5.10 Value for Money and Return on Investment

To assess the financial return on investment generated by the CNP and in keeping with the Interim Evaluation, return on investment calculations are based on:

- Gross Value Added (GVA) to the NI economy as a direct result of their participation in the Programme/network project (i.e. following the application of the calculated levels of deadweight/additionality);
- the costs incurred by Invest NI only; and
- the full (known) economic cost associated with the delivery of network activity to date (i.e. the funding provided by Invest NI plus the industry personnel and cash contributions made by participating companies).

A summary of the analysis is provided in table 5.15.

Table 5:14: Summary of Value for Money Analysis

	Return on Investment (based on costs incurred by Invest NI only)	Return on Investment (based on known ¹³⁶ economic costs incurred by Invest NI and participating companies to date)
GVA (estimate based on achieved sales)	£5.05M - £6M	£5.05M - £6M
Costs incurred to date (actual)	£3,234,456	£6,660,616
Return on investment	£1.56:£1.00 to £1.86: £1.00	£0.76:£1.00 to £0.90: £1.00

¹³³ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

¹³⁴ Efficiency considers the benefits (the net outputs or outcomes) compared to the intervention costs

¹³⁵ Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

¹³⁶ NB Invest NI was unable to provide full details of actual industry personnel contributions for a number of the feasibility studies

Invest NI Only Costs: Based on the **costs incurred by Invest NI only to date** (i.e. £3,234,456), the analysis suggests that the Pilot CNP has provided a return on investment of between £1.56 and £1.86: for every £1 invested. In comparison, the previous evaluation demonstrated:

- **Scenario 1**¹³⁷ GVA (£1,104,052) / Total costs incurred by Invest NI of £1,752,584 = a ratio of £0.63: £1
- **Scenario 2** GVA (£1,401,454 / Total costs incurred by Invest NI of £1,752,584 = a ratio of £0.80: £1

Invest NI and Company Costs: Based on the **known**¹³⁸ **economic costs incurred by Invest NI and participating companies to date** (i.e. £6,660,616), the analysis suggests that the Pilot CNP has provided a return on investment of between £0.76 and £0.90 for every £1 invested. In comparison, the previous evaluation demonstrated:

- **Scenario 1**¹³⁹ GVA (£1,104,052) / Total costs incurred by Invest NI and participating companies of £3,773,225 = a ratio of £0.29: £1
- **Scenario 2** GVA (£1,401,454 / Total costs incurred by Invest NI and participating companies of £3,773,225 = a ratio of £0.37: £1.

Therefore the Pilot CNP performance in terms of GVA relative to Invest NI costs and relative to all costs has improved compared to the interim evaluation carried out in 2011.

It is important that a significant degree of caution is applied to the interpretation of these figures as a means of measuring the impact of the Pilot CNP given that:

- The GVA impacts are based on survey results of 42 participating companies; and
- Many of the companies that responded to the survey referred to benefits from the Programme though were not able to quantify or monetise these.

5.11 Impact on Government Policy / Intervention

This section assesses how the Pilot Programme contributed to the strategic aims, objectives, targets and actions of the NI Programme for Government (PfG), DETI and Invest NI. It also assesses the extent to which the CNP support and networks have informed and or shaped government policy / intervention.

5.11.1 Contribution to Strategic Aims, Objectives and Targets

As detailed in section 3, the Programme for Government sets out the strategic priorities and key plans for the Northern Ireland Executive for the period 2008 – 2011. Five key priorities were identified and to support these the NI Executive developed a framework of 23 Public Service Agreements (PSAs). More specifically, the PSAs confirm the key actions that will be taken in support of the priorities, and

¹³⁷ Scenario depends on the weighting given to the 'High Deadweight' Indicators. Scenario 1 has a deadweight of 37.1% and Scenario 2 has a deadweight of 30%

¹³⁸ NB Invest NI was unable to provide full details of actual industry personnel contributions for a number of the feasibility studies

¹³⁹ Scenario depends on the weighting given to the 'High Deadweight' Indicators. Scenario 1 has a deadweight of 37.1% and Scenario 2 has a deadweight of 30%

the outcomes and targets the NI Executive aimed to achieve over the period 2008-2011. The framework of 23 PSAs is focused on addressing key crosscutting issues and challenges. The PSAs therefore cut across departmental boundaries and many of the outcomes are inter-dependent.

In addition, the DETI / Invest NI Corporate Plans 2008-2011 focus on an innovative economy, specifically increased engagement in R&D and innovation as well as an increase in business productivity.

Tables 5.16 & 5.17 provide an overview of the PSA within the PfG as well as the key aims of the DETI and Invest NI corporate plans that are relevant to the Pilot CNP and the contribution that the Programme has made towards these.

Table 5:15: Contribution of the Pilot CNP (2007 – August 2011) to PSA's 1 and 3

PSA ¹⁴⁰ Priority	Relevant DSO ^{141s}	Commentary
PSA 1: Productivity Growth - Increase Northern Ireland's manufacturing and private services productivity.	<p>DSO 1 - Promote a Competitive and Outward Looking Economy</p> <p>DSO 2 - Attract and support high quality investment, both foreign and locally-owned.</p> <p>DSO 4 - Promote Higher Value Added Activity through Innovation and the Commercial Exploitation of R&D</p> <p>DSO 6 - Increase the Level of Skills to aid Productivity Improvements in Manufacturing and Tradable Services</p>	<p>23% (N=8) of companies participating in the Pilot CNP anticipated that their Network Project would create additional sales while 20% (N=7) anticipated that their Network Project would create additional exports in the next 5 years.</p> <p>In terms of increasing the level of skills to aid productivity improvements, it was the view of 50% (N=21) of companies that they had developed their employees' skills and abilities as a result of their participation in the Pilot CNP.</p> <p>In relation to the Programme's overall contribution to productivity growth within the NI economy, 57% (N=18) of companies stated that they had achieved a significant, some or slight improvement in their productivity as a result of their collaboration with other companies participating in their respective networks. A further 69% (N=23) of companies stated that participation in the Pilot CNP resulted in increased competitiveness of their organisation.</p>
PSA 3: Increasing Employment - Increase employment levels and reduce economic inactivity by addressing the barriers to employment and providing effective careers advice at all levels.	<p>DSO 3 - Increase employment opportunities by attracting high quality inward investment and supporting domestic investment.</p> <p>DSO 4: Promote Business Growth</p>	<p>The results of the survey with participating companies suggested that 12% (N=5) had created jobs as a result of participating in the Pilot CNP.</p> <p>In terms of quantifying the contribution of the CNP to employment levels within the participating companies, 3 respondents indicated that 31 new jobs had been created as a direct result of the Programme. In addition, when survey responses are scaled up to all participating companies in the Pilot CNP to estimate the total impact, the number of jobs created could be 191.</p> <p>The feedback from companies clearly suggests that the CNP has, and continues to offer the potential to, contribute to the development of those business areas (e.g. financial, physical, intellectual, market and social capital) that may ultimately contribute to the long-term growth of participating companies, including the associated levels of employment within these companies.</p>

Source: Survey of Pilot Programme Network Companies (June 2015)

¹⁴⁰ Public Service Agreement (PSA)

¹⁴¹ Departmental Strategic Objective (DSO)

Table 5:16: Contribution to DETI / Invest NI Corporate Plans 2008-2011

Corporate Plan Aim / Objective	Commentary
The DETI 2008-2011 Corporate Plan had as its goal to “grow a dynamic, innovative economy” and one of its objectives was to encourage more businesses to engage in R&D and innovation.	Survey results show that 76% (N=31) of companies that participated in the Pilot CNP reported sharing information/knowledge while 46% (N=19) engaged in collaborative research, development, design activities and 31% (N=13) developed new processes along with other network members.
<p>Invest NI’s Corporate Plan for 2008-2011 had as one of its aims to increase business productivity by:</p> <ul style="list-style-type: none"> • Realising the potential of existing businesses (shorter-term focus); • Shifting the sectoral focus towards higher value-added sectors (medium-to-longer term focus); and • Supporting frontier companies at the leading edge of innovation and technology (longer-term focus). <p>One of the actions included increasing the number of strategic collaborative networks involving both business and knowledge institutions.</p>	<p>Companies participating in the Pilot CNP have reported increased productivity and competitiveness as a result. Moreover, a number of the Collaborative Networks established displayed high levels of innovation, for example the Whisple Cloud Services collaborative network was formed in response to the emerging IT market sector. It supported innovation at an early stage in an emerging area (Cloud Technology) and acted as a catalyst for a Cloud Computing Academy and the establishment of a Big Data Academy. In addition, Whisple created sales over £1m and spun out 3 start-up companies including DAL, Asystec and Cruarch.</p> <p>The Pilot CNP successfully increased the number of strategic collaborative networks involving both business and knowledge institutions, supporting 19142 Pilot Programme feasibility/scoping studies and 12 Phase 2 network projects were.</p>

Source: Survey of Pilot Programme Network Companies (June 2015)

5.11.2 Informed government policy / intervention

The CNP has also informed government policy through a bottom up approach. For example, renewables was not initially listed as a priority sector in NI, however feedback from network members highlighted the opportunities for growth. The Matrix Sustainable Energy report¹⁴³ published in 2013 highlighted that the intelligent energy systems market represents a significant future global market opportunity that could attract in the region of £400 billion of spend between 2010 and 2020, with a further £600 billion between 2020 and 2030. In addition, it notes that the integration of distributed renewable generation on to the intelligent energy system is an area in which Northern Ireland has an opportunity to lead, exploiting first mover advantage to secure a share of the potential export revenue. It is suggested that global revenue from intelligent grid renewables integration could grow from £2.5 billion in 2012 to just over £8 billion in 2018. Moreover emphasis is placed upon the importance of small businesses adopting a collaborative approach, utilising existing and new clusters as a vehicle to enhance technological innovation and commercialisation.

¹⁴² In addition under the Pilot Programme Letters of Offer were issued to Phase 1 projects Homeland Security, Healthcare Informatics and Energy Research however there was insufficient information on these for inclusion in this evaluation

¹⁴³ Matrix (2013) Sustainable Energy – Horizon Panel Report

5.12 Summary

In terms of cost-effectiveness, there is also a clear return on the funding that Invest NI provided for the Pilot CNP (see section 5.9):

- **Cost-effectiveness ratio:** comparing the estimate of GVA achieved (between £5.05M and £6M) and Invest NI costs (£3,234,456) yields a ratio of between £1.56: £1.00 and £1.86: £1.00.

In considering Value for Money the following is examined:

- **Additionality / displacement:** There are moderate levels of additionality (52%); suggesting the impacts noted would not have happened without the Pilot CNP.
- **Performance against Targets:** No targets were set for the Pilot CNP however a range of impacts have been achieved.
- **Expenditure against budget:** Actual costs for Phase 1 and 2 (Programme delivery element / Invest NI and industry costs only) are slightly lower than those proposed (94% of budget spent); considering Invest NI costs only (Programme delivery element), then spend is around 91% of budget. However staff costs are slightly higher (9.6%) than anticipated (actual: £527K vs. budget: £481K).

An assessment of the measures affecting economy, efficiency and effectiveness (see section 5.9) demonstrates that:

- **Economy**¹⁴⁴: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;
- **Efficiency**¹⁴⁵: the estimated GVA impacts (achieved) are more than Programme costs (the difference is between £1.813M and £2.765M); cost per network is £134.8K and cost per company is £12.5K; and
- **Effectiveness**¹⁴⁶: whilst there were no specific Programme targets specified, there is evidence of tangible impacts. Furthermore 28 (70% of 40) companies indicated achievement of the objectives they had set at the start of the Programme.

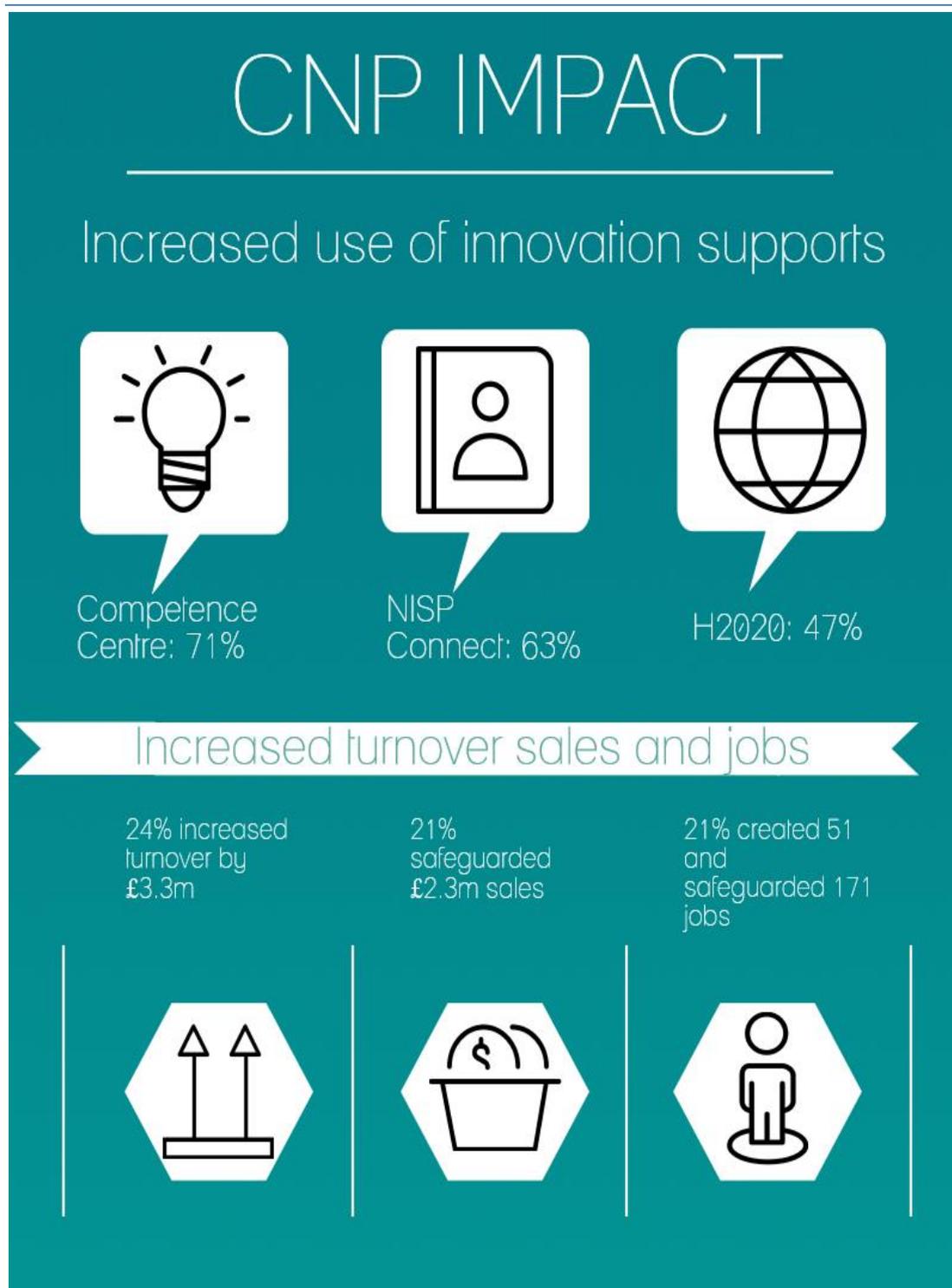
¹⁴⁴ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

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¹⁴⁶ Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

6 PERFORMANCE OF THE FORMAL PROGRAMME (SEPTEMBER 2011 – DECEMBER 2014)

SNAPSHOT OF FORMAL PROGRAMME SURVEY RESULTS



Based on survey results / sample of participants

6.1 Introduction

This section sets out the performance of the Formal CNP as at December 2014. The Formal Programme is funded from September 2011 up to March 2018 (according to the Economic Appraisal (EA) produced in 2011¹⁴⁷); and this report reflects the findings as an interim evaluation.

The detail on the networks and companies involved in the Formal CNP is included as Appendix C.

In total 21 feasibility/scoping studies and 6 Phase 2 network project have been funded to date. Overall there are 24 unique networks:

- 18 Phase 1 only;
- 3 Phase 2 only; and
- 3 Phase 1 **and** Phase 2.

6.2 Company Survey Background

6.2.1 Survey Approach

An online questionnaire was developed in collaboration with Invest NI to address the following areas:

- Rationale for involvement in the CNP;
- Marketing and Promotion;
- Collaborative Network Development;
- Outcomes and Impacts;
- Additionality and Market Failure;
- Overall Satisfaction;
- Use of other supports; and
- Future of the Collaborative Network Programme.

A copy of the questionnaire used is included as Appendix B. Contact details for 165 companies involved in the Formal CNP were provided by Invest NI and the survey was issued by email to all. Follow up contact was made with potential respondents on up to 3 occasions (by email and phone) to encourage responses within the timescales for the evaluation. An assessment of non-response bias, representativeness and confidence intervals is contained in Appendix C.

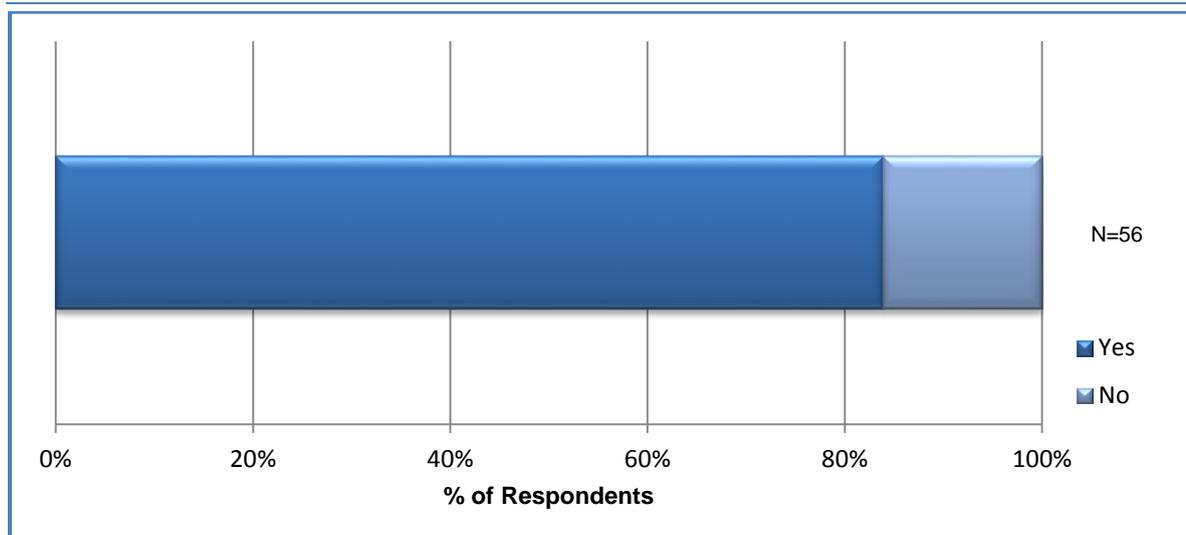
6.3 Survey Results – Formal CNP

6.3.1 Satisfaction with the Formal CNP Programme

As shown in figures 6.1 and 6.2, companies expressed a high level of satisfaction with the Formal CNP with 84% stating that they would seek support from the CNP again and 86% would recommend the Formal CNP to other companies.

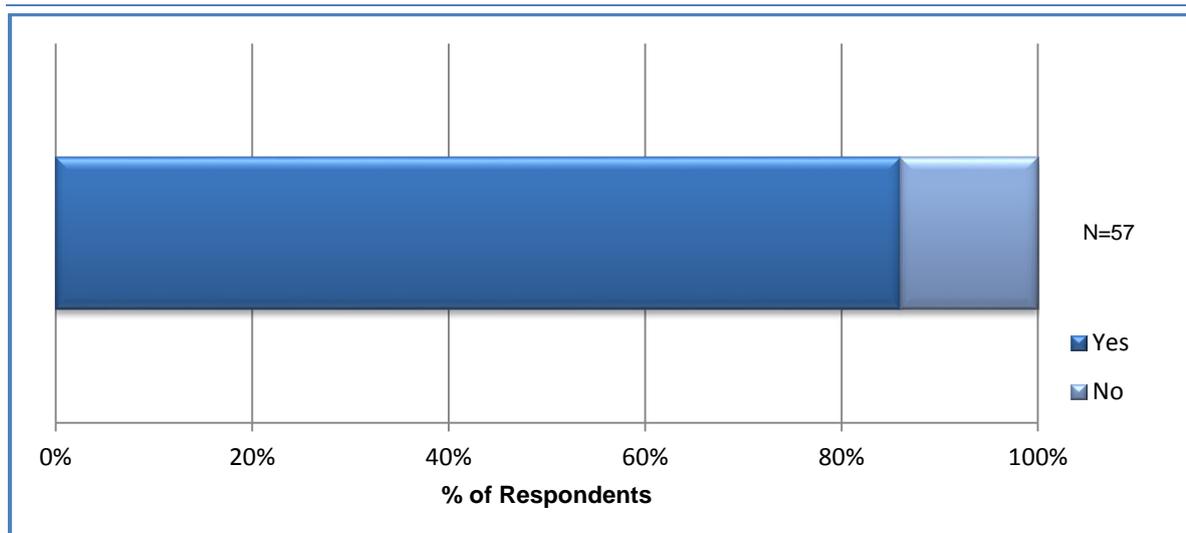
¹⁴⁷ It is noted that approval has been given for the Formal CNP to be extended by a further 18 month period until 30th September 2016 (resulting in the end date for the run out period being 30th September 2019).

Figure 6:1: Percentage of Companies that would seek support from the CNP again



Source: Survey of Formal Programme Network Companies (June 2015)

Figure 6:2: Percentage of Companies that would recommend the CNP



Source: Survey of Formal Programme Network Companies (June 2015)

The qualitative survey feedback suggests that companies believed the Formal CNP had helped them to increase their understanding of the marketplace and had supported them to develop a network of contacts in order to exploit more global opportunities.

Feedback includes:

“the CNP was very useful in increasing our competitive awareness and understanding of the SME marketplace locally and we are more likely to engage local SMEs within larger bids than before the CNP experience” – member of the Tendering Innovation Network

“the CNP is an excellent Programme that enables NI SMEs to bring skills together to target global market opportunities that would not otherwise be accessible to a small company” – member of the Big Data Renewables network

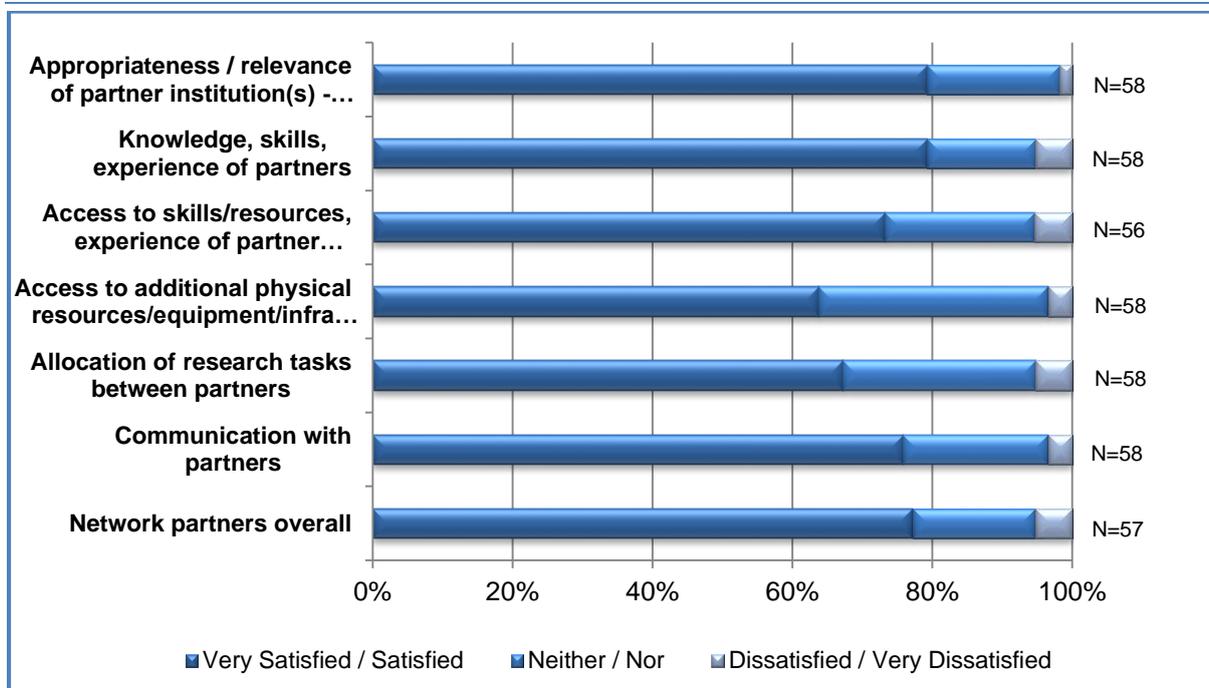
“the potential of the scheme to engage with companies and develop networks where expertise and information is pooled to mutual benefit is tremendous” – member of the Food Fortress network

6.3.2 Satisfaction with Network Partners

Overall respondents expressed a high level of satisfaction with project partners, specifically respondents were satisfied or very satisfied with:

- Appropriateness / relevance of partner institution(s) - complementing my research group (79% N=46);
- Knowledge, skills, experience of partners (79% N=46); and
- Network partners overall (77% N=44).

Figure 6:3: Satisfaction with the Network Partners



Source: Survey of Formal Programme Network Companies (June 2015)

Companies' Recommendations for Improvement

Key recommendations from those companies that felt the Formal CNP Programme could be improved included (all cited by 18 respondents / 43%):

- Provision of additional funding to existing networks to support ongoing collaborative activities; and
- Simplification of the claims process.

6.3.3 Rationale / Motivation for Participating in the Formal CNP

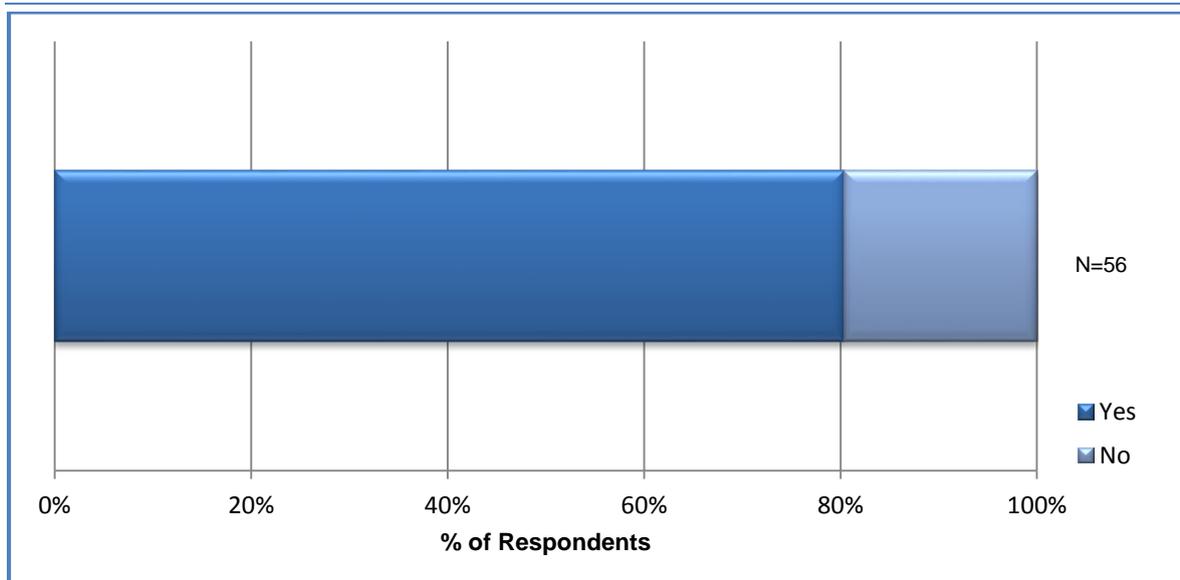
Companies had a variety of reasons for participating in the Formal CNP. The most significant were:

- Access to skills/abilities of partner(s) (92%; N=49);
- Develop new products (goods and/or services) (91%; N=49);
- Increase knowledge of the marketplace (87%; N=48);
- Develop new processes (77%; N=40);
- Access to funding (67%; N=37); and
- Access to physical resources (facilities, equipment) of partner(s) (57%; N=32).

6.3.4 Impact of Formal CNP - Achievement of Company Objectives

Overall the Formal CNP has been highly successful in supporting collaborative networks to achieve their objectives. As shown in figure 6.4, the majority of companies reported that their collaborative network helped them achieve the objectives they had set for it (80% N=45).

Figure 6:4: Percentage of companies reporting that their collaborative network achieved the objectives they had set

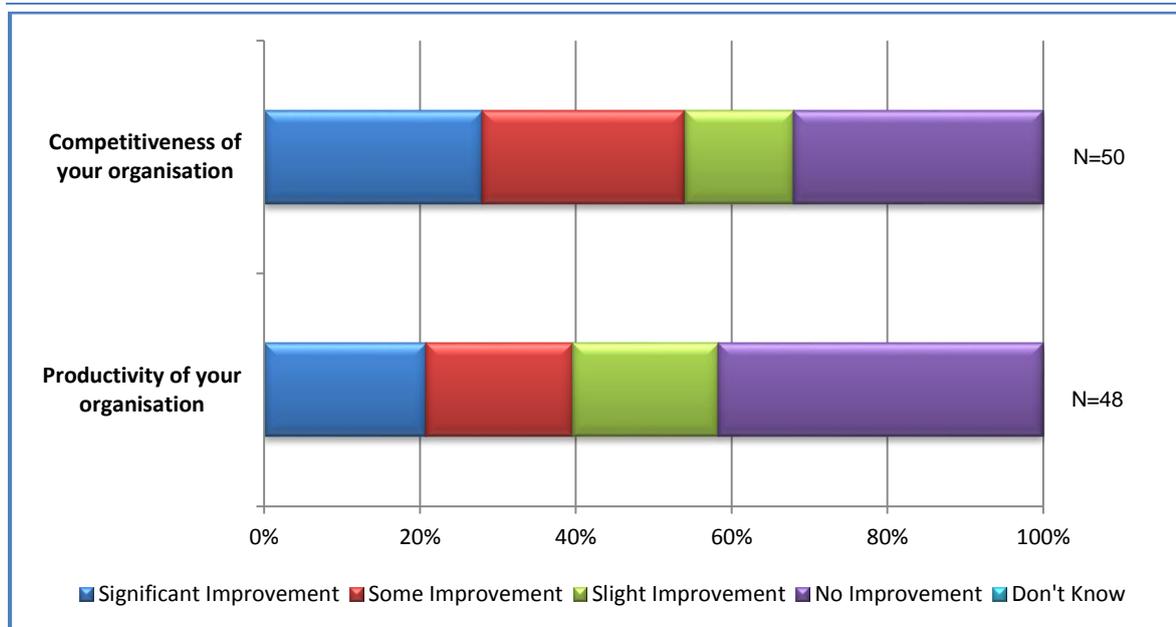


Source: Survey of Formal Programme Network Companies (June 2015)

6.3.5 Impact of Formal CNP – Competitiveness and Productivity

Furthermore, shown in figure 6.5, 68% (n=34) of respondents¹⁴⁸ stated there had been an **improvement in the competitiveness of their company** and 58%¹⁴⁹ (n=28) stated that there had been an **improvement in the productivity of their company**.

Figure 6:5: Impact of the Formal CNP on company competitiveness and productivity



Source: Survey of Formal Programme Network Companies (June 2015)

Analysis of the qualitative feedback also highlights the positive impact the Formal CNP has had on the competitiveness and productivity of participating companies, including:

“Collaboration is now a core attribute within our organisation and we also see it as a true competitive advantage” – member of the IHAC network

“Through participation in (the) CNP we have significantly increased our market knowledge of Energy Storage and deliver this knowledge into the local community. At the same time this will open up opportunities for us to gain Interreg and Horizons 2020 funding streams” – member of the SENSE network

6.3.6 Other impacts of the Formal CNP – Human Capital

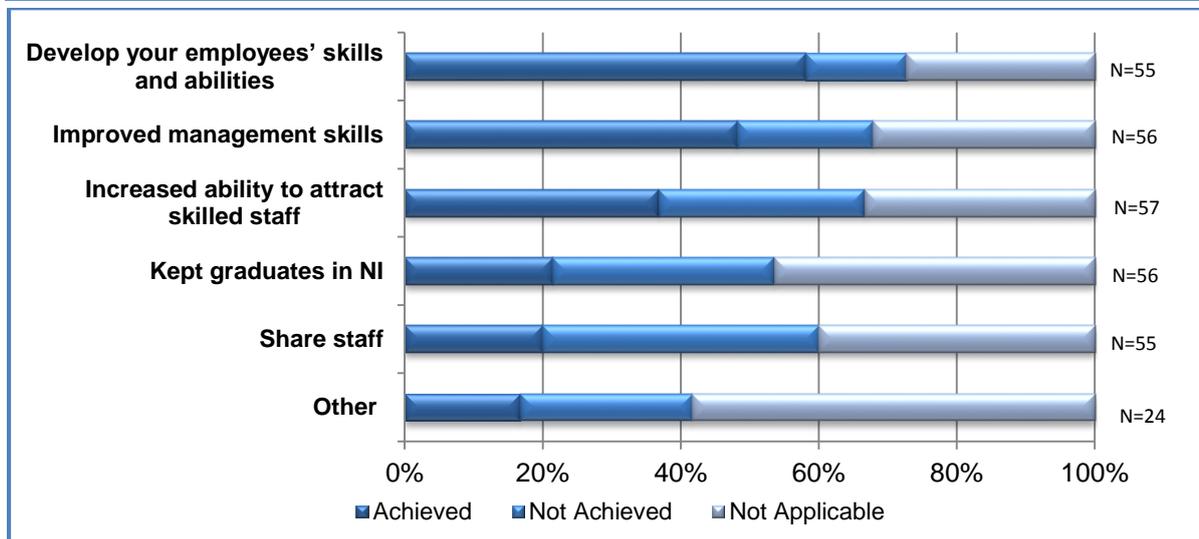
Companies were asked to identify if, as a result of engaging with the Formal CNP, their company had achieved any 'people' objectives such as staff skills levels, management skills, ability to attract skilled staff, ability to keep graduates in Northern Ireland and sharing staff.

¹⁴⁸ Calculated by adding the percentages of respondents that stated slight improvement, some improvement and significant improvement for Q32.

¹⁴⁹ As above.

As shown in figure 6.6 significant numbers of those surveyed developed employee skills and abilities (58%) as well as improved management skills (48%).

Figure 6:6: Has your company achieved any of the following 'people' objectives as a result of engaging with the Collaborative Network Programme?



Source: Survey of Formal Programme Network Companies (June 2015)

Feedback from consultations with facilitators and lead companies also found that participation in the Programme helped to improve staff skills and abilities. For example, one Network Facilitator noted that because of experience and skills gained through contracts won as a result of the CNP, participating companies are now better placed to win more contracts in Europe. Another network facilitator stated that companies gained valuable leadership and management skills by sharing experiences with other network members. The development of new working relationships is illustrated in the Energy Skills Training Network, led by Belfast MET as detailed in figure 6.7.

Case Study – Energy Skills Training Network (2012 - 2013)¹⁵⁰

Figure 6:7: Case Study – Energy Skills Training Network

Focus of Case Study: Human Capital – Development of Working Relationships

Context (why the network was formed)

The Energy Skills Training Network (ESTN) was created with the aim of "facilitating a coordinated approach to the skills agenda and providing access to employment within the burgeoning renewable energy sector in Northern Ireland". The objectives were to:

- Further the development of collaborative partnerships between industry and training providers, increasing the capacity to respond to the needs of potential inward investment companies, or existing companies wishing to expand; and
- Create jobs within the energy industry.

Plan (what was done)

The scoping / feasibility study explored the:

- Market opportunities (internationally and locally) in offshore energy and the extent to which this is 'accessible' to ESTN members;
- Potential for commercial training organisations; looking at those organisations within the ESTN as well as their competitors;
- Differentiation that could make ESTN an attractive investment for members;
- Possible governance models that could apply to ESTN going forward; and
- Financial implications of establishing the ESTN.

Outcomes

As a result of the scoping / feasibility study, a number of new working relationships were developed between network member companies, including:

- Accredited training courses were developed (principally between Belfast MET and B9 Energy); and
- Ridgeway and Arch developed a working relationship, with Ridgeway investing in developing a training facility at its premises on Airport Road West (including a 'tower' for working at heights and rope access training) which Arch hires as its North/North East training hub.

In addition, as the ESTN Scoping Study was being undertaken the pre-assembly project for the West of Duddon Sands off-shore wind farm was underway at the Belfast pre-assembly site. Involvement in the ESTN and the consequent networking heightened Burke Shipping's knowledge of the offshore wind sector and the opportunities therein. Burke Shipping and Ridgeway developed a complementary working relationship and went on to become an important part of the supply chain to the West of Duddon Sands project. Burke's contract for the West of Duddon Sands project secured work for 38 additional employees, many of whom were unemployed as a result of the downturn in the construction sector. In addition, the experience and relationships established through this contract enabled Burkes to successfully tender and win work for 22 staff on a similar project at a pre-assembly site in Germany, work which Burkes would not previously have had the experience to consider without the springboard provided by the West of Duddon Sands project.

Furthermore, over the course of the scoping study exercise Burke Shipping provided work for another member company, engaging them to provide labour for one of Burke's project. It was suggested that this would not have happened if they had not networked through the ESTN.

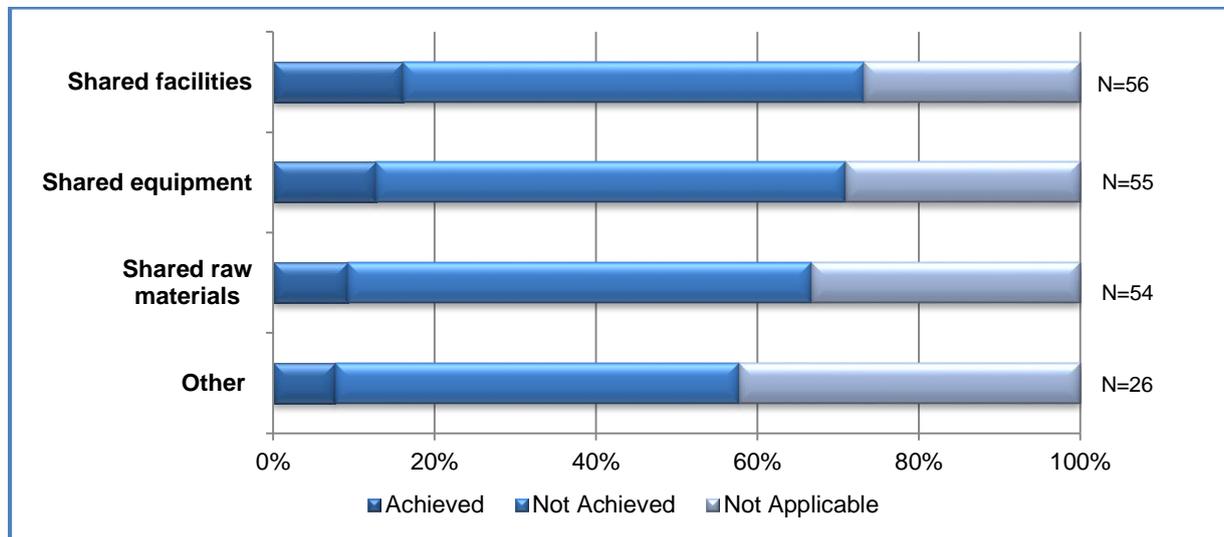
A new more focused collaborative network is currently being explored as a result of the initial Network.

¹⁵⁰ Evidence sourced from consultation / feedback from Network members, provided to PACEC July – October 2015 unless otherwise stated.

6.3.7 Other impacts of the Formal CNP - Physical Capital

Physical capital objectives were not achieved by a significant number of networks as shown below.

Figure 6:8: To what extent have you achieved the following Physical Capital (things) objectives?

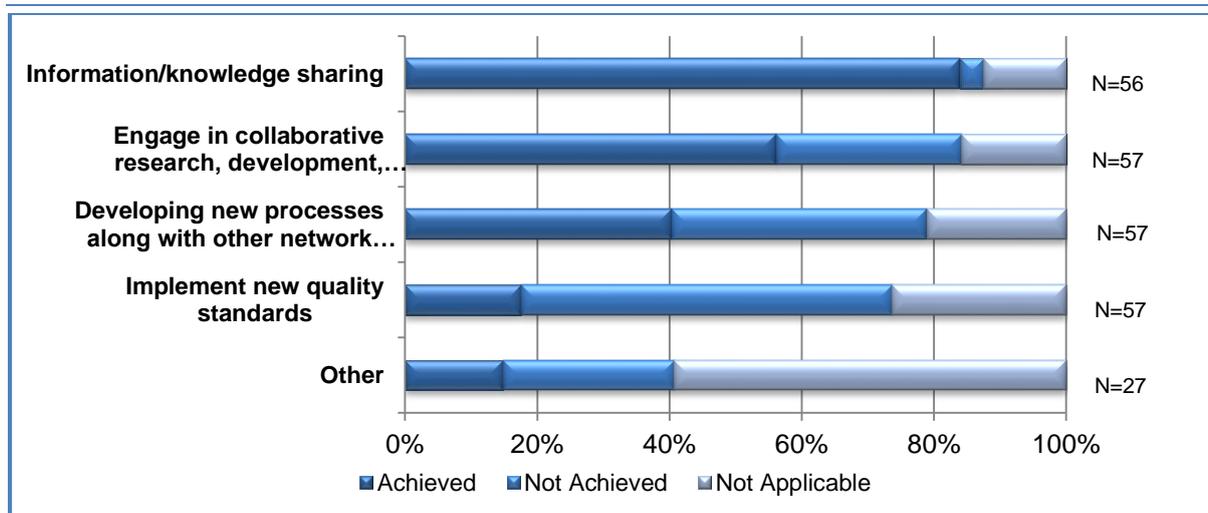


Source: Survey of Formal Programme Network Companies (June 2015)

6.3.8 Other impacts of the Formal CNP - Intellectual Capital (Know How)

Intellectual capital includes the sharing of information / knowledge, engaging in collaborative research, developing new processes with other network members and implementing new quality standards as a result of engagement in the network. Figure 6.9 shows that the Formal Programme had a significant impact on respondents sharing of information/knowledge (84% N=47) and over half reported engagement in collaborative research (56% N=32).

Figure 6:9: To what extent have you achieved the following Intellectual Capital (know how) objectives?



Source: Survey of Formal Programme Network Companies (June 2015)

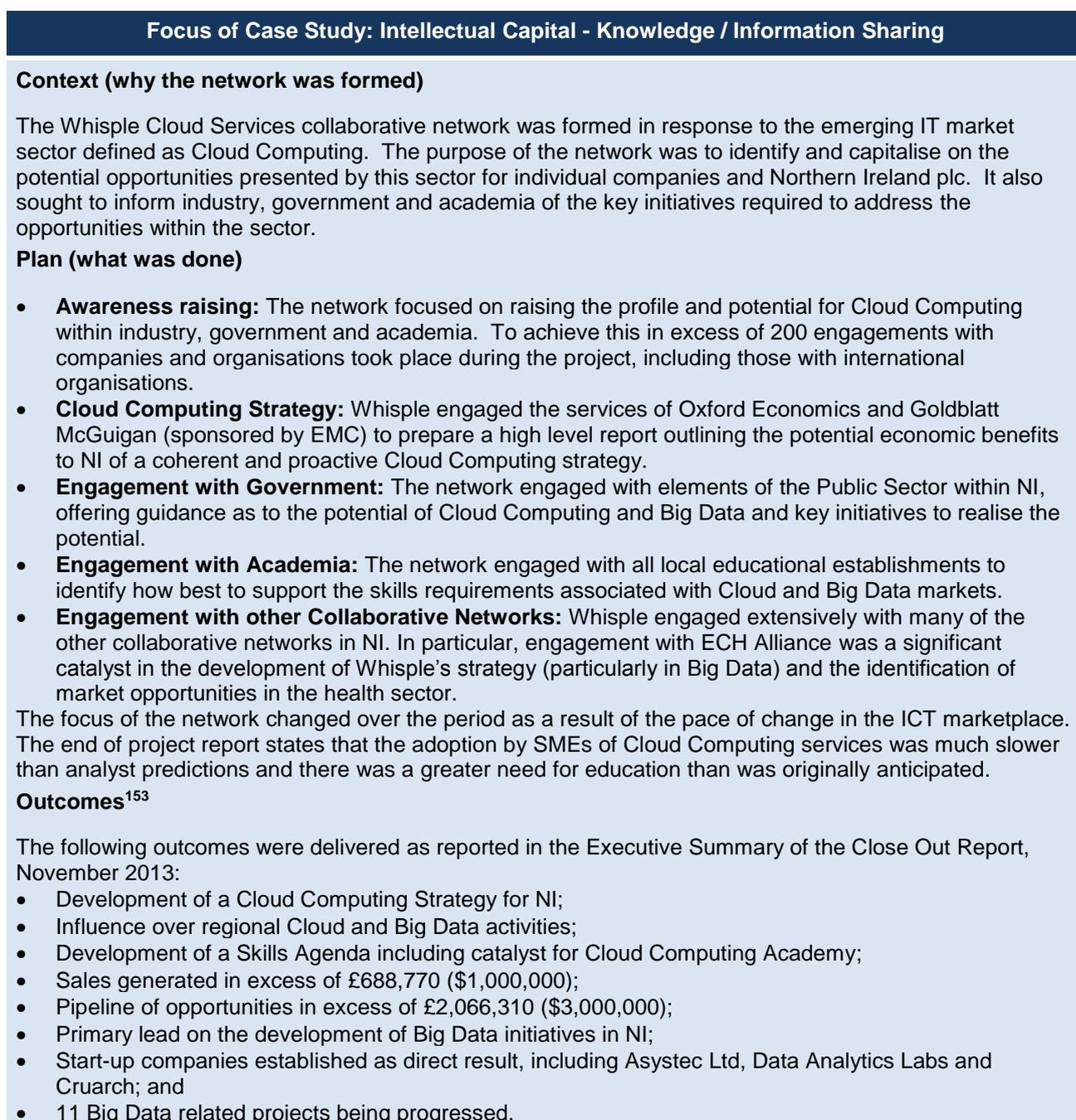
Feedback from consultations with facilitators and lead companies found that network members were able to develop a better understanding of both the supply chain and market opportunities in their respective sectors as a result of participating in the CNP.

Several network facilitators also noted that network members developed new processes in relation to product testing, marketing and recruitment. For example, one network facilitator stated *“as a result of participating in the CNP some companies vastly improved their product testing protocol which, in turn, improved product viability and profitability”*. It was also suggested that companies involved in the network had improved their trials protocols and staff have been developed and trained. As a result *“new products are now more rigorously tested and trialled and without the relationships developed and knowledge shared through the network the small companies involved would not have been able to do this. This means that the products are more viable and profitable for the companies involved”*.

Furthermore, it was noted that CNP acted as an enabling programme, as evidenced by the Digital NI 2020 network which put in place the conditions for businesses and community to be able to exploit the potential of the digital platform. Feedback from the network facilitator highlighted that that *‘while some sectors (e.g. business, media, arts and education) have been leaders, others (e.g. health) have large initiatives underway which would not have been possible had it not been for the uplift of the platform’*. The development of intellectual capital is illustrated in the Whisple Network which resulted in knowledge / information sharing, as detailed in figure 6.10.

Case Study – Whisple Network (2010 – 2013)¹⁵¹¹⁵²

Figure 6:10: Case Study – Whisple Network



¹⁵¹ Network began as part of the Pilot CNP

¹⁵² Whisple Collaborative Network Close Out Report (2013)

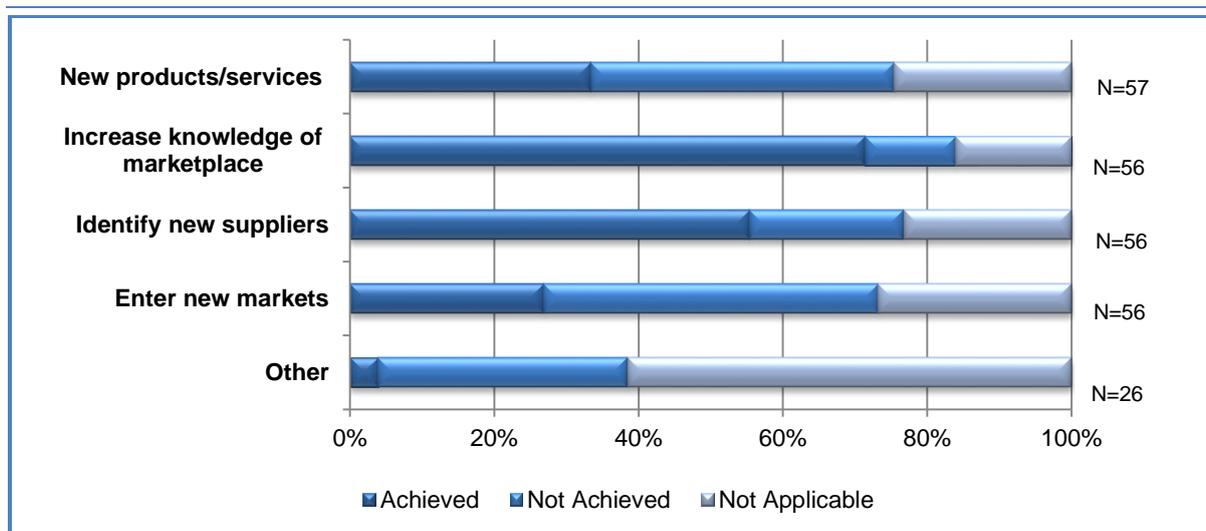
¹⁵³ Whisple Collaborative Network Close Out Report (2013)

6.3.9 Other impacts of the Formal CNP - Market Capital (Global Positioning)

Survey respondents were asked to identify what market capital objectives they had achieved as a result of participating in the Formal CNP. These included developing new products / services, increased knowledge of the marketplace, identification of potential new suppliers and entering new markets.

As shown in figure 6.11 the CNP has been very successful in improving respondents knowledge of the marketplace (70% N=40), as well as helping companies to identify new suppliers (55% N=31).

Figure 6:11: To what extent have you achieved the following Market Capital (global positioning) objectives?

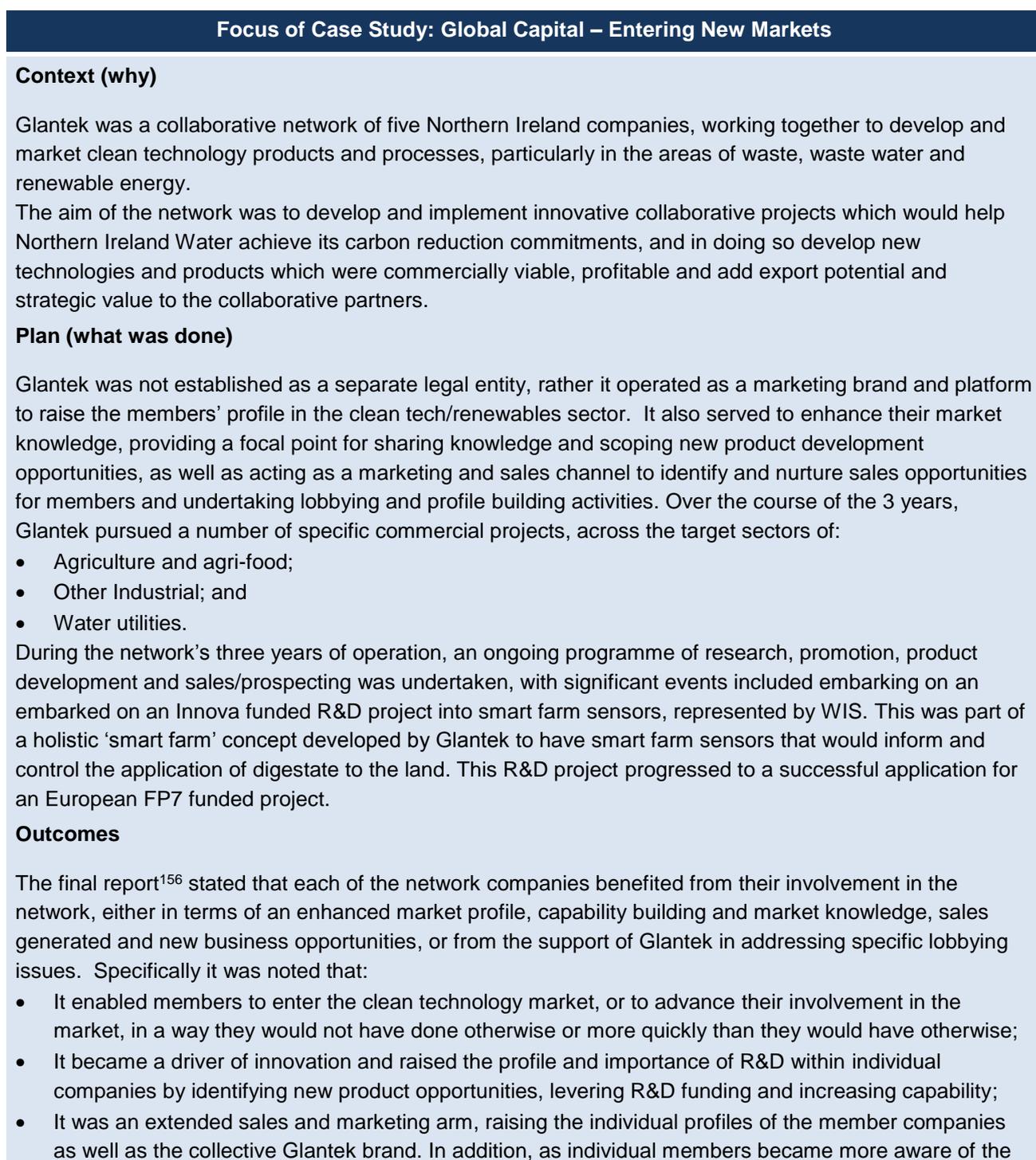


Source: Survey of Formal Programme Network Companies (June 2015)

Feedback from consultations with facilitators and lead companies suggests that network members were able to improve their knowledge of the marketplace and in some cases gain access to new markets. For example, one facilitator noted that “by collaborating with other network members some companies were able to access new markets in which they would not normally have been able to compete”. Feedback also indicated that the CNP had supported companies to become more innovative, with one company highlighting that “the CNP really provided us with the opportunity to be an R&D company. We moved from supplying products to being innovative and developing new products and we are one of the only suppliers of this product in the UK and Ireland”. Entry into new markets was a key outcome from the Glantek network, as detailed in figure 6.12.

Case Study – Glantek (2010 – 2013)¹⁵⁴¹⁵⁵

Figure 6:12: Case Study – Glantek Network



¹⁵⁴ Network began as part of the Pilot CNP

¹⁵⁵ Glantek Final Report (2013)

¹⁵⁶ Glantek Final Report (2013)

Focus of Case Study: Global Capital – Entering New Markets

capabilities of their fellow members, cross-selling opportunities were enhanced with new business opportunities being referred within the network; and

- By sharing market and technical knowledge, individual members' sales/marketing capability was strengthened, and this was a key factor in encouraging members to make the move into a new market or product area.

Examples of projects progressed as a result of the Glantek network include:

C Zero^{Plus}:

The purpose of this R&D project was to create a Carbon zero / Carbon positive wastewater treatment process. It involved a number of new products and operations for the water utilities sector to give operational benefits (either cost savings or improved efficiencies), and jointly lead to a zero carbon process (or potentially a carbon positive process).

An application was made to the Invest NI R&D Programme and funding was secured to conduct a scoping study into the proposed concept. The scoping study was undertaken principally by B9 Organic Energy. The conclusions recommended a number of new products/systems to be introduced by Glantek and four priority projects were identified to be moved forward, one was progressed with Questor submitting a research proposal to Europe.

Key tangible outcomes included¹⁵⁷:

- Contract worth c£1.5m - for a 500kW plant. This contract provided a valuable reference site for ongoing sales;
- One network company in joint venture with Veolia¹⁵⁸, was appointed to construct the largest commercial AD plant in Ireland – a 3MW commercial/industrial anaerobic digestion waste to energy plant, operating on food and green waste, representing a capital investment of £18.5m; and
- R&D funding to scope options to extend a contract with Bombardier (£3.2mn over 10 yrs.), working with two network companies.

6.3.10 Other impacts of the Formal CNP - Social Capital (Growth of Networks/Partnerships)

Formal Programme companies were also asked to identify the social capital outcomes they had achieved, including the establishment / maintenance of business contracts, improvements to the image of the industry and addressing local concerns and / or community needs.

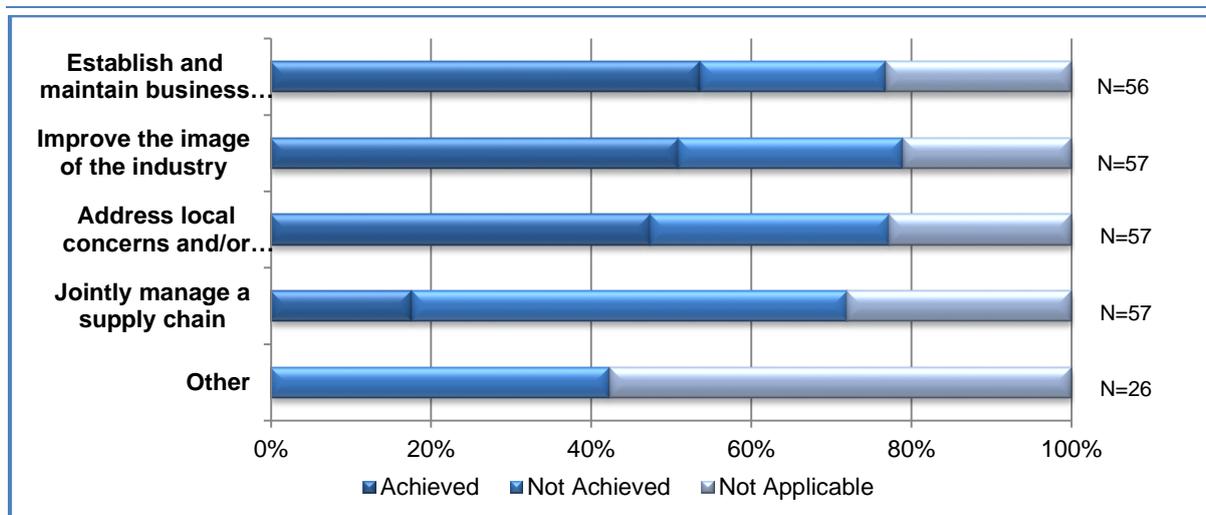
The findings illustrated in figure 6.13 show that the Formal CNP has had a significant impact on helping companies establish and maintain business contacts (54% N=30) as well as improving the image of the industries / sectors network members were involved in (51% N=29).

Feedback from consultations with facilitators indicates the majority felt participating companies had improved their ability to collaborate with other businesses to bid for larger contracts and compete globally. It was also indicated that companies developed a better understanding of both the supply chain and market opportunities in their respective sectors.

¹⁵⁷ Glantek Final Report (2013)

¹⁵⁸ Waste Collection Service - provides a comprehensive range of waste, water and energy management services

Figure 6:13: To what extent have you achieved the following Social Capital (growth of networks/partnership) objectives as a result of the Collaborative Network Programme?



Source: Survey of Formal Programme Network Companies (June 2015)

6.3.11 Additionality, Displacement and Deadweight

Table 6.1 details the survey findings as they relate to the calculation of additionality and deadweight.

Table 6:1: If the Invest NI Collaborative Network Programme support that you used had not been available to you, would you have been able to proceed with developing your project?

Response	Frequency	Percentage
Would have gone ahead with the project, with same result	3	5%
Would have gone ahead with the project, but over a longer timescale	5	9%
Would have gone ahead with the project, but on a smaller scale	1	2%
Would have gone ahead with the project, but over a longer timescale and on a smaller scale	4	7%
Probably would not have gone ahead with the project	18	31%
Definitely would not have gone ahead with the project	25	43%
Other	2	3%
Total	58	100%

Overall therefore from the company survey, we find the following:

- **Full additionality**¹⁵⁹: 43% of respondents would definitely not have gone ahead with the project
- **Partial additionality**¹⁶⁰: 49% of respondents would have gone ahead later and/or on a smaller sale or probably would not have proceeded: consisting of 9% (timing), 2% (scale), 7% (scale & timing) and 31% (probably would not have gone ahead with the project)
- **Deadweight**¹⁶¹: 5% of respondents would have gone ahead with the project on their own.
- **Displacement**¹⁶²: 23% of respondents¹⁶³ said that they would have been able to go ahead by:
 - Funding it themselves;
 - Using of extended networks to progress projects; or
 - Availing of a different scheme similar to the CNP.

Therefore the Programme is calculated to be **67.5% additional** (based on weighted sum of 1 x full additionality + 0.5 x partial additionality + 0.0 x deadweight). However there is still scope to maintain, if not improve, the level of additionality.

Considering displacement of impacts, Invest NI takes this into consideration in the process of assessing applications for Collaborative Networks. It seeks only to support those which are carrying out activity which would not otherwise take place and therefore is not taking market share from other local firms.

6.4 Impact of Formal CNP – Survey Results 2015 (sample of all participants)

From the 2015 survey it is evident that companies achieved a number of economic impacts as a result of their engagement in the Formal CNP. Details of tangible business benefits (as reported in the survey) include the following:

¹⁵⁹ **Full additionality** - Programmes benefits are wholly attributable to the Programme, i.e. deadweight and displacement are zero

¹⁶⁰ **Partial additionality** - activity would have been carried out earlier, or on a larger scale or to a higher specification or has displaced existing activity.

¹⁶¹ **Deadweight** - activity that would have occurred regardless of the policy

¹⁶² **Displacement** of activity within a local area (taking market share from other local firms producing the same or similar goods or services)

¹⁶³ Respondents to the question: If the Invest NI Collaborative Network Programme had not been available to you how would you have gone about this? Only for those who would have been able to proceed with developing their project / business immediately, over a longer timescale or on a smaller scale

BOX A: Formal Key Impacts achieved by a sample of respondents (BASED ON SURVEY RESULTS)

Key Impacts reported by NI-based survey respondents

- 24% (n=14) of respondents stated that their company had **increased turnover**;
- 21% (n=12) had safeguarded existing sales;
- 21% (n=12) of respondents said that they **had created jobs**; and
- 21% (n=12) stated that they had **safeguarded existing jobs**.

Some of these respondents were able to quantify the economic impacts as follows (number of respondents and total (collective) impacts reported by them):

- **Increased Turnover** – 6 respondents reported increased turnover of £3.275M;
- **Existing Sales Safeguarded** – 4 respondents reported safeguarded sales of £2.315M overall;
- **Jobs Created** – 7 respondents reported 51 jobs created; and
- **Existing Jobs Safeguarded** – 7 respondents reported 171 jobs safeguarded.

Source: Survey of Formal Programme Network Companies (June 2015)

The detail is shown in table 6.2:

Table 6.2: Tangible Business Benefits as reported in the survey

Phase	Network	Company	Tangible Business Benefit	
			Sales / Turnover (created / safeguarded)	Employment (created / safeguarded)
Phase One & Two	International Healthcare Analytics Capability (IHAC)	Asystec NI Ltd	£250K ¹⁶⁴ (additional ¹⁶⁵)	2 (created)
Phase One	Energy Skills Training Network	John Burke & Co Ltd (Burke Shipping Group)	£2 million (additional) & £2 million (safeguarded)	30 (created) & 2 (safeguarded)
Phase One	MET Energy Skills	Copius NI LTD		9 (not specified whether safeguarded or created)
Phase One	MET Energy Skills	Belfast Metropolitan College	£550K (additional) & £100K (safeguarded)	1 (not specified whether safeguarded or created)
Phase One	Big Data Renewables	Anaeko Ltd	£400k (additional)	1 (created) & 1 (safeguarded)

¹⁶⁴ Based on 1 year's revenue

¹⁶⁵ Response to survey question about increased turnover

Phase	Network	Company	Tangible Business Benefit	
			Sales / Turnover (created / safeguarded)	Employment (created / safeguarded)
Phase One	Tendering Innovation Network	Leaf	£25k (additional) & £15k (safeguarded)	1 (safeguarded)
Phase One	SENSE	South West College	£50,000 (additional) ¹⁶⁶	1 (created) & 1 (safeguarded)
Phase One & Two	AlignIT / ICT Skills Action Network (ICTSAN)	Liberty IT	£200K (safeguarded) ¹⁶⁷	5 (created)
Phase Two	European Connected Health Alliance	-		4 (created)
Phase Two	Capital Markets Collaborative Network	Ulster University		8 ¹⁶⁸ (created) & 100 (safeguarded)
Phase One	Big Data Medicines Management	Data Analytics Labs		1 (safeguarded)
Phase One & Two	NI Polymers Association	Polymers NI		65 (safeguarded)
	Food Fortress	Devenish Nutrition		100,000 (safeguarded) (Note: as an outlier, this is not included in the TOTAL below)
Total	11 Networks	12 companies	£3.275M additional £2.315M safeguarded £5.559M total	51 additional 171 safeguarded 10 (not specified) 232 in total

Source: Survey of Formal Programme Network Companies (June 2015)

Survey respondents were also asked what economic impacts they expected from engagement with the Formal CNP over the next 5 years. The responses are detail in Box B.

¹⁶⁶ SWC were awarded delivery of a pooled innovation voucher. This came about through collaboration. Value of contract £50,000

¹⁶⁷ This relates to “Apprenticeship program (which is related to the network activities) provided additional resources allowing work to be retained - value over duration of the program circa £200K

¹⁶⁸ 8 created refers to PhD Studentships

Box B: Formal Projected Future Economic Impacts based on a sample of respondents

Key Impacts reported by NI-based survey respondents

- 43% (n=18) of respondents expected to **create additional exports** over the next 5 years;
- 55% (n=23) of respondents expected to **create additional sales** over the next 5 years; and
- 52% (n=22) of respondents expected to **employ more people** over the next 5 years

Some of these respondents were able to quantify the expected economic impacts from engagement with the Formal CNP over the next 5 years as follows (number of respondents and total (collective) impacts reported by them):

- **Additional Exports** – 6 respondents specified £16.550M¹⁶⁹ in additional exports and another one specified a 10% increase;
- **Additional Sales** – 11 respondents specified £128.88M¹⁷⁰ in additional sales and another one specified a 10% increase; and
- **Additional Employees** – 12 respondents indicated 3,695¹⁷¹ additional employees.

Source: Survey of Formal Programme Network Companies (June 2015)

The projected impacts are important, as research has shown that in general the impacts take at least 5 years to be generated.¹⁷²

These survey results (in Box A and Box B above) are used to generate the estimated total impact of the Formal CNP – the approach and details of total impact are described in sections 6.7 and 6.8.

6.5 Impact of Formal CNP - PPE / Monitoring Reports (based on available information)

The Post Project Evaluations (PPEs) provide a mechanism by which Invest NI can review the extent to which each network delivered on its objectives and targets, the impact achieved (including any economic benefits) and any key learning.

In total 8 PPE reports (6 relating to Phase 1 and 2 relating to Phase 2) and 16 final monitoring / external evaluation reports (14 relating to Phase 1 and 2 relating to Phase 2) were received. As most impact is evidenced by the Phase 2 networks, the small number of Phase 2 PPE / monitoring reports means there is limited quantifiable evidence available.

A summary of the results from the available evidence is shown below:

¹⁶⁹ Additional Exports: £250,000; £200,000; £1m; £15m; 50,000 (x2).

¹⁷⁰ Additional Sales: 250000 (x2); £200,000; £50,000; £1m (x3); £25 m; £100m; 100,000; 30,000.

¹⁷¹ Additional Employees: 5 (x2); 10 (x3); 2 (x2); 1; 150; 3000; 100; 400.

¹⁷² Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers

Table 6:3: Summary of PPE Results, End of Project Evaluation Reports, etc.

Financial Capital	Human Capital	Physical Capital	Intellectual capital
No information in PPEs / monitoring reports completed to date relating to financial capital	ICT skill development	Sharing of marketing and sales resources	Knowledge transfer between NI and the US

Source: PPE and Monitoring / End of Project Evaluation Reports

Evidence on intellectual outcomes mainly relates to relationships established with universities and colleges, for example five companies involved in Capital Markets technology joined with two universities to create a jointly funded collaborative research network of PhDs. The outcomes reported for these activities included the ability to carry out and share research on specific subject areas and generate new knowledge that was then shared with other network members.

6.6 Consultation Findings: Feedback from CNP Facilitator and Lead Company Interviews

The majority of those interviewed had been involved with their project in both Phase 1 and Phase 2, one network only operated in Phase 1. Respondents had been involved in either Pilot or Formal network or both and feedback was common to both Pilot and Formal network.

Detailed feedback is included in Appendix F. A summary of key points relating to impacts, the current status of networks and learnings is presented in Section 7.

6.7 Approach to Estimating the Total Impact of the Formal CNP

The issues highlighted in section 5.7 regarding assessing the impact of networks and clusters are relevant for this section also. This section sets out the approach used to estimate the total impact of the Formal CNP (i.e. scaling up from the impacts reported in the survey and/or PPEs) and this illustrates some of the many challenges in assessing the impact of such interventions.

6.7.1 Selecting an appropriate data source

There are a number of data sources that can be used to calculate the overall Programme impacts. There are at least three potential options. Each of these is based on a sample of, rather than all, Formal CNP participants.

- **Source 1: Interim Evaluation: Survey Responses** – provide an estimate of performance at a point in time (2015) for a sample of respondents who volunteered impact information in survey responses. The survey data also provides information on additionality that is applied to isolate the impacts attributable to the CNP. Information from this source may be scaled up across all networks/companies and over time to estimate overall impact at 2015 and beyond. Due to the relatively small number of survey respondents providing **quantitative**¹⁷³ information about impacts

¹⁷³ It is important to note that many companies provided a substantial amount of information about the **qualitative** impacts

(see Box A and Box B in Section 6.4) coupled with the wide variety in the characteristics of companies participating in the networks, it is important to treat any findings with caution.

- **Source 2: PPEs** – the PPEs provide a range of information about those networks for which they have been completed however there is relatively little quantified data. The reports provide an estimate of performance at various points in time depending on when they have been completed (various dates up to 2015, some dates not specified). Whilst there is the potential to scale up information from this source across all networks, in practice this is challenging given the relatively low volume of data as well as variability in timescales. In addition the wide variety in the characteristics of companies participating in the networks means this approach is not as robust as the one above.
- **Source 3: Combining data from the sources above** –this approach was considered however there is a risk of double counting (e.g. if some of the same impacts are reported in one or more of the sources) and this is further compounded by the variable timescales that each of the sources relates to.
- **Other sources of information** (such as (primarily) qualitative information from consultation with facilitators) also provide some indication of impact. Where such information is available, this is included in section 6.6. However this does not provide an appropriate source from which impacts may easily be derived due to challenges in isolating the impacts attributable to the CNP, the risk of double-counting (if combining with other sources above) and other variability in the data reported. There is also a limited amount of impact information available for the Formal CNP at the time of writing (due to the stage that the programme is currently at).

Summary

An approach based on **survey data (source 1.)** is deemed to be the most robust source of data in contrast to the PPEs or some combination of survey data and PPEs.

It is important to note that whilst this provides an estimate of impact, the figures should be treated with caution due to the relatively small numbers of survey respondents on which these are based (and also the variability within the companies' participating in CNP in terms of the characteristics of the company, the network, the type of activity undertaken and level / duration of engagement). Further details on caveats associated with the estimated impact are included in section 6.8.1.

6.7.2 Selecting an appropriate method of scaling up impacts (from survey data to all participating companies)

Two options are available to estimate the impact for all participating companies in the Formal CNP based on survey data as follows:

- **Option 1: Interim Evaluation (2015) survey data – scaled up by number of Phase 2 network companies.** From the survey data it is possible to estimate impact per company, then scale up by the number of companies in Phase 2 networks only (as Phase 1 focused on feasibility / scoping studies); and

of the CNP – however whilst this is extremely useful, information in this format cannot be used to estimate quantitative impact.

- **Option 2: Interim Evaluation (2015) survey data – scaled up by number of Phase 1 and Phase 2 network companies** From the survey data it is possible to estimate impact per company, then scale up by the number of companies in Phase 1 and Phase 2 networks (as participants from both Phases responded to the survey and reported impacts).

Option 1 is eliminated as it does not reflect the full range of participants in the networks and it is clear from survey responses that participants in both Phase 1 and Phase 2 reported impacts. This point is reinforced in that there were 58 respondents to the survey, yet only 36 Phase 2 companies; therefore scaling / extrapolating from the survey in this way would be challenging.

In contrast, Option 2 is based on up-to-date information from a survey that was open to all networks funded under the Formal CNP. In addition it will reflect all participants in all networks and both phases. Therefore it is suggested that this approach provides a more comprehensive assessment of impact than Option 1. Finally, this approach is consistent with that being used for the Pilot CNP evaluation.

Summary

An approach based on **2015 survey data scaled up across all participating companies in Phase 1 and Phase 2 networks (Option 2 above)** is deemed to be most robust approach to estimate the overall impact of the Formal CNP. From this, estimates may be derived in the same way as described in section 5.7.2 for the Pilot CNP and drawing on economic impact data from the Formal interim evaluation (survey) – as presented in Box A in Section 6.4. Similar issues apply to the Formal Programme to those described in section 5.7.2 (for the Pilot CNP) regarding the number of companies. These issues are further discussed in section 6.8.1.

6.7.3 Selecting an appropriate method of taking into account future impacts

The potential future impacts of the Formal CNP are also explored. This includes consideration of projected impacts over the next 5 years (as reported by survey respondents - see Box B in Section 6.4) and uses a similar approach to scaling these up as for the current impacts (described in section 6.7.2).

6.8 Estimated Total Impacts of the Formal CNP (scaled up from survey results)

6.8.1 Baseline impacts (all participating companies) - Achieved

Having selected an appropriate data source and method for scaling up impacts, the economic impact of the Formal CNP has been estimated as follows - drawing on information shown in Box A in section 6.4.

Table 6.4 includes information relating to jobs created and safeguarded as well as new sales and sales retained/safeguarded. For each of these categories of impact, the data presented includes the number of companies surveyed, the number of respondents, the proportion of respondents and confidence interval associated with the level of response attained.

Note on Confidence Intervals: based on the sample size, (known) population and a confidence level¹⁷⁴ of 95%, it is possible to provide a general estimate of confidence intervals (also called margin of error) for the survey responses.

The table also includes the number and proportion of respondents who reported positive impacts and the number and proportion that quantified positive impacts for each category. Using this information, the gross impact reported by survey respondents may be calculated and from this, the mean impact per company. Finally, this is used to calculate the total baseline impact for the whole population of companies participating in the Formal CNP.

¹⁷⁴ Represents how often the true percentage of the population who would pick an answer lies within the confidence interval

Table 6:4: Achieved Impacts of Formal CNP including Confidence Intervals (based on survey with 58 respondents) and scaling this up to reflect the whole population of companies in Formal CNP

	New Jobs created	Existing Jobs safeguarded	New sales £	Existing sales retained / safeguarded £
No. of companies in the population (Phase 1 and Phase 2 networks)	136	136	136	136
No. of companies surveyed	58	58	58	58
95% confidence interval (based on sample size)	±9.8%	±9.8%	±9.8%	±9.8%
No. of companies reporting positive impact in co. survey	14	12	12	12
% of all surveyed	24%	21%	21%	21%
No. of companies quantifying impact in survey	7	7	6	4
% of all surveyed	12.1%	12.1%	10.3%	6.9%
Gross impact reported in survey	51	171	£3.275M	£2.315M
Mean impact per company (gross impacts divided by no. of companies reporting details of impact)	7.3 jobs	24.4 jobs	£546K	£579K
Estimated Achieved Impact across whole population: No of companies in population x % of companies reporting positive impact x mean impact per company	239.2 jobs	687.4 jobs	£15,358,621	£16,284,828

Source: PACEC (September 2015)

From the impacts estimated for the whole population, an estimate of GVA may also be determined as: estimated net additional GVA impact = sales x additionality x GVA to turnover ratio where:

- Sales = sum of sales safeguarded and sales created;
- Additionality (from 2015 survey) = 67.5%;
- GVA to turnover ratio from NIABI = 29.7%¹⁷⁵.

This gives an estimated GVA impact of **£6.34M** (based on total sales of £31.6M).

¹⁷⁵ Note: NI GVA as a % of NI Turnover = 29.7% (£18,976m / £63,953m) which is based on:

- Turnover by businesses in NI estimated to be worth £63,953 million in 2013 (excluding VAT)
- Total Approximate Gross Value Added (GVA) at basic prices for 2013 is £18,976 million.

(Source: Northern Ireland Annual Business Inquiry (Experimental) 2013 results on a Reporting Unit basis (DETI Statistics Bulletin, Published 10/12/14))

Due to a small proportion of companies involved in the CNP based outside NI (and hence impacts not attributable to the NI economy), the actual impacts may be up to 5% lower.

Caveats and Limitations

Whilst the analysis above provides an estimate of the impacts of the Formal CNP, it is important to treat these with considerable caution for the same reasons as outlined at the end of section 5.8.1 with the exception of assessment of representativeness for the Pilot Programme. The corresponding information for the Formal Programme is as follows:

- Formal Programme
- Survey respondents included 58 from the Formal Programme. The contact database included 136 companies representing 24 networks.
- Many, but not all Formal networks were represented in the survey respondents which included – by network – 12 of 18 Formal Phase 1 only networks, 2 of 3 Formal Phase 2 only networks and 3 of 3 Formal Phase 1 & Phase 2 networks;
- Survey respondents included – by company - 22 (38%) from Formal Phase 1 only networks, 3 (5%) from Formal Phase 2 only networks and 10 (17%) from Formal Phase 1 & Phase 2 networks. There were also 23 (40%) companies from networks not specified/known. This profile is not very similar to the company database though a significant proportion of survey respondents could not be categorised by network hence limiting ability to compare. By company, the database includes 100 (74%) companies from Formal Phase 1 only networks, 15 (11%) from Formal Phase 2 only networks and 21 (15%) from Formal Phase 1 & Phase 2 networks.
- Survey respondents' involvement in the programme: the Programme team reviewed the details of companies which completed the survey. This indicated that over 90% of Formal survey respondents were “involved” in the programme.

6.8.2 Expected impacts (all participating impacts) – Anticipated over next 5 years

It is also possible to consider the expected impacts of the Pilot CNP over the next 5 years using data provided by survey respondents and scaling this up in the same way as done for the impacts (already achieved) described in section 5.8.1. These expected impacts are shown in the table below.

Table 6:5: Expected Impacts of Formal CNP including Confidence Intervals (based on survey with 58 respondents) and scaling this up to reflect the whole population of companies in Formal CNP

	Employ more people	Additional Sales	Additional Exports
No. of companies in the population (Phase 1 and Phase 2 networks)	136	136	136
No. of companies surveyed	58	58	58
95% confidence interval (based on sample size)	±9.8%	±9.8%	±9.8%
No. of companies reporting positive impact in survey	22	23	18
% of all surveyed	37.9%	39.7%	31.0%
No. of companies quantifying impact in survey	12	9	5
% of all surveyed	20.7%	15.5%	8.6%
Gross impact reported in survey	3695	3,880,000	1,550,000
Mean impact per company (gross impacts divided by no. of companies reporting details of impact)	307.9	431,111	310,000
Estimated Achieved Impact across whole population: No of companies in population x % of companies reporting positive impact x mean impact per company	15884.3	23,250,268	13,084,138

Source: PACEC (September 2015)

From the impacts estimated for the whole population, an estimate of GVA may also be determined as: estimated net additional GVA impact = sales x additionality x GVA to turnover ratio where:

- Sales = sum of additional sales and additional exports;
- Additionality (from 2015 survey) = 67.5%;
- GVA to turnover ratio (from NIABI) = 29.7%¹⁷⁶.

¹⁷⁶ Note: NI GVA as a % of NI Turnover = 29.7% (£18,976m / £63,953m) which is based on:

- Turnover by businesses in NI estimated to be worth £63,953 million in 2013 (excluding VAT)
- Total Approximate Gross Value Added (GVA) at basic prices for 2013 is £18,976 million.

(Source: Northern Ireland Annual Business Inquiry (Experimental) 2013 results on a Reporting Unit basis (DETI Statistics

This gives an estimated GVA impact (anticipated) of **£7.28M** (based on total sales of £36.33M).

Due to a small proportion of companies involved in the CNP based outside NI (and hence impacts not attributable to the NI economy), the actual impacts may be up to 5% lower.

Caveats and Limitations described in section 5.8.1 also apply to the expected impacts.

6.9 Costs, Economy, Efficiency and Effectiveness

6.9.1 Anticipated Costs

The economic appraisal of the Formal CNP¹⁷⁷ sets out the **total budget** (i.e. sum of Programme Delivery (Phase 1 and Phase 2) and Programme Administration costs) for the CNP Programme as **£15,869,469**, of which £8,619,496 (54%) is accounted for by Invest NI expenditure, with the remaining 46% (£7,250,000) being made up by participating companies in the form of in kind industry personnel and/or cash contributions. In the economic appraisal these costs are profiled over the period September 2011 to March 2012 (Year 0) and then a further six years (i.e. to March 2018). It is important to note that these costs are based on targets to support **40 Phase 1 feasibility / scoping studies and 25 Phase 2 collaborative network projects**.

Table 6:6: Formal CNP - Anticipated Programme Costs (from economic appraisal September 2011 – March 2018)

Cost Category	Total Costs		
	Invest NI	Industry	Total
Programme Delivery Costs			
Phase 1: Feasibility Study Costs	£1,000,000	£1,000,000	£2,000,000
Phase 2: Network Facilitation Costs	£6,250,000	£6,250,000	£12,500,000
Sub-total	£7,250,000	£7,250,000	£14,500,000
Programme Administration costs			
Salary costs	£1,198,696	-	£1,198,696
Marketing and other administration costs	£160,000	-	£160,000
Industry personnel time audits	£10,800		£10,800
Sub-total	£1,369,496	£0	£1,369,496
Full-economic cost	£8,619,496	£7,250,000	£15,869,496

Source: Cogent (2011) Economic Appraisal of the Collaborative Network Programme

Considering the period under review in this interim evaluation (September 2011 to December 2014) the anticipated costs are somewhat less. If calculated on a pro rata basis the anticipated costs for the period of time under review are as follows:

- Programme delivery costs: £4,993,750 (Invest NI costs) plus £4,993,750 (industry costs), a total of £9,987,500. This is based on 37 Phase 1 and 23 Phase 2 (Pro Rata number of Networks for this period of time Sept 2011 - Dec 2014; see section 4.2.13)
- Invest NI staff costs: £442,119 (see section 4.2.5);
- Marketing costs: £150,000 (see section 4.2.3); and
- Industry personnel time audits: whilst the economic appraisal for the Formal CNP projected costs of £10,800¹⁷⁸ the pro rata anticipated costs from September 2011 – December 2014 would be £6,750.¹⁷⁹

Therefore the total expected cost (September 2011 – December 2014 for the pro rata number of networks to be funded) would be £10,586,369 (5,592,619 from Invest NI¹⁸⁰ plus £4,993,750 from Industry).

6.9.2 Actual Costs

The following table summarises actual spend on the Formal Programme since September 2011. This is based on cost information from Invest NI.

¹⁷⁸ £1,800 per annum in years 0 – 4 and £900 per annum in years 5 and 6

¹⁷⁹ £1,800 in years 0, 1 and 2 and three quarters of £1,800 for 9 months of year 3 (April – December 2014)

¹⁸⁰ £4,993,750 (programme delivery)+£440,730 (staff)+£150K (marketing)+£6.75K (industry personnel time audits)

Table 6:7: Formal CNP - Actual Costs (September 2011 – December 2014)

	Invest NI Contribution	Industry Contribution	Total	Notes
Programme Delivery Costs				
Phase 1: Feasibility Study Costs	£332,242	£511,107	£843,349	See section 4.2.13 for detailed breakdown of costs
Phase 2: Network Facilitation Costs	£758,485	£1,241,625	£2,000,110	
Sub-total	£1,090,727	£1,752,732	£2,843,459	
Programme admin costs				
Staff / salary costs (fully loaded)	£531,510	n/a	£531,510	See section 4.2.5 for detailed breakdown of staff costs from Sep 2011 to Dec 2014
Marketing costs	£60,245	n/a	£60,245	See section 4.2.3
Training Costs	£26,326	n/a	£26,326	See section 4.2.4
Sub-total	£673,811	n/a	£673,811	
Full-economic cost	£1,708,808	£1,752,732	£3,461,540	

Table 6.7 shows that there has been an underspend on Programme delivery costs (budget: £9.9875M vs. spend of £2.843M) and an overspend on staff costs (budget: £442K vs. spend of £531.5K).

6.9.3 Efficiency

Considering the anticipated spend and the anticipated number of networks (both pro rata based on time under evaluation as a proportion of total) table 6.8 estimates the cost per network.

Table 6:8: Anticipated Cost per Network – based on pro rata costs

	Number	Invest NI costs	Invest NI + Industry costs	Invest NI cost per network	Invest NI + Industry costs per network
Networks	37 Phase 1 and 23 Phase 2 (anticipated Pro Rata number of Networks for this period of time ¹⁸¹) = 60	£5,592,619	£10,586,369	£93,210	£176,439

Source: Row 1 based on Budgeted Costs in the Invest NI CNP Economic Appraisal (2011) and Row 2 based on anticipated costs in LoOs

The Formal CNP involved 27 networks with 136 companies (since some companies may be involved in more than one network, not necessarily unique companies). The ratios of expected and actual spend per network and spend per company are included in tables 6.8 and 6.9. The number of networks funded is much lower than expected, therefore the actual spend per network (Invest NI costs and Invest NI plus industry costs) is also lower than anticipated.

Table 6:9: Actual Spend per Network / Company (Programme Delivery Costs)

	Number	Invest NI costs	Invest NI + Industry costs	Invest NI cost per network / company	Invest NI + Industry costs per network / company
Networks	27	£1,708,808	£3,461,540	£63,289	£128,205
Companies	136	£1,708,808	£3,461,540	£12,565	£25,453

GVA Impact (Estimate) compared to Programme Costs

In the tables below, the estimate of GVA are set against Programme costs incurred by the CNP to date (Invest NI costs only): £1,708,808.

Table 6:10: Comparison of GVA to Costs

	GVA (estimate from sales x additionality x GVA: sales ratio)	Invest NI costs	GVA minus Invest NI cost	Ratio of GVA to Invest NI cost
Estimated impact – achieved	£6.34M	£1,708,808	£4,634,912	3.71

Source: PACEC (September 2015)

¹⁸¹ September 2011 – December 2014

This table demonstrates that GVA exceeds Invest NI costs with the ratio of GVA to Invest NI costs of 3.71.

GVA Impact (Estimate) compared to GVA (Projected)

The economic appraisal and Invest NI Board Casework had proposed GVA impacts of around £23M. This was identified as follows:

- With regard to intended impacts, the submission to the Invest NI Board Casework committee for continued support for the delivery of the CNP in Northern Ireland (September 2011) noted “the potential to make a minimum net contribution to NI companies and the wider NI economy of **£23,611,012** (in terms of GVA)”¹⁸²; and
- The economic appraisal for the Formal CNP stated: “on the basis that 25 network projects would be established as part of option 4, this option would potentially contribute **£23,061,919** in GVA to the NI economy within 5 years of completing the project as a direct result of CNP (i.e. 2.7 times the cost incurred by Invest NI, or that each network would derive £2,975,732 in revenue or £922,477 in GVA to the NI economy over a 5 year period)”.¹⁸³

The estimates of GVA actually achieved (or projected to be achieved) derived from estimated turnover figures are as follows:

- Achieved GVA impact: £6.34M.
- Expected GVA impact over next 5 years: £7.28M.
- Total estimated GVA (achieved plus anticipated): £13.62M.

Whilst this is below the target of £23M, that was to be achieved within 5 years of completing the project. Given that the period under evaluation commences September 2011, none of the projects will yet have reached this 5-year post-completion milestone. Therefore it is encouraging to note that around 60% of the target has been attained to date.

Separately, the EA also refers to the projects achieving a ratio of 2.7: 1 in terms of GVA relative to Invest NI costs. Comparing GVA to costs incurred to date by Invest NI (£1,708,808), gives a ratio of 3.71: 1 (based only on achieved GVA) and a ratio of 7.98 : 1 (based on achieved plus anticipated GVA). Both of these exceed the target in the economic appraisal.

6.9.4 Effectiveness

Objectives for the Formal CNP are summarised in section 6.11: Performance against Targets. This shows that only one of the targets has been achieved, however there is the potential that other targets may be met after further time elapses and / or before the end of the current programme. In addition, there are somewhat high levels of additionality with 67.5% highlighting that they would not have gone ahead without Invest NI support.

The actual impacts of the CNP are discussed in sections 6.3 to 6.8. These include economic impacts based on survey responses from 58 companies (see Box A and Box B in Section 6.4).

¹⁸² Invest NI: Signed Board Casework (September 2011) and this figure is also included in section 10.4.1 of the EA (August 2011)

¹⁸³ CNP Economic Appraisal (August 2011) – section 6.5.2 Monetary Benefits (Option 4)

6.9.5 Summary

An assessment of the measures affecting economy, efficiency and effectiveness demonstrates that:

- **Economy**¹⁸⁴: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;
- **Efficiency**¹⁸⁵: the estimated GVA impacts (achieved) are more than Invest NI Programme costs (exceeding by £4.635M); and cost per network is £63.3K and cost per company is £12.6K; and
- **Effectiveness**¹⁸⁶ while only one of the nine Programme targets have yet been achieved, 45 (80% of 56) companies indicated achievement of the objectives they had set at the start of the Programme.

6.10 Value for Money and Return on Investment

To assess the financial return on investment generated by the Formal CNP and in keeping with the interim evaluation for the Pilot CNP, return on investment calculations are based on:

- Gross Value Added (GVA) to the NI economy as a direct result of their participation in the Programme/network project (i.e. following the application of the calculated levels of deadweight/additionality);
- The costs incurred by Invest NI only; and
- The full (known) economic cost associated with the delivery of network activity to date (i.e. the funding provided by Invest NI plus the industry personnel and cash contributions made by participating companies).

A summary of the analysis is provided in table 6.11.

¹⁸⁴ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

¹⁸⁵ Efficiency considers the benefits (the net outputs or outcomes) compared to the intervention costs

¹⁸⁶ Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

Table 6:11: Summary of Return on Investment Analysis

	Return on Investment (based on costs incurred by Invest NI only)	Return on Investment (based on known¹⁸⁷ economic costs incurred by Invest NI and participating companies to date)
GVA (estimate based on achieved sales)	£6.34M	£6.34M
GVA (estimate based on achieved + anticipated sales)	£13.62M	£13.62M
Costs incurred to date (actual)	£1,708,808	£3,461,540
Return on investment (based on achieved GVA)	3.71	1.83
Return on investment (based on achieved + anticipated GVA)	7.98	2.05

Based on the **costs incurred by Invest NI only to date** (i.e. £1.7M), the analysis suggests that the CNP has provided a return on investment of £3.71 for every £1 invested by Invest NI.

[Note: applying the same analysis to the GVA estimate (achieved plus anticipated = £13.62M); this yields a ratio of GVA to Invest NI costs of 7.98].

Based on the **known¹⁸⁸ economic costs incurred by Invest NI and participating companies to date** (i.e.£3.462M), the analysis suggests that the CNP has provided a return on investment of £1.83 for every £1 invested by Invest NI and the participating companies (in the form of industrial personnel and cash contributions).

It is important that a significant degree of caution is applied to the interpretation of these figures as a means of measuring the impact of the Formal CNP to date given that:

- The GVA impacts are based on survey results of 58 participating companies;
- At the time of analysis, whilst some of the network Projects are complete, others continue to operate; and
- There is likely to be time lag between participating companies undertaking the collaborative networking activity and the subsequent realisation of any tangible business benefits.

It should also be noted that while many of the survey respondents referred to benefits from the Programme they were not able to quantify or monetise these.

¹⁸⁷ NB Invest NI was unable to provide full details of actual industry personnel contributions for a number of the feasibility studies

¹⁸⁸ NB Invest NI was unable to provide full details of actual industry personnel contributions for a number of the feasibility studies

6.11 Performance against SMART Targets set in the Economic Appraisal

Performance of the Formal CNP against the targets set out in the economic appraisal is detailed in table 6.12.

Table 6:12: Performance against SMART Targets (September 2011 – December 2014)

Type of Target	Objective / Target (September 2011 - March 2015)	Objective / Target (September 2011 – December 2014)	Results Achieved and sources	Assessment
Output/ Activity Targets	1. Support the completion of a minimum of 40 feasibility/scoping studies over 4 years (i.e. 7 in Year 1 and 11 per annum over the following 3 years)	<ul style="list-style-type: none"> • Year 1 (Sept 11 - March 12): 7 • Year 2 (April 12 - April 13): 11 • Year 3 (April 13 - April 14): 11 • Year 4 (April 14- Dec 14): 8¹⁸⁹ Total: 37	<ul style="list-style-type: none"> • Year 1 (Sept 11 - March 12): 2 • Year 2 (April 12 - April 13): 5 • Year 3 (April 13 - April 14): 7 • Year 4 (April 14- Dec 14): 7 Total: 21	Total = 21 feasibility/scoping studies Not Yet Achieved
	2. Support the creation of a minimum of 25 Collaborative Network projects (i.e. 4 in Year 1 and 7 per annum over the following 3 years)	<ul style="list-style-type: none"> • Year 1 (Sept 11 - Sept12): 4 • Year 2 (Sept 12 - Sept13): 7 • Year 3 (Sept 13 - Sept14): 7 • Year 4 (Sept 14- Dec14): 5¹⁹⁰ Total: 23	<ul style="list-style-type: none"> • Year 1 (Sept 11 - March 12): 0 • Year 2 (April 12 - April 13): 2 • Year 3 (April 13 - April 14): 2 • Year 4 (April 14- Dec 14): 2 Total: 6	Total = 6 Phase 2 Collaborative Network projects Not Yet Achieved
Outcome Targets	3. Generate a minimum economic impact (in terms of Gross Value Added (GVA)) return of £2 for every £1 invested by Invest NI within 5 years of the completion of the Programme	Programme dates: Sept 2011 to Aug 2015. Evaluation includes networks with LoO from Sept 2011 to Dec 2014. For the networks included in the evaluation, it is possible to estimate the ratio of GVA to Invest NI funding as of now and then project what this ratio will be within 5 years of completion of the Programme. As this is a ratio, it assumed that the same projected ratio will apply for all networks in the Programme, (i.e. any with LoO after Dec 2014).	Based on estimated GVA (achieved £6.34M) and costs incurred by Invest NI only to date (i.e. £1.7M), the analysis suggests that the CNP has provided a return on investment of £3.71 for every £1 invested by Invest NI. [Note: applying the same analysis to GVA estimate (achieved plus anticipated = £13.62M); this yields a ratio of GVA to Invest NI costs of 7.98].	£3.71: £1.00 to date (though both GVA and costs will increase). Achieved

¹⁸⁹ Target of 11 Networks for Year 4 / 12 * 9 (April – Dec 2014)

¹⁹⁰ Target of 7 Networks for Year 4 / 12 * 9 (April – Dec 2014)

Type of Target	Objective / Target (September 2011 - March 2015)	Objective / Target (September 2011 – December 2014)	Results Achieved and sources	Assessment
	5. Create a minimum of 100 new jobs in high value-added sectors within 1 year of the completion of the Programme		Full details of all calculations underpinning information in this cell are detailed in section 6 and summarised below. No. of jobs created (from the survey) = 7 respondents reporting 51 jobs (based on survey of 58 respondents). Scale up across all companies in the CNP (136) therefore 120 jobs created. The survey also shows that 43% of jobs created are high value therefore of the 120 jobs created, it is expected that around 52 are high value jobs.	Projected number of high value of jobs created is: 52 Not Yet Achieved
	6. A minimum of 50% of the jobs created will have wages in excess of the NI private sector median	Expect the target to be the same i.e. 50% of the jobs created have wages in excess of the NI private sector mean	Of the jobs created and reported by survey respondents, the profile of these by salary level is: <ul style="list-style-type: none"> • Above £23,900 pa: 43% • On £23,900 pa: 29% • Below £23,900 pa: 28% 	43% of the jobs created have wages in excess of NI Private Sector mean (slightly below target of 50%) Not Yet Achieved
	7. Leverage in a minimum of £10 million of private sector investment across all network projects within 1 year of the completion of the Programme	£10M expected by March 2016	Costs incurred to date (section 6.9.1) include: £1.752M of private sector investment across 21 Phase 1 (£511K) & 6 Phase 2 (£1.242M) networks. Scaling this up across the target number of networks (40 Phase 1 (£973K) & 25 Phase 2 (£5.175)), could increase to £6.1M Assuming the costs above are up to December 2014 (and cover a three and one third year period), over a further one year and one quarter (up to March 2016), this could increase to: £8.39M . This assumes that: <ul style="list-style-type: none"> • Target number of Phase 1 and Phase 2 networks is achieved. 	To date £1.752M leveraged Could increase to £6.1M if all of the target number of networks are achieved Could increase to £8.39M if all target number of networks achieved and projecting forward to March 2016. Not Yet Achieved

Type of Target	Objective / Target (September 2011 - March 2015)	Objective / Target (September 2011 – December 2014)	Results Achieved and sources	Assessment
			<ul style="list-style-type: none"> Level of investment in all networks (including those not yet supported) at same rate as in networks already supported. 	
	8. 80% of participating NI businesses reporting improvements/increases, within 1 year of the completion of each of Network project, in each of the following areas: Intellectual capital (know how) e.g. by sharing information/knowledge and/or engaging in collaborative research, development and/or design activities	Human capital (people) e.g. by developing employees' skills and abilities and/or safeguarding jobs	<ul style="list-style-type: none"> 80% <p>Of those that stated it had been one year since their network was completed (N=30) the following was reported:</p> <ul style="list-style-type: none"> 47% (N=14) improved staff skills 37% (N=11) improved management skills. 23% (N=7) safeguarding jobs Survey feedback from all Formal network respondents: <ul style="list-style-type: none"> 58% (N=32) improved staff skills levels 48% (N=27) improved management skills. 21% (N=12) safeguarding jobs 	Not Yet Achieved (note it can take longer than a year to get the impacts required)
		Physical capital (things) e.g. by sharing facilities and/or equipment	<ul style="list-style-type: none"> 80% <p>Of those that stated it had been one year since their network was completed (N=30), the following was reported:</p> <ul style="list-style-type: none"> 7% (N=2) shared facilities 7% (N=2) shared equipment Survey feedback from Formal network respondents: <ul style="list-style-type: none"> 16% (N=9) shared facilities 13% (N=7) shared equipment 	
		Intellectual capital (know how) e.g. by sharing information/knowledge and/or engaging in collaborative research, development and/or design activities	<ul style="list-style-type: none"> 80% <p>Of those that stated it had been one year since their network was completed (N=30), the following was reported:</p> <ul style="list-style-type: none"> 74% (N=22) shared information/knowledge sharing 53% (N=16) engaging in collaborative research and design activities Survey feedback from Formal network Respondents	

Type of Target	Objective / Target (September 2011 - March 2015)		Objective / Target (September 2011 – December 2014)	Results Achieved and sources	Assessment
		Market capital (global positioning) e.g. by increasing their knowledge of the marketplace and/or developing new products/services	<ul style="list-style-type: none"> 80% 	<ul style="list-style-type: none"> 84% (N=47) shared information/knowledge sharing 56% (N=32) engaging in collaborative research and design <p>Of those that stated it had been one year since their network was completed (N=30): the following was reported:</p> <ul style="list-style-type: none"> 60% (N=18) increased knowledge of the marketplace 53% (N=16) identified new suppliers 27% (N=8) developed new products/services <p>Survey feedback from all Formal network Respondents:</p> <ul style="list-style-type: none"> 71% (N=40) increased knowledge of the marketplace 55% (N=31) identified new suppliers 33% (N=19) developed new products/services 	
		Social capital (growth of networks/partnership) e.g. by establishing and maintaining business contacts and/or improving the image of the industry.	<ul style="list-style-type: none"> 80% 	<p>Of those that stated it had been one year since their network was completed (N=30), the following was reported:</p> <ul style="list-style-type: none"> 50% (N=15) had addressed local concerns and/or community need through the CNP 47% (N=14) had established and maintained business contacts 47% (N=14) believed that participating in the CNP had improved the image of the industry 	

Type of Target	Objective / Target (September 2011 - March 2015)	Objective / Target (September 2011 – December 2014)	Results Achieved and sources	Assessment
			Survey feedback from all Formal network respondents: <ul style="list-style-type: none"> • 47% (N=27) had addressed local concerns and/or community need through the CNP • 54% (N=30) had established and maintained business contacts • 51% (N=29) believed that participating in the CNP had improved the image of the industry 	
	9. 50% of participating NI businesses reporting, within 3 years of the completion of the Programme, the introduction of new or significantly improved business products (goods and/or services) or processes.	Expect the target to be the same i.e. 50% of participating business reporting new or significantly improved products or processes	Of those that stated it had been one year since their network was completed (N=30): <ul style="list-style-type: none"> • 43% (N=13) had developed new processes along with other network members • 27% (N=8) had developed new products/services Those that stated it had been one – three years since their network was completed (N=11): <ul style="list-style-type: none"> • 36% (N=4) had developed new processes along with other network members • 36% (N=4) had developed new products/services. Survey feedback from all Formal network respondents: <ul style="list-style-type: none"> • 40% (N=23) had developed new processes along with other network members • 33% (N=19) had developed new products/services. 	Not Yet Achieved

Source: PACEC (September 2015) & Survey of Pilot Programme Network Companies (June 2015)

6.12 Impact on Government Policy / Intervention

This section assesses how the Formal CNP contributed to the strategic aims, objectives, targets and actions of the NI PfG, DETI and Invest NI. It also assesses the extent to which the CNP support and networks have informed or shaped government policy / intervention.

6.12.1 Contribution to Strategic Aims, Objectives and Targets

As detailed in section three, the PfG sets out the strategic priorities and key plans for the Northern Ireland Executive for the period 2011 - 2015. There are five priorities and priority one has a key focus on 'Growing a Sustainable Economy' which aims to achieve long term economic growth by improving competitiveness and building a larger and more export-driven private sector, including encouraging innovation and R&D.

To support the priorities the Executive developed key commitments which detail the key actions needed in support of each priority and the milestones / outputs that will be met over the period 2011-2015. In addition the DETI / Invest NI Corporate Plans 2011 - 2015 have a key focus on stimulating innovation and R&D, particularly through collaborative activity.

Tables 6.13 and 6.14 provide an overview of the Public Service Agreements (PSAs) within the PfG, as well as the key aims of the DETI and Invest NI corporate plans that are relevant to the Formal CNP and the contribution that the Programme made towards these.

Table 6:13: Contribution of the Formal CNP (September 2011 – December 2014) to the PfG 2011 - 2015

Priority	Relevant Commitment	Commentary
Priority 1: Growing a Sustainable Economy and Investing in the Future	Achieve £1 billion of investment in the Northern Ireland economy (DETI).	55% (N=23) of companies participating in the Formal CNP anticipated that their network project would create additional sales while 43% (N=18) anticipated that their network project would create additional exports in the next 5 years.
	Support £300 million investment by businesses in R&D; with at least 20% coming from Small and Medium sized Enterprises (DETI).	In relation to the Programme’s overall contribution to productivity growth within the NI economy, as detailed in section 6.3.5 (58% (N=28) of companies that they had achieved a significant, some or slight improvement in their productivity as a result of their collaboration with other companies participating in their respective networks. A further 68% (N=34) of companies stated that participation in the Formal CNP has resulted in increased competitiveness of their organisation.
	Contribute to rising levels of employment by supporting the promotion of over 25,000 new jobs (DETI)	The results of the survey with participating companies suggest that 21% (N=12) had created jobs as a result of participating in the Formal CNP. In terms of quantifying the contribution of the Formal CNP to employment levels within the participating companies, 7 respondents reported 51 jobs had been created as a direct result of the Programme. In addition, when survey responses are scaled up to all participating companies in the Formal CNP to estimate the total impact, the number of jobs created could be 120.

Source: Survey of Formal Programme Network Companies (June 2015)

Table 6:14: Contribution to DETI / Invest NI Corporate Plans 2011 – 2015

Corporate Plan Aim / Objective	Commentary
<p>In the 2011-2015 DETI Corporate Plan there is a target to stimulate innovation, R&D and Creativity and to support 500 companies undertake R&D for the first time and secure 120 collaborative projects in R&D.</p>	<p>Survey results show that 84% (N=47) of companies that participated in the Formal CNP reported sharing information/knowledge while 56% (N=32) engaged in collaborative research, development, design activities and 40% (N=23) developed new processes along with other network members.</p>
<p>Invest NI's 2012-2015 Corporate Plan outlines the need to increase expenditure on innovation support by one-third during 2011-2015 and place a greater emphasis on 'hands-on' support and advice, with the goal of increasing the number of strategic collaborative networks involving both business and knowledge institutions. It also stipulates that Invest NI will build the sectors and collaborative networks which will drive long-term productivity growth by maximising opportunities and exploiting technology opportunities.</p>	<p>The Formal CNP successfully increased the number of strategic collaborative networks involving both business and knowledge institutions, supporting 21 feasibility/scoping studies and 6 Phase 2 network projects. Companies participating in the Formal CNP have reported increased productivity and competitiveness as a result (see section 6.3.5).</p>

6.12.2 Informed government policy / intervention

Impact on government policy is evident in the Align IT Network, as outlined below.

Case Study – Align IT (2013-ongoing)

Figure 6:14: Case Study – Align IT Network

Focus of Case Study: Informing Government Policy – Skills Policy
<p>Context (why the network was formed)</p> <p>The objectives set by members for the network were:</p> <ul style="list-style-type: none"> • Eliminate shortages in the supply of key skills; • Improve the standard of applicants for employment; and • Ensure that courses are aligned with industry needs. <p>Plan (what was done)</p> <p>The network completed the following activities:</p> <ul style="list-style-type: none"> • Convened employer sub groups, identified action plans and set priorities; • Engaged with over 40 employers and 50 stakeholders; • Surveyed 1000+ employers to understand skills needs; • Piloted EURES¹⁹¹ Platform through attendance at Portugal and Dublin job fairs; • Identified that main obstacles in delivery of IT curriculum are teacher training and confidence, and in response: <ul style="list-style-type: none"> – brokered several successful company / school introductions and secured cash contributions to fund teacher training – identified “Role Model” IT teachers to support A-level delivery • Reviewed successful aptitude tests to identify potential talent in alternative labour pools; • Distributed 140,000 brochures promoting IT as careers of choice; and • Created an Align IT portal to promote opportunities in the IT sector in Northern Ireland. <p>Outcomes</p> <p>The network demonstrates a highly effective way in which the sector can work together to influence the education system with regard to the numbers of resources needed and the curriculum content training programmes required by industry, as well as raising the attractiveness and awareness of job / career opportunities in the sector. The network provided an up to date and efficient way of getting data on the detailed resourcing / skills needs of the sector, which in turn informed the education sector and encouraged it to engage. It provides an example of best practice that could be adopted by other sectors.</p>

¹⁹¹ EURES is a Job Mobility Portal. Its purpose is to provide information, advice and recruitment/ placement (job-matching) services for the benefit of workers and employers as well as any citizen wishing to benefit from the principle of the free movement of persons. EURES has a human network of more than 850 EURES advisers that are in daily contact with jobseeker and employers across Europe.

Impact on government policy is also evident in the European Connected Health Alliance, as outlined below.

Case Study – European Connected Health Alliance (2012 – 2014)¹⁹²

Figure 6:15: European Connected Health Alliance

Focus of Case Study: Informing Government Policy – International Relationships and Policy

Context (why the network was formed)

The European Connected Health Alliance (ECHAlliance) was formally launched in early January 2012 following the merger of the European mHealth Alliance (EuMHA) and the European Connected Health Campus (EHCampus).¹⁹³ It was designed to support and promote the wider adoption of healthcare and wellbeing (including sports and fitness) products, services, applications and innovation. ECHAlliance facilitated the development of ‘Connected and MHealth’ markets and practices across Europe and beyond. This includes supporting the economic development in the full range of eHealth, Electronic Health Records, TeleCare, TeleHealth, Telemonitoring and MHealth sectors. ECHAlliance provides a unique partnership of organisations, academia, companies and government bodies.

Plan (what was done)

Key achievements have included:¹⁹⁴

- Establishment of the Northern Ireland Connected Health Ecosystem (NICH-Eco) and hosting of NICH-Eco meetings, with consistently high attendance numbers from industry, academia and healthcare providers;
- Hosting of five EU-US Marketplaces in Europe and the USA during 2012 - 2014, with representation from NI industry, academia and healthcare providers;
- Providing NI companies with a ‘brokerage’ service and facilitating their negotiations and relationship building through organisation of pre-arranged matchmaking sessions;
- Assisting in the development of collaborative projects engaging NI companies and the local universities through the Medicines Optimisation SBRI (March 2014), Healthcare Analytics Showcase / Honest Broker Workshop (May 2014) and NI Industry Showcase event (October 2014); and
- Showcasing Northern Ireland companies by providing speaking and exhibition opportunities at international ehealth events (e.g. EU-US Marketplaces 2012 – 2014).

Outcomes

The final report¹⁹⁵ states that funding from the CNP supported the network to facilitate collaboration between industry, academia and healthcare providers which enabled them to leverage expertise, share knowledge and resources and build capability and capacity in connected health. Key outcomes highlighted by the report include the following:

Financial outcomes

- Four network members reported increased domestic sales, with one company specifying £75K

¹⁹² European Connected Health Alliance: Northern Ireland Connected Health Ecosystem – Collaborative Network Programme, Final Report (November 2014).

¹⁹³ European Connected Health Alliance: Northern Ireland Connected Health Ecosystem – Collaborative Network Programme, Final Report (November 2014).

¹⁹⁴ European Connected Health Alliance: Northern Ireland Connected Health Ecosystem – Collaborative Network Programme, Final Report (November 2014).

¹⁹⁵ European Connected Health Alliance - Northern Ireland Connected Health Ecosystem - Collaborative Network Programme Final Report (2014)

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- Increased export sales (3 networks, amount not specified)
- Secured investment (4 networks, amount not specified)
- Increased employment (3 networks one specified 2 jobs)
- Safeguarded jobs (3 networks, number not specified)

Intellectual Outcomes

- 10 networks reported intellectual outcomes, these included being part of a wider network of suppliers bringing business led research together and working in collaboration with HSCTs / other SMEs
- 8 networks reported knowledge sharing
- 7 networks reported access to research and innovation (e.g. access to universities through Northern Ireland Connected Health Innovation Centre (CHIC))
- 6 networks reported increased innovation activity / help to understand market opportunities

Market Outcomes

- 4 networks reported entering new markets (sector and geographically), for example CHIC used the ECH alliance contacts in Barcelona, Boston, Dublin and Manchester to explore new client opportunities for business members
- 8 networks identified potential new customers, for example members of affiliated ECO systems
- 4 networks reported the development of new products / services, for example CHIC was able to share ideas and thoughts on challenges which assisted companies in tailoring new products.
- 8 networks reported increased understanding of user needs, for example Aura Healthcare noted that attendance at meetings and events enabled the company to gain customer feedback
- 9 networks highlighted that as a result of the network they had greater access to health & social care decision-makers and industry experts, noting that both commercial and academic networks had improved

Social Outcomes

Nine networks reported gaining valuable contacts through the network, with one company noting that ‘the ECO system has created a fertile environment for networking with a degree of purpose. This has been invaluable in selling Northern Ireland and linking our research work with a bigger purpose’.

Further qualitative feedback includes:

- “The NICH-ECO has been a very valuable asset to BSO¹⁹⁶. It has provided a forum for the health statutory sector to meet on an informal yet structured basis with the Private IT sector and other parts of Government as well as the Third sector. It has provided a safe environment where ideas can be exchanged and innovation encouraged. We have also been able to dialogue with the private sector regarding more effective ways of procurement” - David Bingham, Chief Executive; Length of time involved with NICH-ECO: approx.2 years
- “Working together within the context of the NI Connected Health Ecosystem has been a useful & rewarding experience. We have greatly benefitted from the knowledgeable input of the ECHAlliance in drawing together and facilitating dialogue with potential partners to address critical medicines management issues. On our own, this would not have been easily possible nor would it have generated the richness of experience & potential for innovation that we have enjoyed to date” - Dr Norman Morrow, Chief Pharmaceutical Officer, Department of Health Social Services and Public Safety Northern Ireland.

¹⁹⁶ Business Services Organisation (BSO). The Business Services Organisation has been established to provide a broad range of regional businesses support functions and specialist professional services to the health and social care sector in Northern Ireland.

6.13 Summary

In terms of cost-effectiveness, there is also a clear return on the funding that Invest NI provides to the CNP (see section 6.9):

- **Cost-effectiveness ratio:** comparing the estimate of GVA (achieved which is £6.34M) and Invest NI costs (£1,708,808) yields a ratio of £3.71: £1.00.

In considering Value for Money the following is examined:

- **Additionality / displacement:** There are high levels of additionality (67.5%); suggesting the impacts noted would not have happened without the CNP.
- **Performance against Targets:** Performance against targets (see section 6.10) shows that only one of the nine targets has yet been achieved however progress has been made towards each of the others.
- **Expenditure against budget:** To date the actual costs for Phase 1 and 2 are considerably less than those proposed (36% of Phase 1 budget spent (Invest NI costs only) and 19% of Phase 2 budget spent (Invest NI costs only) respectively). However staff costs are higher (20%) than anticipated (actual: £531.5K vs. budget: £442K).

An assessment of the measures affecting economy, efficiency and effectiveness (see section 6.9) demonstrates that:

- **Economy**¹⁹⁷: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;
- **Efficiency**¹⁹⁸: the estimated GVA impacts (achieved) are more than Invest NI Programme costs (exceeding by £4.635M); and cost per network is £63.2K and cost per company is £12.6K; and
- **Effectiveness**¹⁹⁹ while only one of the nine Programme targets has been achieved, 45 (80% of 56) companies indicated achievement of the objectives they had set at the start of the Programme.

¹⁹⁷ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

¹⁹⁸ Efficiency considers the benefits (the net outputs or outcomes) compared to the intervention costs

¹⁹⁹ Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

7 CONSULTATION FINDINGS: FEEDBACK FROM CNP FACILITATOR AND LEAD COMPANY INTERVIEWS

7.1.1 Introduction

In total 20 interviews were conducted; 11 interviews with network facilitators and eight representatives from lead companies. Three interviewees who were network facilitators and also held senior positions within the lead company. One further interview was conducted with an academic expert. The majority of those interviewed had been involved with their project in both Phase 1 and Phase 2, one network only operated in Phase 1. Respondents had been involved in either Pilot or Formal networks or both and feedback was common to both Pilot and Formal networks.

As the holder of the issued Letter of Offer, the network Lead Company or network (if it is a legal entity) is responsible for:

Table 7:1: Activities undertaken by the Network Lead Company

Activities undertaken by the Network Lead Company
<ul style="list-style-type: none"> • Submission of all funding claims • Administration relating to the network • Receipt and management of all funding allocations; and • Submission of all quarterly progress and final reports. • Appointing the project manager/facilitator in conjunction with the network members

Source: Terms of Reference for the evaluation

Detailed feedback is included in Appendix F. A summary of key points relating to impacts, the current status of networks and learnings is presented below.

7.1.2 Performance

7.1.2.1 Performance against Targets

Most of those interviewed highlighted that their network met the aims and objectives that were set out in the LoO. One facilitator noted that their aims and objectives had changed slightly against those that were set out in the original LoO because of circumstances that were outside of their control but that any changes were agreed with the Invest NI team.

All of those interviewed noted a range of soft outcomes and economic impacts as discussed in the following paragraphs.

7.1.2.2 Soft Outcomes

All of those interviewed noted that the networks had generated a range impacts of amongst the members had developed a range of skills, generally speaking these outcomes included:

- Improved access to new markets
- The ability to collaborate to bid for more work
- Improved / skills across the company

- Increase in individual companies networks.

The salient comments relating to the soft outcomes achieved by the networks were:

- Members developed a better understanding of both the supply chain and market opportunities
- By working together members saved costs on product testing, marketing and recruitment
- Network members collaborated were able to bid for larger contracts because of the network, which enabled them to access new markets
- One Facilitator noted that the issues highlighted through their network established a new line of academic research and therefore the experience and capacity of the research sector in Northern Ireland also benefitted from the network.
- As a result of products developed and research completed by the network clinical trials are underway to test screening for strokes. Although the trials themselves are taking place in ROI, there are anticipated health and well-being benefits in the long-term.
- The network has been to pitch to very large multi-national companies and bring senior staff over to Northern Ireland; whilst they have not yet invested they now understand the quality and capacity of companies within Northern Ireland.
- Companies involved in the network have improved their trials protocols and staff have been developed and trained. Therefore, new products are now being more rigorously tested and trialed as a direct result of the network without the relationships developed and knowledge shared through the network the small companies involved would not have been able to do this. This means that the products are more viable and profitable for the companies involved.
- Companies in Belfast can now compete globally because of the high-speed broadband connections that were installed because of the network, for example media firms in Belfast have won contracts with companies in the USA that previously went to a firm in Hollywood.
- Large multi-national companies have taken an interest in Northern Ireland because of the ecosystem the network created
- Because of the experience and skills gained through contracts won as a result of the network we are now better placed to win more contracts in Europe.
- An IT apprenticeship scheme was promoted through the network that is focused on developing the skills that are needed in the IT sector.

One lead company noted how the CNP changed the focus on their company:

“The CNP really provided us with the opportunity to be an R&D company. We moved from supplying products to being innovative and developing new products and we are one of only suppliers of this product in the UK and Ireland”.

7.1.2.3 Economic Impacts

Whilst all the facilitators were aware of the economic impacts of their networks had achieved for their members not all were aware of exact details of what was actually achieved, in some cases this was because although the impacts came about as a direct result of the Network, it was often achieved after the Network had ceased to formally exist. A summary of the key economic achievements as highlighted by Facilitators and lead companies is noted below:

- Network members won over £4.2 million of contracts because of the network

- 8 direct and 80 indirect jobs were created within Network member firms because of the network;
- One network member who operates in a rural area got investment of over £1 million from a multi-national company as a result of a product that was developed through the network (ABC Collaborations)
- The network was able to introduce private sector investors to network members and as a result one company got an investment of £8m and has employed 8 more staff (ABC Collaborations)
- The network helped companies to increase their exports, one company moved from 6 employees to 30 (Digital Circle)
- Our company was able to complete R&D because of participating in a network, which led to the development of a new product of which no one else in Northern Ireland manufactures. This has allowed the company to enter into new markets that has created contracts of over £20m per annum. As result of this business the company has employed 6 new members of staff, all of which are highly skilled and are paid around 20% more than the Northern Ireland average salary. (Glantek)
- 38 new gaming companies have been developed in Northern Ireland that didn't exist before the network (Digital Circle).
- Member firms who are traditional manufacturing companies have started trading online because of the network and have won contracts in the USA and the Middle East (Digital 2020);
- Our network has supported 10 PHD students and 31 new, high value jobs (Capital Markets)
- A Philanthropic Trust has provided a Letter of Offer of £3.5m to support the full achievement of the network's ambitions. However, this requires sign-off from the public sector that has not yet happened. (Active Aging Network)
- Our firm won a large contract with a multi-national company, whilst we already had a relationship with this company the network definitely helped. As a result we employed and trained 25 new people, some of whom were unemployed at the time (MET Energy skills).
- Network members won a contract with a multi-national firm and as a result of this and sub-contracting with other network members the total value to Belfast companies was almost £4 million (Wind Skills)
- BT upgraded the infrastructure at a cost of £4.5m because of the network's activities (Digital 2020).
- We have put together a bid to Horizon 2020 as a consortium (Smart Grid).
- Network members are involved in a large bid for funding to FP7 (Capital Markets).

Most interviewees were unsure of the proportion of economic impacts that were directly contributable to the network. One Facilitator noted that they had commissioned an independent evaluation of their network. Another representative from one of the lead companies noted that 100% of the impacts were directly attributable to the network (Glantek).

7.1.3 Regional Impacts

The majority of those interviewed (both facilitators and lead companies) noted that the CNP had positively contributed to economic and innovation policy in Northern Ireland. Two facilitators noted that they had contributed to and provided recommendations on economic and innovation. Specifically, it was noted that the networks contributed to / made recommendations to Matrix on IT and life sciences (Digital 2020) as well as contributing to the innovation strategy and the Programme for Government open data policy (Digital Circle).

One facilitator noted a number of tangible, regional impacts of their CNP, specifically as a result of the activities under their network Northern Ireland’s connectivity improved through the installation of fibre optic broadband and upgraded satellites. It was the perception of this facilitator that this has made NI a more attractive place to do business, as increased connectivity “makes companies and areas more valuable” that there are now parts of Belfast that were once run-down that are now highly valuable business areas because of the increased connectivity.

Around one quarter of those interviewed also noted that whilst the CNP has made a positive contribution to the overall Northern Ireland economy.

7.1.4 Current Network Activity

The majority of those interviewed represented Networks that were no longer funded by Invest NI or formally operating. However, around three quarters of the facilitators noted some level of network activity was still ongoing either formally or, in-formally. This ranged from ongoing regular network meetings to on-going, informal communication between network members. Three interviewees noted that network members pay a membership fee to contribute towards the running costs of the network. Key points from Facilitators and lead company representatives on current network activities included:

- The network is now self-sustaining as members pay to join and they are preparing a bid for EU funding (Capital Markets);
- The network members still meet and they are preparing for the next stage of the Network (European Connect Health);
- The companies continue to Network, but at their own cost (Fortress Ireland & MET Energy Skills);
- The network continues to meet about two months (Big Data Analytics);
- While the network does not formally exist anymore members have put together a consortium to bid for EU funding (Smart Grid);
- Network members are in touch with each other informally, but they no longer meet as a network (GlanTek).

7.1.5 Learnings

Some of the network represented very specific and/or highly specialised sectors and the lead companies associated with these network noted that a facilitator with specific skills and experience was required in order to fully engage with members, to identify new market opportunities and attract new members. However, this also limited the number of people who could fulfil the role of facilitator.

The outputs from some of the network were also highly specialised and technical that network facilitators and representatives from lead companies believed that Invest could not be expected to understand all the outputs or impacts from all the network. It was suggested that Invest NI obtain independent specialist advice when assessing final reports and making funding decisions.

7.1.6 What worked? What needs improved?

All of those interviewed believed that the Programme involved too much administration and that the vouching process verification process created significant difficulties for some Networks in maintaining and attracting key members. At least three network Facilitators highlighted that they lost members

who were senior representatives of large firms due to the requirement to provide bank statements as proof of salary, almost all of those consulted with noted that this process is not acceptable.

Around half of those interviewed noted that the processes suggested a lack of trust between Invest NI and network member firms, for example:

- “Whilst it is important to be careful with public money, this programme was administrated into oblivion” (network Facilitator)
- “The current level of accountability by CNP participant company representatives is a serious barrier to involvement, intrusive and unnecessary. The greatest cost to a company is the representative’s time and opportunity cost of other business interests, which is not even recognised within the overly regimented claim spreadsheet”. (Lead Company)

A small number of interviewees noted that they required support and/or input from the public sector to fully realise the full potential of their network and that they lacked the support and understanding from the relevant public representatives to do this. This highlights the importance of the triple helix network model whereby the relevant public sector representatives are part of the network from an early stage. However, in the meantime Invest NI could support the networks by continuing to liaise and engage with their public sector colleagues where required.

7.1.7 Conclusions

As summarised above, all the facilitators and lead company representatives noted a range of positive impacts that they achieved as a result of the CNP. These ranged from tangible impacts, such as winning new contracts, developing new products and employing more staff as well as softer outcomes including increased business contacts, developing new skills and supporting learning opportunities. However, both the Facilitators and the Lead Company representatives highlighted that it is not possible to determine the proportion of the impacts that are directly contributable to the CNP.

Over half of those interviewed noted that their network members still meet, either formally or, informally. The type of ongoing contact ranged from meeting regularly as paid up members of a network, to informal and ad-hoc communication between members who met through the Network. A very small proportion of those interviewed (less than one third) noted that their Network is now sustained through paid membership.

All of those interviewed highlighted significant difficulties with the CNP administration processes, and the vouching processes in particular. Interviewees noted that the detailed, personal information that network members were asked to provide as evidence of their contribution to the scheme lead to an under-recording of time spent on the network and also the loss of members from large companies.

8 BENCHMARKING AND RESEARCH

8.1 Introduction

Work completed by NESTA²⁰⁰ and others has highlighted the difficulties of seeking to benchmark Programmes in this field primarily because of the significant differences in policies and implementation structures / resources. This section therefore sets out four Programmes which are not directly similar to the Invest NI CNP, but which provide key learnings to support any future developments. These were agreed with the Steering Group at the outset of the research, namely:

- Denmark (SPIR - Strategic Platforms for Innovation and Research);
- Norway (ARENA Programme);
- Catalonia (Catalonia Cluster Programme); and
- Finland (Centre of Expertise Programme OSKE).

The Programmes were selected on the basis that they were identified as best practice by one of the following:

- Europe INNOVA Cluster Mapping – case studies of clustering efforts in Europe report (2008)²⁰¹;
- European Secretariat of Cluster Excellence²⁰² - based on being awarded the “Cluster Organisation Management Excellence Label (Quality Label)”, which was developed within the European Cluster Excellence Initiative (ECEI)²⁰³ as proof of cluster management excellence; or
- TAFTIE (The European Network of Innovation Agencies)²⁰⁴ – identified as a region of excellence for cluster/network policy.

²⁰⁰ NESTA: The Effects of Cluster Policy on Innovation by Uyarra and Ramlogan Manchester Institute of Innovation Research 2012

²⁰¹ Europe Innova Cluster Mapping Project (2008) Case studies of clustering efforts in Europe: Analysis of their potential for promoting innovation and competitiveness

²⁰² As part of EU efforts to create more world-class clusters by strengthening cluster excellence, the Commission launched in 2009, under the Competitiveness and Innovation Programme, the European Cluster Excellence Initiative (ECEI).

²⁰³ European Secretariat for Cluster Analysis (2014) Cluster organisations in Europe – insights from Bronze and Gold Label assessments

²⁰⁴ TAFTIE is an association of European innovation agencies and is aimed at promoting collaboration on the implementation of innovation policies

Assessment against each of these criteria is detailed in table 8.1.

Table 8:1 Criteria for Selection of Benchmarks

Comparator	Date	Best practice in INNOVA Cluster Mapping ²⁰⁵	European Secretariat of Cluster Excellence	TAFTIE Assessment	Correlation with clusters established in NI
Denmark (SPIR - Strategic Platforms for Innovation and Research)	2010 - ongoing	✓	5 Gold Standard Clusters ²⁰⁶	Identifies Demark as an region of excellence for cluster policy ²⁰⁷	Many clusters/networks relate to biotechnologies/ health and sciences / pharmaceuticals/ engineering and manufacturing / environment which strongly correlate with clusters/networks established in NI
Norway (ARENA Programme)	2002 - ongoing	✓	3 Gold Standard Clusters ²⁰⁸ 30 Bronze Standard Clusters ²⁰⁹	-	Many clusters/networks relate to biotechnologies/ health and sciences / pharmaceuticals/ engineering and manufacturing / environment which strongly correlate with clusters/networks established in NI
Catalonia (Catalonia Cluster Programme)	2014 - ongoing	✓	3 Gold Standard Clusters ²¹⁰	-	Clusters in energy and environment/ creative industries/production and engineering/ICT/new materials and

²⁰⁵ <https://static1.squarespace.com/static/514068dbe4b07e09335cbef0/t/518a926fe4b0c1d65b4b9bed/1368035951404/Emiliano+Duch+-+Case+Studies+of+Clustering+Efforts+in+Europe.pdf>

²⁰⁶ <http://www.cluster-analysis.org/gold-label-new/?country=76399490509e4acc94843cd3716adadc>

²⁰⁷ <http://www.taftie.org/content/taftie-expert-session-cluster-policy-and-management-march-2015>

²⁰⁸ <http://www.cluster-analysis.org/gold-label-new/?country=18775ce066de491b9c01b3ca8175aff4>

²⁰⁹ <http://www.cluster-analysis.org/benchmarked-clusters/?country=9e0e2d07-b7a9-47ae-a816-cf7692205403>

²¹⁰ <http://www.cluster-analysis.org/gold-label-new/?country=fbf7af2954b24247b8834d8fd87ffb33>

Comparator	Date	Best practice in INNOVA Cluster Mapping ²⁰⁵	European Secretariat of Cluster Excellence	TAFTIE Assessment	Correlation with clusters established in NI
			Over 60 Bronze Standard Clusters ²¹¹		chemistry/transportation and mobility/food industry/health and medical sciences – all of which link well with clusters/networks established in NI
Finland (Centre of Expertise Programme OSKE)	2007 - 2013 ²¹²	✓	11 Bronze Standard Clusters ²¹³	Identifies Finland's OSKE Centre of Expertise Programme as a benchmark ²¹⁴	Many clusters/networks relate to biotechnologies/ health and life sciences / pharmaceuticals/ engineering and manufacturing / environment which strongly correlate with clusters/networks established in NI

²¹¹ <http://www.cluster-analysis.org/benchmarked-clusters/?country=cfd9dc5b-2dd5-490a-baae-c3cb31eaa7d4>

²¹² The Programme launched in 1994 as a regional development Programme with a focus on supporting the development of centres of expertise.

Over the period 2007-13, the Programme was restructured to follow a cluster/network-based approach with the aim to increase regional specialisation and encourage co-operation between thematically and industry specific but separate centres of expertise

²¹³ <http://www.cluster-analysis.org/benchmarked-clusters/?country=9606c5cb-0d9a-4ae0-b02c-5b5994e68aea>

²¹⁴ <http://www.taftie.org/content/taftie-expert-session-cluster-policy-and-management-march-2015>

Note 1: The ECEI initiated by the European Commission, DG Enterprise and Industry has developed methodologies and tools in order to support cluster/network organisations to improve their capabilities in the management of networks and clusters. The “Cluster Organisation Management Excellence Label (Quality Label)” sets the standard for management excellence. As at May 2014, 566 cluster/network organisations from 35 countries had applied the EU benchmarking methodology and acquired the bronze label of cluster/network excellence and 42 of them hold the gold label.²¹⁵

The gold label is awarded to cluster organisations (with a validity of two years) when they reach a cluster management excellence score of $\geq 80\%$ during an external expert assessment of 31 quality indicators.²¹⁶

Note 2: Denmark and Finland are “Innovation Leaders” with innovation performance well above that of the EU average²¹⁷, while Ireland and the UK are ‘Innovation followers”, with innovation performance above or close to that of the EU average. Norway and Spain are categorised as ‘Moderate Innovators’ with innovation performance coming close to that of the Innovation followers.²¹⁸ Therefore some of the comparators represent more developed innovation ecosystems and / or represent best practice in cluster/network excellence, thereby providing valuable learning points for NI.

8.2 Comparison Information

The cluster/network programmes reviewed exemplify the significant diversity of supports available internationally, the different innovation ecosystems and the variation in time that the supports have been in operation. It is therefore not possible to compare the results achieved with the Invest NI CNP, however they have been reviewed to illustrate the different approaches taken and the results achieved (where relevant).

Table 8:2 Description of Comparator Programmes & Activities

Programme	Programme Description & Activities
Denmark: SPIR - Strategic Platforms for Innovation and Research	SPIR (Strategic Platforms for Innovation and Research) was established in 2010 as a joint initiative between the Danish Council for Strategic Research and The Danish Council for Technology and Innovation. Since April 2014 SPIR has been managed by the Innovation Fund Denmark. The objective of the Programme is to promote business-relevant, good university research that supports research, innovation, competitiveness and growth in many enterprises. SPIR platforms are founded on partnerships ²¹⁹ between research institutions and private-sector enterprises in which the enterprises are extensively involved both in the planning

²¹⁵ http://ec.europa.eu/growth/smes/cluster/excellence/index_en.htm

²¹⁶ Indicators relate to structure of the cluster; typology, governance and cooperation; cluster organisation management; strategy, objectives and services; and achievements / recognition

²¹⁷ The most innovative countries perform best on all dimensions: from research and innovation inputs, through business innovation activities up to innovation outputs and economic effects, which reflects a balanced national research and innovation system.

²¹⁸ Isaksen, A., Hauge, E. (2002) Regional clusters/networks in Europe. European Commission, Observatory of European SMEs

²¹⁹ The Strategic Platforms for Innovation and Research (SPIR) require an interactive collaboration between universities,

Programme	Programme Description & Activities
	<p>and performance of the research and innovation activities, and with the opportunity for small and medium-sized enterprises to participate in certain activities.</p> <p>It is a precondition that the platform has made a binding commitment to international collaboration and the platform is governed by a board with decision-making competence. The board must be organised with transparent and direct representation of the members of the consortium and with external members that have the necessary in-sight into strategic research and innovation as well as public-private partnerships, ideally with international participation.²²⁰ The Programme creates 6-8 year platforms with a focus on more efficient knowledge dissemination and the possibility of faster and more interactive utilisation of new knowledge for the benefit of innovation in the private and public sectors.²²¹</p> <p>Grants from the Danish Strategic Research Council (now managed by the innovation fund Denmark) can be used to cover the following types of eligible costs associated with research and development activities:</p> <ul style="list-style-type: none"> • Salaries for research managers and key researchers; • PhD grants; • Postdoctoral grants; • Combination positions (salaries/salary subsidies for researchers who are employed for a fixed period of time at two institutions or at an institution and an enterprise); • Salaries for technical/administrative staff; • Guest researchers (e.g. bringing talented researchers from abroad to Denmark for a limited period of time); • Procurement of research from high-quality research environments abroad that might be moved to Denmark for a period of time; • Equipment costs; • Support for dialogue between research institutions and public-sector institutions and/or private-sector enterprises etc.; • Subsidies for costs relating to collaboration with research environments abroad; and • Other costs which are relevant in relation to the concrete activities <p>The Programme publishes annual calls that have two phases: a pre-qualification phase and a final phase. In the first phase, the focus is on strategy, organisation and on the description of how innovation and research are linked in the platform. The pre-qualified applicants then have the opportunity to expand and continue working on the application and bring in additional partners if needed etc. Only the applications in the final phase are evaluated by external peers.²²²</p> <p>Funding is DKK 60 million (c. £5,877,082) for 5-7 years.²²³ The size of grants vary however the minimum is DKK 10 million (c. £979,231) and the grant period is at least 3 years.²²⁴</p>

private-sector enterprises, public-sector organisations and innovation stakeholders, such as technological service institutes (GTS institutes).

²²⁰ Danish Council for Strategic Research (2014) *Strategic Research Principles and Instruments*

²²¹ Ministry of Science, Innovation and Higher Education (2013) *Strategy for Denmark Cluster Policy*

²²² http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/dk/supportmeasure/support_mig_0023

²²³ <http://www.nifu.no/files/2012/11/NIFUarbeidsnotat2012-4.pdf>

²²⁴ <http://ufm.dk/en/research-and-innovation/councils-and-commissions/former-councils-and-commissions/the-danish->

Programme	Programme Description & Activities
	Note: the scope and funding available through SPIR is much wider and larger than the CNP.
Norway: ARENA Programme	<p>The Arena Programme aims to increase the competitive ability of regional enterprises by creating strong industrial clusters.²²⁵ The Programme targets regional business communities with a high concentration of companies within one industry, value chain or area of expertise, and that have relevant competence centres.²²⁶</p> <p>Programme funding is channelled into four areas. Every year the cluster decides how to divide their efforts between these areas. The four areas are:²²⁷</p> <ul style="list-style-type: none"> • General cluster development: The operation and development of the cluster based on agreed goals and strategies for the cluster collaboration. The funding is provided to the institution responsible for developing the processes and that manages the resources made available for this purpose. Funds are available for up to half of these costs, while the cluster participants must cover the rest. State aid provisions set out the following specific limits on the types activities that can be funded: process management; management of the cluster’s joint facilities; strategy and analysis processes; promotion and communication; and organisation of ‘arena’ (places) for meetings, networks and training. • Knowledge collaboration: Funding is provided to support collaboration projects (which are development projects) between members and international organisations. • Innovation collaboration: Funding is provided to support processes that will identify ideas for new products, services or technological solutions, putting together consortiums that can develop the ideas up to the conceptualisation phase or proposals for large, concrete development projects that are implemented independently of the cluster/network. • Cluster-to-cluster collaboration: Funding to initiate and strengthen the connection between the cluster/network and external clusters/networks with a view to technological collaboration, innovation collaboration, expertise collaboration or joint development of business collaboration. This can include collaboration with other cluster environments at the regional, national or international level across sectors and technologies, or within value chains. <p>Funding is available for up to 50% of a project’s costs (base costs). The grant awarded varies however normally ranges between £128,000 and £213,000 per year.</p> <p>Support services provided that help the cluster/network to develop include:²²⁸</p> <ul style="list-style-type: none"> • External Advisory services to develop the cluster/network’s strategic focus. • Competence services: these aim to upgrade the cluster/network organisations’ skills in relation to developing, managing and implementing the activities. • Networking services: support intended to help develop and strengthen the cluster/network’s contact and collaboration with external parties that can contribute to the development of the cluster/network.

[council-for-strategic-research/for-applicants/about-funding-for-research-activities](http://www.arenaprogrammet.no/PageFiles/852/Arena.pdf)

²²⁵ <http://www.arenaprogrammet.no/PageFiles/852/Arena.pdf>

²²⁶ <http://www.arenaprogrammet.no/no/Om-Arena/About-Arena/>

²²⁷ Norwegian Innovation Clusters (2015) *Programme Description*

²²⁸ Norwegian Innovation Clusters (2015) *Programme Description*

Programme	Programme Description & Activities
	<ul style="list-style-type: none"> Promotional services: intended to help promote the clusters/networks as important innovation and value creation communities. <p>Note: The size and scope of support, whilst not identical, is closer to Invest NI CNP support. Invest NI do not have explicit support to cover cluster-to-cluster collaboration.</p>
Catalonia: Cluster Programme	<p>The Programme focuses on improving the professionalisation of cluster/network managers and stimulating networking.</p> <p>This Programme does not provide funding to cluster/network organisations, however it provides a set of services,²²⁹ specifically:</p> <ul style="list-style-type: none"> Use of the brand associated to the Programme; Strategic orientation; Training of cluster/network managers; Individual assessment and coaching in the fields of international cooperation and innovation; Networking activities; and Any other activity that the Ministry of Business and Labour establishes in the field of cluster/network development.²³⁰ <p>Note: The scope of this Programme is much more limited than Invest NI CNP and no funding is provided.</p>
Finland: Centre of Expertise Programme OSKE	<p>The Centre of Expertise Programme was a national Programme that ran over a fixed term from 2007 - 2013.²³¹ A key feature of the Programme was not to create new clusters/networks, but to coordinate already existing regional clusters/networks²³² under an “umbrella organisation” called Competence Clusters.</p> <p>The Programme focused on established competence clusters/networks in order to gather and link the key organisations at centres of expertise located in different regions and get them to collaborate and implement strategic development programs.²³³ The overall objectives of the OSKE program were to²³⁴:</p> <ul style="list-style-type: none"> Create new innovations, products, services, companies and jobs based on top-class expertise, Support inter-regional specialisation and division of duties in order to create internationally competitive centres of expertise and

²²⁹ As established in the Government Agreement RESOLUCIÓ EMO/287/2014, de 12 de Febrer, de desenvolupament del Programa Catalunya Clusters

²³⁰ This is used by the Programme to leave the scope of activities more open to eventually add any additional activity the government may consider relevant (with no implications to date)

²³¹ The programme was replaced, in part, by the INKA Innovative Cities programme launched in 2014, and which is scheduled to run to 2020. The goal of the INKA – Innovative Cities programme is to create competitive, high-tech companies and thus promote the emergence of innovation clusters/networks in Finland. The main difference of the INKA programme is that the programme will utilize cities and their public investments as development and demonstration platforms of innovations. The example areas are energy production, transportation and healthcare.

²³² Refers to the Centres of Expertise that were created until 2006

²³³ Ministry of Science, Innovation and Higher Education (2012) Updated Report: Clusters are Individuals: New Findings from the Cluster Management and Cluster Program Benchmarking Vol II

²³⁴ Ministry of Science, Innovation and Higher Education (2012) Updated Report: Clusters are Individuals: New Findings from the Cluster Management and Cluster Program Benchmarking Vol II

Programme	Programme Description & Activities
	<ul style="list-style-type: none"> • Increase the attraction of regional innovation environments in order to bring international companies, investments and leading experts to the region. <p>Basic funding was provided for the development of established competence clusters/networks and their related centres of expertise approved for the Programme. Basic state funding could be used for the co-ordination of competence clusters/networks and centres of expertise (the organisation, administration and communication of co-operation between organisations), as well as for the preparation of projects based on Programme aims and for the partial funding of top-level projects.²³⁵</p> <p>The Programme provided up to 50% of project funding²³⁶ (up to a maximum of €140,000 (c. £102,300)). Support was also available through export promotion agencies or other offices abroad.²³⁷</p> <p>Funding for this Programme stopped in 2013 as it was a fixed term government Programme intended to run from 2007 - 2013. Subsequently a new successor Programme called 'Innovative Cities' (INKA) was launched.</p> <p>INKA represents a step away from regional clusters towards thematic ecosystems. It aims to create internationally attractive innovation clusters in Finland that include companies aiming for growth and are capable of creating brand-new products and services for the international market. National themes for the Programme are:</p> <ul style="list-style-type: none"> • Bioeconomy; • Cybersecurity; • SMART CITY and Renewable Energy; • Future Health; and • Sustainable Energy Solutions. <p>INKA is coordinated by Tekes²³⁸ and implemented by cities whereas OSKE was coordinated by the Ministry of Employment and the Economy and implemented for the most part by regional science and technology parks.²³⁹ This Programme has also moved away from being technology / sector based to being more demand driven.</p> <p>Note: This Programme had a similar scope to Invest NI with less direct funding. The new Programme is focused on innovation clusters and growth.</p>

Financial support is the main instrument for most Programmes, with the exception of Catalonia that focuses only on professional support. Professional support is also provided in Norway, Finland and NI. The provision of professional support in NI has been limited in the Formal CNP due to the additional resources needed to meet with networks and follow up on monitoring information, which has impacted on the time available for the assessing the competence of clusters/networks and supporting them to move to the next stage of maturity. Research²⁴⁰ suggests that the provision of

²³⁵ Ministry of Science, Innovation and Higher Education (2012) Updated Report: Clusters are Individuals: New Findings from the Cluster Management and Cluster Program Benchmarking Vol II

²³⁶ <http://www.cluster-analysis.org/downloads/ClustersareIndividualsVolumellAnnex.pdf>

²³⁷ <http://www.cluster-analysis.org/downloads/ClustersareIndividualsVolumellAnnex.pdf>

²³⁸ Finnish Funding Agency for Innovation

²³⁹ <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/news/landscape-regional-innovation-länsi-suomi-finland>

²⁴⁰ Ministry of Science, Innovation and Higher Education (2012) Updated Report: Clusters are Individuals: New Findings

funding alone is not sufficient to develop successful clusters/networks and that external advice, guidance and support is needed.

8.2.1 Output / Outcome KPIs

Table 8.3 details the KPIs set for the Norway Arena and Finland Centre of Expertise Programmes as well as those for the Invest NI Formal CNP. Information was not available for the Denmark SPIR Programme and the Catalonia Cluster Programme does not have established KPIs.

Table 8:3 Comparison of Output / Outcome KPIs

Norway ²⁴¹	Finland	Catalonia	Denmark	Northern Ireland
<ul style="list-style-type: none"> • No. of meetings initiated by the cluster/network organisation • Total no. of participants • No. foreign partners • No. collaborations with other clusters/networks • No. collaborative innovation projects - initiated by the cluster/network • Funding from the Innovation agencies • No. international oriented projects • No. projects with educational institutions • No. projects aimed at competence development • No. projects aimed at creating new firms 	<ul style="list-style-type: none"> • Number of companies • New jobs • New companies • Number and share of cross-regional projects (%) – (Cross-regional cluster cooperation is run by 13 National Competence Clusters) • Share of competitive financing for OSKE project (%) 	<p>The Programme does not have defined indicators.</p>	<p>Information not available.</p>	<ul style="list-style-type: none"> • Completion of feasibility/scoping studies • Creation of Collaborative Network projects • Minimum economic impact (in terms of Gross Value Added (GVA)) return of £2 for every £1 invested by Invest NI within 5 years of the completion of the Programme. • Minimum economic impact (in terms of Gross Value Added (GVA)) return of £2 for every £1 invested by Invest NI from each fully facilitated Network project, within 5 years of its completion • New jobs in high value-added sectors • Jobs created with wages in excess of the NI private sector median • Private sector investment across all network projects • Human element impacts: Human capital (people); Physical capital (things); Intellectual capital (know how); Market capital (global positioning); and Social capital (growth of networks/partnership) • Introduction of new or significantly improved business products (goods and/or services) or processes

²⁴¹ Information provided by Innovation Norway to PACEC (June 2015)

Programmes vary as to the extent they have both quantitative and qualitative measures. For example, the Norway Arena Programme measures activities (number of meetings etc.) and outputs (number of companies, jobs etc.). It also measures the extent to which competence has been developed within the cluster/network. The Norway Arena Programme has a group of immature clusters/networks and the emphasis is therefore on improving linkages, collaboration and trust, as well as creating new linkages with external partners. The next step will be increasing innovation capabilities and international orientation of these cluster/network companies.²⁴² The Finland Centre of Expertise Programme has a focus on economic impacts (i.e. new jobs and companies created as well as the development of relationships between members).

The evaluation of Norwegian Cluster Programmes²⁴³ emphasises the need for clusters/networks to have a clear focus and shared objectives in order to succeed, highlighting that:

- Projects solely emphasising the development of relationships within the cluster/network do not achieve sufficient economic results; and
- Cluster/network projects where the relational basis for collaboration is not sufficiently developed will also be less likely to be successful, as development projects and other activities will not be anchored well enough among the actors, and their participation will be limited. This will limit the possibilities for realising the full potential benefits from collaboration.

The Catalonia Cluster Programme does not provide funding and has no economic measures.

Research on Cluster Policy²⁴⁴ has highlighted the difficulties associated with setting KPIs for Network Programmes. This states that there is no single indicator system that can be applied to measure the success of a cluster/network Programme as indicators depend on the objectives of a specific Programme or policies. Therefore KPIs will depend on the individual Programmes and their targets. It also notes a single set of agreed evaluation and impact assessment methods and key performance indicators does not exist, and as the needs and scopes of the analyses also vary, it is difficult to compare Programmes, cluster/network policies and impacts across regions and nations. Moreover, for most cluster/network Programmes there is continuous room for improvement in relation to monitoring, evaluation and impact assessment. Specifically, balancing the need for Programme governance-related information with minimising the burden for those participating in the monitoring and evaluation process.

Invest NI CNP Formal Programme has the most developed set of indicators of all the benchmarks as it includes process, output and impact indicators, with the impacts measured both in the short and longer term. However as noted in section 4.2.11, this has resulted in much greater input and support being required by the Invest NI CNP team to support the companies and despite this it has not always possible to collect all the information. There is an opportunity to reduce some of the KPIs, but keeping the focus on output and outcome measures.

²⁴² NESTA (2012) The Effects of Cluster Policy on Innovation

²⁴³ Menon Business Economics (2012) Evaluation of Norwegian Cluster Programmes

²⁴⁴ Ministry of Science, Innovation and Higher Education (2012) Lets Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations for Policy Makers

8.2.2 Role of the facilitator

The Programmes in Norway, Denmark and Finland are managed by a facilitator or cluster/network coordinators. Research by NESTA²⁴⁵ states that projects need dedicated management teams with a blend of skills and competencies to reconcile the interests of the private and public sector participants involved in the clusters/networks.

This research also indicates that the facilitation role is of particular significance for cluster/network growth and development. It is seen as a highly specialised role given that facilitators have to interact and communicate effectively; and specifically need to create and generate enthusiasm among the different enterprises and academic partners in order to sustain involvement and ensure the credibility of the cluster/network. Feedback from CNP facilitators (see section 4.2.12) indicated that approximately 50% felt they needed training to clarify their role within the CNP context

Based on survey evidence drawn from 132 participating enterprises within the Arena Programme, the Norwegian evaluation showed the importance of the personal characteristics of facilitators in making the cluster/network activities relevant to the participating enterprises. Respondents were asked about cluster/network managers' competence, ability to act as a unifying force and their credibility and legitimacy in dealing with the different stakeholders. While there were some differences in responses, in general they were highly correlated and managers received favourable evaluation results. The evaluation²⁴⁶ of the Arena Programme notes that the cluster/network facilitator must be able to communicate effectively with actors in three different arenas:

- a business arena with owners and managers of enterprises operating under conditions of market competition;
- a research arena with researchers and other actors operating in a world of universities and university colleges; and
- a political arena with bureaucrats and politicians.

Programmes such as the Norway Arena Programme²⁴⁷ give individual cluster organisations the freedom to choose which areas the facilitator should contribute support to in their networks. However the Norway evaluation also notes that there should be coaching available to support the facilitators as they find the right balance between the development of relations between network members and specific development projects.

Invest NI had previously provided training for facilitators under the Pilot CNP but not under the Formal Programme. This is an area that should be reconsidered with a focus on training that relates to the key process steps in setting up and facilitating a cluster/network, examples of which are detailed below.

²⁴⁵ NESTA (2012) The Effects of Cluster Policy on Innovation

²⁴⁶ Menon Business Economics (2012) Evaluation of Norwegian Cluster Programmes

²⁴⁷ Menon Business Economics (2012) Evaluation of Norwegian Cluster Programmes

Cluster Navigators Training: training for cluster facilitators and support organisations which uses a five stage development process:²⁴⁸

- Process Initiation;
- Building the Base;
- Creating Momentum;
- Extending the Base; and
- Sustaining Momentum.

The two and three day programmes simulate the cluster development process for a number of selected clusters. The clusters are selected from those that course participants are familiar with.

Oxford Research Cluster Management Course: Oxford Research’s ‘Ten Steps to Cluster Dynamics’²⁴⁹ covers the following:

- Introductory cluster identification and prioritisation;
- Understanding the cluster’s current situation, possibilities and challenges;
- Finding, engaging and committing the right leadership group;
- Creating the vision;
- Developing Milestones;
- Developing Profitable Actions;
- Launching the cluster;
- Setting cluster rules, membership fees etc.;
- Future Strategy; and
- Revising, evaluating and monitoring cluster activities and achievements.

8.2.3 Focus on a ‘top down’ or ‘bottom-up’ approach

Each of the benchmark organisations takes either a ‘top down’ or ‘bottom up’ approach to collaborative activity.

For example in Denmark the SPIR Programme works in specific sectors that differ each year with annual calls for applications, therefore the approach is top down. The thematically defined funding is based on politically prioritised research from the RESEARCH2015²⁵⁰ and RESEARCH2020²⁵¹ consultations and it is a requirement that funded research activities promote and strengthen Danish research.

In Finland the program was a mix of supporting bottom-up driven regional cluster/network development and a centralised approach in which the national government supported specific national industries using technological criteria or network-quality criteria as a basis for a decision on support.²⁵²

²⁴⁸ <http://www.clusternavigators.com/workshops.cfm>

²⁴⁹ <http://oxfordresearch.dk/media/254581/Info%20-%20Oxford%20Researchs%20international%20cluster%20course%202015.pdf>

²⁵⁰ <http://ufm.dk/en/research-and-innovation/political-priority-areas/research2020/research-2015>

²⁵¹ <http://ufm.dk/en/newsroom/press-releases/2012/research2020-catalogue-to-create-strategic-basis-for-danish-research>

²⁵² Patries Boekholt, 2010: The OSKE Program in International Perspective, in: Ministry of Employment and the Economy, 2010: Osaamisklusterit alueiden voimien yhdistäjänä. Osaamiskeeskusohjelman (2007-2013) väliarviointi, pp. 35-36

In Norway the programme owners²⁵³ set the overall direction through the programme plan / framework and in the annual state budget the program owners receive a budget and formal instructions (however these do not ask the program to prioritise certain types of clusters/networks or regions). In the evaluation of project proposals programme owners assess whether the strategies are aligned with the programme goals and requirements, but do not influence the strategic decisions.

The CNP has supported projects in areas that are closely aligned to regional priorities, however is flexible enough to accept applications that reflect new and emerging opportunities. Therefore while the approach has been mainly top down, the Programme has also been flexible and responsive to new opportunities. Based on the information available this approach is in line with other Programmes as it ensures as many relevant companies as possible are encouraged to collaborate.

8.2.4 Application Processes

Denmark: the Danish Council for Strategic Research employed a two-phase application procedure. In Phase 1 of the application the Council evaluated the concept of the research project as well as its relevance and potential impact. The Phase 1 SPIR applications were evaluated jointly by the Danish Council for Strategic Research and the Danish Council for Technology and Innovation. A shortlist of Phase 1 applicants were invited to submit applications for Phase 2 and all the final applications underwent international peer review. The Council established a standing panel from which it could retain the assistance of international peer reviewers. Applicants were given the opportunity to comment on the **international peer reviews** in a consultation procedure.²⁵⁴

Norway: Proposals for new cluster²⁵⁵ projects operate under the following²⁵⁵:

- The Programme issues a call for applications, followed by an information meeting at which the requirements are elaborated on.
- The project owner (applicant) prepares and submits a project outline (brief preliminary project description).
- The Programme management assesses the outline and provides feedback to the project owner.
- The project owners who are approved following the assessment of the project prepare and submit a complete project application.
- The Programme management consider whether the project application meet the formal requirements and provide feedback.
- **External experts** consider the applications on the basis of the stipulated selection criteria.
- The Programme management interview selected applicants and carry out supplementary assessments as a basis for a recommendation to the Programme board.
- The Programme board decides in principle on new cluster/network projects, after which the decision is announced.
- The Programme management and Innovation Norway's district offices agree on funding and specific terms and conditions with the project owner.
- Innovation Norway makes a formal decision about funding and terms and conditions.

²⁵³ The owners are Innovation Norway, the Industrial Development Corporation of Norway (SIVA) and the Research Council of Norway

²⁵⁴ <http://ufm.dk/en/publications/2014/files-2014-1/dsf-principnotat-2014-enderlig-engelsk-version.pdf>

²⁵⁵ Norwegian Innovation Clusters (2015) *Programme Description*

Catalonia: The application process has the following steps:

- Sending information:
 - Completing the application letter template
 - Completing and signing the letter of declaration which states that the cluster/network organisation fulfils all eligibility criteria
 - Sending the supporting documentation²⁵⁶ within a period of 1 month from the launching of the call.
- Revision and evaluation: Cluster organisations must fulfill all eligibility criteria. In addition some of this criteria is subject to further evaluation and thus the following are graded:
 - Consistency and viability of the strategic plan 40%.
 - Existence of a professional cluster/network manager with the right profile 40%.
 - Representation of the value chain and mapping with the key players 20%.

Finland: Centre of Expertise and Competence Clusters²⁵⁷ are selected using a two-phase competitive tendering process. No further information was available.

Northern Ireland: Invest NI has a rigorous two stage process. An application form is completed for Phase 1 and Phase 2. The outcome of the scoping report completed at Phase 1 can be used to support a Phase 2 application (however completing Phase 1 is not a prerequisite to submitting a Phase 2 application). Both stages are assessed by Invest NI. During the first open call, applications were assessed by a Panel including external advisors, however this has not happened on all calls. It is evident that some of the benchmark programmes use external reviewers to help with the assessment process, given that Invest NI has utilised this approach effectively, it should be considered for future applications. (It is also worth noting that calls are not the only way in which applications are sought. Groups can approach the Invest NI CNP team at any point to discuss a potential application, or they can be referred to the team via Client Executives or other colleagues within Invest NI.)

8.3 Research

Skills and Competencies of Facilitators:

Mesquita²⁵⁸ (2007) stresses that the main goal of cluster facilitators is to build trust and a platform for cooperation. This focus on trust and cooperation is repeated in most of the identified contributions on cluster facilitation and Gagné²⁵⁹ et al. (2010) further highlight that an additional goal of cluster facilitators should also be to establish a flow of information, ideas and resources within clusters.

²⁵⁶ The statutes of the entity; Document confirming it is registered as a legal entity; Agreement of the constitution of the board of the cluster/network organisation; A list with the cluster/network members of the organisation; CV of the Cluster manager; Contract of the Cluster manager; Bronze Label certificate; and a 4-year Strategic Plan for the cluster/network organisation

²⁵⁷ Each competence cluster/network is comprised of network of 4-7 centre of expertise, situated in different area having complementary expertise

²⁵⁸ Mesquita, L. F. (2007) 'Starting cover when the bickering never ends: rebuilding aggregate trust among clustered firms through trust facilitators', *Academy of Management Review*, Vol. 32, No. 1, pp. 72-91.

²⁵⁹ Gagné, M., Townsend, S. H., Bourgeois, I., and Hart, R. E. (2010) 'Technology cluster evaluation and growth factors: literature review', *Research Evaluation*, Vol. 19, No. 2, pp. 82-90.

Researchers point to a number of attributes which cluster facilitators would benefit from in order to achieve these desired goals. Zagorsek²⁶⁰ et al. (2008) have identified eleven attributes which, according to their studies, lead towards effective cluster facilitation or cluster leadership. Cluster facilitators should be: forward looking; have business understanding; have well-developed managerial skills; be credible; be a communicator; be an integrator; be result-oriented; be neutral; be entrepreneurial; be an external spanner; and finally cluster facilitators should be innovative.

Mesquita (2007) supplements these eleven attributes by presenting two sets of abilities important for cluster facilitators, respectively:

- entrepreneurship/leadership aimed at locating and evaluating opportunities as well as setting goals and visions, and
- a set of abilities focused on mediation/arbitration where the focal point is on intervention in order to create mutual understanding and find common ground to build on.

Zagorsek²⁶¹ et al. (2008) highlights the need for cluster facilitators to stay neutral when intervening in the interactions within clusters.

Many researchers highlight the importance that cluster facilitators have credibility and personal power so as to motivate the network members in the cluster, potential members, and cluster stakeholders to follow the strategy and vision of the cluster.

The cluster facilitator also needs to be someone who has experience and knowledge of how the public and private sectors work and able to be successful in both. Research by Michael Kitson²⁶² and others reference the importance of 'boundary spanners' working to support the transfer of knowledge from HE sectors to businesses and on to achieve commercial success.

Based on the research above, it is clear that a facilitator must have credibility and be able to engage the sector. The other skills are commercial acumen, communication, ability to be independent but focused on the goals of the network and results driven. The successful Cluster Programmes in Europe focus on equipping facilitators with the tools and checklists that they can use at different stages of network development (see Oxford Research²⁶³ - section 8.2.2).

Much of the research notes that facilitators should receive coaching support and advice on the tools to use in different situations.

²⁶⁰ Zagorsek, H., Svetina, A. C., and Jaklic, M. (2008) 'Leadership in Clusters: Attributes of Effective Cluster Leader in Slovenia', *Transformations in Business and Economics*, Vol. 7, No. 2, pp. 98-113.

²⁶¹ Zagorsek, H., Svetina, A. C., and Jaklic, M. (2008) 'Leadership in Clusters: Attributes of Effective Cluster Leader in Slovenia', *Transformations in Business and Economics*, Vol. 7, No. 2, pp. 98-113.

²⁶² Kitson, Michael; Howells, Jeremy; Braham, Richard; and Westlake, Stain (2009) *The Connected University Driving Recovery and Growth in the UK Economy*

²⁶³ Oxford Research is a specialized knowledge company focusing on the areas of industrial and regional development and welfare in Denmark, Norway, Sweden and Finland.

8.4 Summary

There has been a significant debate on the best way to encourage collaboration between companies and companies / universities. The diversity of supports and programmes mean it is difficult to effectively benchmark these, however there are clear lessons to be drawn from best practice. The skills and expertise of facilitators is key to successful clusters / networks, particularly their role in the development of relationships and trust between the various participants. The best practice examples provide significant support to help the networks develop and mature through providing training and coaching to Facilitators and through the provision of tools that allow the specific needs of individual networks to be assessed. The Cluster Excellence Model provides a standard for the support provided and it is one that should be examined by Invest NI. Most of the benchmarks indicate that it is important to measure success, however none had KPIs developed to the extent of the CNP which cover both outputs and outcomes. While the two stage application / assessment process used by Invest NI is in line with the comparators, an area for consideration is the use of external assessors as part of this process.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Introduction

This section sets out the conclusions and recommendations from the evaluations.

9.2 Need for CNP

The aims and objectives of the CNP were closely aligned with NI Government policy and strategies in place in 2007/08 (at the inception of the Pilot CNP) and in 2011 (launch of the Formal CNP), as well as mirroring work going on in the rest of Europe encouraging collaboration.

At the inception of the Pilot there was a need to increase the levels of R&D and innovation in NI, which was still strongly emphasised in 2011. The Formal CNP had targets that linked directly to the economy and innovation (i.e. jobs created; private sector investment leveraged; improved human, physical, intellectual, market, and social capital; and the introduction of new business products / processes (linked to innovation)). Therefore there is a clear link between the CNP and wider policy objectives.

The CNP has also been closely aligned with the Department of Enterprise, Trade and Investment (DETI) MATRIX²⁶⁴ strategy that seeks to ensure greater exploitation of NI's science and technology capacity by focusing on key growth areas, similar to SMART Specialisation work at an EU level. Invest NI issued three thematic calls for the CNP linked to Matrix priorities in 2011 (in conjunction with the Matrix reports); 2013 (ICT and sustainable energy); and 2014 (Digital Media, Connected Health and Life Sciences, Big Data/IT, Agri-food, Advanced Materials, Advanced Engineering and Sustainable Energy). The programme also accepts applications on an on-going basis from high growth emerging sectors. This is comparable to the approach used by other similar programmes that have a focus on key priority areas, while also being flexible to support other high growth emerging sectors (see section 8.2.3).

Recommendation 1:

Invest NI CNP should continue to be linked to MATRIX priorities whilst being open to opportunities from any high growth emerging sectors.

9.3 Demand for CNP

There were no projections as to the number of networks to be supported under the Pilot CNP (an economic appraisal was not completed). However the need for the Formal CNP was researched and evidenced in an economic appraisal in 2011.²⁶⁵ The economic appraisal recognised that the projected

²⁶⁴ MATRIX was born out of the Regional Innovation Strategy (RIS) for Northern Ireland. In February 2007 it was tasked with bringing forward-focused advice on the future policies necessary for Northern Ireland to ensure economic growth and wealth creation through greater commercial exploitation of its science and technology capabilities.

²⁶⁵ Cogent (2011) Collaborative Network Programme Economic Appraisal – Section 3.13 (page 52). “On the basis of this evidence provided, it is likely that the latent level of demand for CNP support going forward would be in excess of the levels of activity funded as part of the pilot phase of the Programme (i.e. completion of 8 feasibility studies and the creation of 4 network projects per annum)”

figures may not be achieved due to uncertainty regarding the Invest NI budget and wider economy, and the appraisal included the need to review the demand for the CNP at the interim evaluation in 2015.

The evaluation of the Formal CNP has identified that the initial projections were optimistic. Overall, 21 phase 1 projects were achieved against a pro rata target of 37 for the evaluation period; and 6 phase 2 projects against a pro rata target of 23 for the same period. Funding is currently in place until later in 2016.

Recommendation 2:

The format of any future intervention (including evidence-based targets) should be based on an economic appraisal and the learnings from the interim evaluation of the Formal CNP.

9.4 CNP Objectives and Funding

The CNP objectives were set with the formal launch of the programme in 2011. These were as follows:

- **Develop the capability and capacity of NI’s businesses** by facilitating the creation of regional clusters/networks in which private sector companies and other stakeholders (e.g. investors, researchers and academia) engage in collaborative networking activities for the purposes of developing new products, processes and/or services;
- Encourage the creation of networks that offer the potential to exploit emerging regional, national and international market opportunities through the application of emerging and convergent technologies;
- Contribute towards the **development of NI’s Innovation Ecosystem** by encouraging firms to realise the benefits from undertaking innovative collaborative networking activities; and
- Contribute to promoting NI as an **innovative region**.

Funding under the 2007 – 2011 CNP Pilot was made available in two distinct but interrelated phases, namely:

- **Phase 1 Feasibility / Scoping Studies:** to identify market opportunities, business capabilities and define a collaborative opportunity and proposed project plan. Funding ranged from 75% of cost or £15,000 (whichever was lesser) under the Pilot to 50% of cost or up to £25,000 whichever was lesser under the Formal programme.
- **Phase 2 Facilitation:** support was available up to a maximum of 50% of eligible costs or £250,000, whichever was the lesser.

Pilot CNP Budget and Spend

It was anticipated that the total value of the Pilot CNP would be £6,461,440 of which 45% (£2,901,102) would be provided by Invest NI and the remaining 55% (£3,560,338) would be from participating companies in the form of industry personnel / cash contributions. Overall £6,080,661 was spent, 44% (£2,654,501) of which came from Invest NI and the remaining 56% (£3,426,160) from participating companies in the form of industry personnel / cash. Therefore while industry contributions exceeded

that of Invest NI, both were below the figures originally anticipated with an overall spend of £380,779 or 6% below budget.

Formal CNP Budget and Spend

In the 2011 economic appraisal²⁶⁶ it was anticipated that the total network costs (Invest NI and industry contributions) to deliver 40 feasibility / scoping studies and 25 CNP projects would be £14.5M (with networks established between September 2011 and March 2015 and costs incurred between September 2011 and March 2018). Taking into account the period under review (September 2011 to December 2014), the pro rata budget is £9.9875M.

The actual cost incurred to date is £2,843,459; 38% (£1,090,727) of which has come from Invest NI and the remainder (62% or £1,752,732) from participating companies in the form of industry personnel / cash. Therefore targeted spend is considerably behind that anticipated (£2,843,459 compared to £9.9875M which equates to around 28% of anticipated spend incurred and a variance of over £7.1M). The breakdown is 21.8% of Invest NI budget spent to date (underspend of £3,903,023) and 35.1% of industry contributions incurred to date (underspend of £3, 241,018). The high levels of underspend are partly due to fewer networks than anticipated being established (see table 6.12) and that Invest NI claims information was not available all network projects.²⁶⁷

9.5 CNP Operation and Delivery

Application Process: Under the Formal CNP a project board was set up to evaluate the first call for applications, but not for subsequent applications. The project board included representatives from the Matrix panel, Invest NI and external stakeholders and this is an effective way of ensuring that the project and network is sufficiently well developed and that the plan produced is realistic.

Recommendation 3:

It is recommended that the applications for Phase 2 support should include a panel comprising representatives from the Matrix panel, Invest NI and external stakeholders with strict criteria to assess network potential to contribute to priority sectors.

Claims / Vouching Process: The current claims process has generated significant negative feedback from the lead companies responsible for submitting claims on behalf on the network. The requirement to provide proof of salaries has resulted in considerable dissatisfaction with this aspect of the CNP. This has the potential to impact negatively on the Programme overall by having a “chilling” effect on the relationships between the Invest NI / CNP team and the networks, resulting in networks having less of an appetite for engaging in future projects. Feedback from the Invest NI / CNP team indicates that the inability to appropriately vouch/verify non-PAYE contributions actively mitigates against SMEs being involved in the Programme.

²⁶⁶ Cogent (2011) Economic Appraisal of the Collaborative Network Programme

²⁶⁷ There are 6 networks that are still live and as yet have not submitted claims while another closed without submitting any claims

Research²⁶⁸ shows essential administration associated with the Programme should be proportionate and not act as a disincentive. Invest NI has been addressing this issue and the evaluators support their action to reduce this area of work. Feedback from the Invest NI / CNP team indicates that they spend a disproportionate amount of time steering networks through the claims process which detracts from the time available to spend on other value-added activities such as marketing the Programme, finding new networks and establishing relationships with existing ones.

Therefore it is important that the claims/vouching process is revised to overcome the negative perceptions amongst network members (current and potential) and to ensure that best use is being made of the resource available within the Invest NI CNP team, including implementing other recommendations in this report. In particular, action should be taken to reduce the administration involved in verifying in-kind contributions based on PAYE.

Recommendation 4:

We recommend that the Invest NI CNP team work to make the claims process more proportionate to the value of the funding. In particular, the process should be changed regarding how companies claim for their time, for example instead of using actual salaries, consideration should be given to using published salary information for the grade / jobs such as senior executive salary surveys from reputable sources.

CNP Company Database: The interim evaluation²⁶⁹ and economic appraisal set out a series of recommendations as to how the Formal CNP could improve or learn from the Pilot CNP. These recommendations were generally implemented and as a result the operation and delivery of the Formal CNP has been strengthened.

Specific actions included the development of the application / assessment process, enhanced monitoring of the Programme and the development of a network company database. Whilst a list of companies was developed as recommended, it would be useful to have a more sophisticated database that not only includes names and contact details for companies but also details of network name(s) and phase(s) that each company is involved in and start and end dates for the involvement of each company in each network. This will help with any further analysis / evaluation of the profile of companies participating in networks and the extent of overlap between networks. A specific field in the database identifying whether companies are located in NI or not would also be useful for future evaluations to identify and isolate effects for NI only.

Recommendation 5:

The CNP database should be developed as detailed above.

²⁶⁸ NESTA: The Effects of Cluster Policy on Innovation by Uyarra and Ramlogan Manchester Institute of Innovation Research 2012

²⁶⁹ Cogent (2011) Interim Evaluation of the Collaborative Network Programme

Procurement of Facilitators: The network facilitator is a key role and should be supported through open and transparent recruitment / procurement processes. At present it is a requirement that facilitators are appointed through an open recruitment process. This process is led by the network and ensures that the appointment is made by the companies to meet their needs. This is critical to the building of trust between the facilitator and the companies involved and other options such as using a call-off list would put at risk the sense of ownership felt by the companies.

Recommendation 6:

Invest NI need to ensure all lead companies comply with procurement rules in relation to appointment of facilitators by including this requirement in the Letter of Offer (LoO) for each network.

Managing Risk: The Formal CNP manages risks at a project level. The risk of not delivering on the total number of networks should be managed at a Programme level.

Recommendation 7:

It is recommended that risks are managed at a Programme as well as a project level.

Funding and support provided under CNP: The survey highlighted that over 70% of companies from the Pilot Programme²⁷⁰ and over 80% of companies from the Formal Programme were satisfied with the different types of support available. Areas identified for development included the availability of help / support from other parts of Invest NI and that Invest NI / DETI should do more to influence other Departments to support the work of CNP projects. The second issue was highlighted by two companies therefore it may not be reflective of all participants, **however it should be dealt with on a cross-departmental basis should the issue arise again on the Programme.**

Recommendation 8:

It is recommended that Invest NI/DETI review how they provide support to inform Departments on any other Projects requiring cross-departmental support.

Monitoring: The monitoring of economic benefits / impacts is difficult but is essential to prove VFM. Networks have not always captured monitoring data in the format / to the extent requested by Invest NI, and therefore there is potential for the full impact of the Programme to have been under recorded.

²⁷⁰ With the exception of salaries in kind which was over 60%

Recommendation 9:

We recommend that Invest NI set up an online monitoring system that sets out the data needed quarterly through boxes and questions that relate to programme targets. By automating the process it will allow for the generation of quarterly analysis with limited input from the Invest NI CNP team. The process should be set up so that the companies in a network complete it before their claim can be processed. Recommended information to be collected on performance in the preceding 3 months is set out below, however this should be adapted based on the specific LoO. It may be appropriate to have separate questionnaires targeting the facilitator, lead company or participating companies, as each of these will have a different perspective. The questions and target respondent(s) may vary depending on the scale and duration of the network. The request for information should make it clear if the respondent is to provide the perspective of the individual responding or on behalf of all network members. Data fields could include:

- Name of network
- Name of Facilitator
- Current Status: Phase 1 only / Phase 2 only / Phase 1 and Phase 2
- Concise summary of network activities in the last 3 months
- No of companies in the network at the start of the 3 months and at the end of the 3 months
- Feedback on facilitator competence and inputs - with satisfaction rating 1-5
- Contribution from companies – cash & in-kind during the last 3 months
- Development of the network
 - Assessment of the level of trust between members
 - Whether the network has the right members
 - Joint / collaborative working over last 3 months
- Quantitative impacts (these should match LoO and fit with CNP objectives)
 - No of jobs created
 - No of jobs safeguarded
 - Sales / turnover created
 - Sales / turnover safeguarded
- Qualitative impacts (these should match LoO and fit with CNP objectives)
 - Human capital²⁷¹ etc. – how many of your companies have achieved xxx in the last 3 months?
 - Social capital²⁷² etc. – how many of your companies have achieved xxx in the last 3 months?
 - Physical capital²⁷³ - how many of your companies have achieved xxx in the last 3 months?

²⁷¹ Relates to 'people' objectives such as enhancement of staff skills, management skills, ability to attract skilled staff, ability to keep graduates in Northern Ireland and sharing staff

²⁷² Includes aspects of development such as the establishment / maintenance of business contracts, improvements to the image of the industry and addressing local concerns and / or community needs.

²⁷³ Includes aspects of collaboration such as shared facilities, shared equipment or shared raw materials

- Intellectual Capital²⁷⁴ - how many of your companies have achieved xxx in the last 3 months?
- Market Capital²⁷⁵ - how many of your companies have achieved xxx in the last 3 months?
- 3 areas that are working well / supporting the network
- 3 areas that could be improved / would improve the performance of the network

Research²⁷⁶ indicates that the timescales for economic impacts to be realised is at least 5 years. Therefore there is an argument to put in place a mechanism to monitor networks for at least 5 years from the date of the LoO. Further, it is understood that Phase 2 networks can be funded for projects of between two and five years in duration and that the Formal CNP EA referred to funding allocations being made over a 5-year period.

Recommendation 10:

We recommend that the LoO for Phase 2 support should include a requirement to provide on-going monitoring of the network for at least 5 years to gather evidence of impacts. This should link to the proposed monitoring discussed at Recommendation 8 (to be carried out by the Invest NI / CNP team) and be applied in a proportionate manner making use of an online, predetermined proforma focused on collecting very specific impact information (related to programme and network targets) rather than placing an undue burden on the Invest NI / CNP team. There may also be scope to commission external research to gather and substantiate evidence when more of the networks are further developed.

9.6 Target Setting and KPIs

There were a mixture of SMART output / activity and outcome targets established for the Formal CNP. For example, output / activity targets related to number of feasibility / scoping studies and number of collaborative network projects. Outcome targets covered various aspects of the programme including: economic impact, return on investment, new jobs created in high value-added sectors, proportion of participating businesses reporting improvements/increases in a range of areas (related to Human, Physical, Intellectual, Market, and Social Capital), and the proportion of participating businesses introducing new or significantly improved business products (goods and/or services) or processes. These targets are entirely appropriate however in comparison with the benchmarked programmes there are too many KPIs.

All benchmark programmes that provide professional support and funding use KPIs to monitor success, however all those reviewed are less developed than those currently set for the CNP. The

²⁷⁴ Includes aspects such as the sharing of information / knowledge, engaging in collaborative research, developing new processes with other network members and implementing new quality standards as a result of engagement in the network
²⁷⁵ Includes aspects such as developing new products / services, increased knowledge of the marketplace, identification of potential new suppliers and entering new markets
²⁷⁶ Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers

extent to which soft or hard measures are developed is a decision made by the funders in all of the programmes reviewed. For example, the Norway Arena Programme and the Catalonia Cluster Programme have a strong focus on measuring relationships and cooperation. The Norway Arena Programme focuses on improving collaboration and trust within the clusters as well as creating new linkages with external partners. As the Catalonia Cluster Programme does not provide funding it would be challenging to establish hard measures taking into account the services offered. The Finland Centre of Expertise Programme (which provides funding for networks) does have KPIs to measure new jobs and companies created. The targets for the Formal CNP include both hard and soft measures such as those evidenced in the benchmark programmes. However it did not incorporate soft measures focused on the types of outcomes that would be expected from networks / clusters at the initial stage of development that were evident in the Norway Arena Programme.

Recommendation 11:

We recommend that the number of KPIs for the Programme is reduced in line with the benchmark programmes (see section 8.2.1) and the type of KPIs should change as the network develops. Immature networks / those in start-up phase or seeking scoping funding should have KPIs based on 'soft' measures (trust, relationships, and activity within the network). Those seeking Phase 2 support should have KPIs that focus on 'hard' measures, such as number / type of collaboration projects and outcomes. The exact measures should be developed by Invest NI however these should be kept to a minimum.

9.7 Programme Performance

The performance of the CNP can be assessed qualitatively and quantitatively. The qualitative evidence relates to the extent to which network members were able to learn from each other and how attitudes / behaviours may have changed as a result. Evidence of impact at this level is likely to be an indicator of further business impacts that may be achieved in the future (in line with research that states that the full benefits from networks can only be measured over the long term).²⁷⁷

9.7.1 Qualitative Outcomes of Pilot and Formal CNPs

Both the Pilot and Formal CNPs developed the capabilities of companies. Survey respondents indicated that they had benefited in a number of ways:

- Information / knowledge sharing (76% of companies from the Pilot Programme and 84% from the Formal Programme);
- Increased knowledge of the marketplace (68% of companies from the Pilot Programme and 70% from the Formal Programme);

²⁷⁷ Research shows that it takes several years (at least five) from the date a network is established before the full benefits and impact on business and the economy are achieved. Ministry of Science, Innovation and Higher Education (2012) *Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers*

- The development of new behaviours such as engaging in collaborative research, development and design activities (46% of companies from the Pilot Programme and 56% of Formal Programme respondents); and
- The development of processes (32% of companies from the Pilot Programme and 40% of Formal Programme respondents).

Qualitative feedback highlights that the CNP has provided the basis for future company development that may not have happened otherwise, for example:

“the CNP was very useful in increasing our competitive awareness and understanding of the SME marketplace locally and we are more likely to engage local SMEs within larger bids than before the CNP experience” – member of the Tendering Innovation Network

“the CNP is an excellent Programme that enables NI SMEs to bring skills together to target global market opportunities that would not otherwise be accessible to a small company” – member of the Big Data Renewables network

9.7.2 Quantitative Outcomes from CNP – Pilot CNP

The Pilot CNP established a mechanism that allowed 259 companies to work together through 24 networks. Whilst PPEs / Final Reports²⁷⁸ provide a range of information about those networks for which they have been completed, there were some limitations to the available data which meant that this could not be scaled up to give a picture of the results delivered through all networks. However based on scaling up data from a survey of Pilot CNP respondents it is estimated that the Pilot CNP:

- Safeguarded turnover of £8.633M-£14.8M;
- Created £24.05M in increased turnover; and
- Created 318 jobs and safeguarded a further 49 jobs.

There are some caveats and limitations associated with this scaling up approach that are detailed in section 5.8.1.

The Pilot CNP also leveraged contributions of £3,426,160 from participating companies in the form of industry personnel / cash.

In terms of cost-effectiveness, there is also a clear return on the funding that Invest NI provided for the Pilot CNP (see section 5.10). Comparing the estimate of GVA achieved (between £5.05M and £6M) and Invest NI costs (£3,234,456) yields a ratio of between £1.56: £1.00 and £1.86: £1.00

An assessment of the measures affecting economy, efficiency and effectiveness (see section 5.9) demonstrates the following:

- **Economy**²⁷⁹: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;

²⁷⁸ However detailed information relating to impacts in final reports has been included where available in section 5.5

²⁷⁹ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

- **Efficiency**²⁸⁰: the estimated GVA impacts (achieved) are more than Programme costs (the difference is between £1.813M and £2.765M); cost per network is £134.8K and cost per company is £12.5K; and
- **Effectiveness**²⁸¹: while there were no specific Programme targets specified, there is evidence of tangible impacts. Furthermore 28 (70% of 40) companies indicated achievement of the objectives they had set at the start of the Programme.

Based on company survey results the level of additionality is 52%; indicating that more than half of the impacts reported would not have happened without the CNP.

In addition the GLANTEK network case study²⁸² refers to R&D funding to scope options to extend a contract with Bombardier (£3.2mn over 10 yrs. and working with two network companies). [Note this network was funded through the Pilot Programme for both Phase 1 and Phase 2].

9.7.3 Quantitative Outcomes for the Formal CNP

The Formal Programme supported 136 organisations to work together through 24 networks. As with the Pilot, there are limitations to the available data in PPEs / final reports²⁸³ which meant that this could not be scaled up to give a picture of the results delivered through all networks. However based on scaling up data from a survey of Formal CNP respondents it is estimated that the Formal CNP:

- Safeguarded turnover of £16.28M;
- Created turnover of £15.36M; and
- Created 239 jobs and safeguarded a further 687 jobs.

There are some caveats and limitations associated with this scaling up approach that are detailed in section 6.8.1.

The Formal CNP also leveraged contributions of £1.75M (to December 2014) from participating companies in the form of industry personnel / cash. In addition, there is evidence of some specific instances where participants in the Formal CNP leveraged funding from other sources however the role of the CNP in obtaining additional funds is not evidenced in each case.

In terms of cost-effectiveness, at the interim stage there is a clear return on the funding that Invest NI provides to the CNP (see section 6.10). Comparing the estimate of GVA (achieved which is £6.34M) and Invest NI costs (£1,708,808) yields a ratio of £3.71: £1.00.

An assessment of the measures affecting economy, efficiency and effectiveness (see section 6.9) demonstrates that:

- **Economy**²⁸⁴: where required inputs have been obtained by competitive tender by Invest NI / the networks and costs of delivering the programme are in line with current levels in Invest NI;

²⁸⁰ Efficiency considers the benefits (the net outputs or outcomes) compared to the intervention costs

²⁸¹ Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

²⁸² See section 6.3.9 – Figure 6.12 which includes full details of this case study as an example of entering new markets

²⁸³ However detailed information relating to impacts in final reports has been included where available in section 6.5

²⁸⁴ Economy measures are concerned with showing that the appropriate inputs have been obtained at least cost

- **Efficiency**²⁸⁵: the estimated GVA impacts (achieved) are more than Invest NI Programme costs (exceeding by £4.635M); and cost per network is £63.3K and cost per company is £12.6K; and
- **Effectiveness**²⁸⁶ while only one the nine Programme targets have yet been achieved, 45 (80% of 56) companies indicated achievement of the objectives they had set at the start of the Programme.

Based on company survey results the level of additionality is 67.5%; indicating that some of the impacts might not have happened without the CNP.

In addition, the European Connected Health Alliance network²⁸⁷ refers to four network members reporting increased domestic sales, with one company specifying £75K; increased export sales (3 networks, amount not specified); secured investment (4 networks, amount not specified); increased employment (3 networks one specified 2 jobs); and safeguarded jobs (3 networks, number not specified). The Energy Skills Training network Case Study²⁸⁸ also refers to how one of the network companies, based on the experience and relationships established, was able to successfully tender and win work for 22 staff at a pre-assembly site in Germany, work that the company would not previously have had the experience to consider.

9.8 Performance against Programme Targets

Performance against the targets for the Formal Programme²⁸⁹ shows that that only one of the nine targets has been achieved, however progress has been made towards each of the others and this is matched by an underspend in costs.

To date the actual costs for Phase 1 and 2 networks in the Formal Programme are considerably less than those anticipated (i.e. only around 28% of anticipated spend has been incurred to date). This is partly due to the fact that fewer networks than anticipated have been established (see section 6.11) and also that Invest NI claims information was not available for 7 network projects (six Phase 1 and one Phase 2).²⁹⁰

²⁸⁵ Efficiency considers the benefits (the net outputs or outcomes) compared to the intervention costs

²⁸⁶ Effectiveness measures should show the extent to which the aims, objectives and targets of the Programme are being achieved. The effectiveness of the policy or Programme is usually assessed by output measures.

²⁸⁷ See section 6.12.2 – figure 6.15 which includes full details of this case study as an example of influencing policy

²⁸⁸ See section 6.3.6 – Figure 6.7 which includes full details of this case study as an example of developing working relationships

²⁸⁹ There were a mixture of SMART output/activity and outcome objectives established for the CNP Programme. For example, output/activity targets related to number of feasibility / scoping studies and number of collaborative network projects. Outcome targets covered various aspects of the programme including: economic impact return on investment, new jobs created in high value-added sectors, proportion of participating businesses reporting improvements/increases in a range of areas (related to Human Capital, Physical Capital, Intellectual Capital, Market Capital, Social Capital), proportion of participating businesses introducing new or significantly improved business products (goods and/or services) or processes.

²⁹⁰ For 6 of these the network is still live and Invest NI records state that no claims have been submitted, records could not be sourced for 1 network

9.9 Communications/ Marketing

The targets set out in the economic appraisal for the number of networks established through the Formal CNP up to March 2015 are not on schedule to be achieved, based on performance as at December 2014. Therefore consideration should be given as to how the Programme can be further promoted / marketed in order to increase the number of networks applying to the Programme and being funded.

The survey of companies highlighted the importance of Client Executives or other companies in their sector setting out the benefits of collaboration. Case studies are also important in order to demonstrate how other companies have benefited from participation. Moreover it is beneficial to present any current technological / exporting opportunities to existing networks as they arise to help them grow and develop. Closer working with Client Executives / others in Invest NI that are able to identify these opportunities should be encouraged.

Recommendations 12 and 13:

The Programme should be marketed to companies in the target sectors that are not currently availing of the support and this should be done through case studies demonstrating how the CNP delivers business benefits in their sectors.

An online forum should be set up and dedicated to the CNP where Invest NI can post information on the work of networks, particularly in relation to collaborative bids won, joint R+D projects, network exports etc. This will help increase awareness of the benefits of the CNP as well as helping the networks develop and grow.

9.10 How CNP Complements Other Innovation Supports

A review of innovation supports in NI shows that the CNP complements the work of other programmes and schemes. While several other programmes such as Knowledge Transfer Partnerships (KTP) and Innovation Vouchers provide a mechanism for SMEs and HEIs to work together, the CNP is the only support that exists to help companies and organisations build a network to work together towards a common goal focused on innovation, exporting or both. The Programme provides funding for a facilitator who works with the companies to identify their needs; the business opportunities that they can pursue together and to develop the systems / processes so that network members can not only learn from each other, but learn how to work with each other.

Therefore CNP activities provide an important building block to help companies understand the benefits of collaboration, work on business opportunities in a collaborative way, and ideally support them to the stage where they can start to work collaboratively on R+D and exporting opportunities without government funding. The unique approach utilised by the CNP is that it supports the development of the companies involved.

9.11 Benchmarking and Research

Cluster Excellence: The provision of professional support to develop clusters / networks is common across the different benchmarks. All those included in this research recognise the importance of members developing strong positive relationships and building trust otherwise the cluster / network cannot be successful. Therefore most invest in developing the professional competence of networks by providing advice and guidance; completing maturity assessments on networks to identify needs; training facilitators; providing toolkits on developing best practice networks and / or coaching facilitators / coordinators. The Cluster Excellence Model²⁹¹ is used to provide a benchmark of the quality of professional support provided to the clusters.

Research recommends that the support provided varies depending on the stage of development²⁹² of the cluster as set out below:

²⁹¹: <http://www.clusterexcellence.org/>

²⁹² http://www.cluster-analysis.org/downloads/Clusters_web_singlepage_06092012.pdf

Table 9:1: Support required for network development

Type of Cluster	Description	Support to be Provided
Immature Networks	A newly established network or an existing cluster with limited strengths / expertise.	<p>The network support should focus on energising and developing the existing potential and building maturity. Support should consist of two elements:</p> <ul style="list-style-type: none"> • Financial support to develop the capacity of the cluster management organisation; and • Information / market intelligence on R&D, business development and support that addresses the specific development needs of cluster participants to develop their capacities and to facilitate joint projects that promote the development of the cluster. The role of the facilitator is key to network success. <p>Invest NI should ensure the facilitators appointed by the network are trained and understand their role so that the capacity / maturity of the network is developing through pursuing joint collaborative projects.</p>
Matured Networks	Networks that are vibrant, have a clear sense of purpose, with evidence of a strong performance and well developed relationships and trust.	<p>The growth of a mature network can be helped by policies and programmes that support joint projects coming forward from the participants (i.e. joint R&D; joint Exporting etc.) Such networks are strategically aligned to the economy and successful in terms of skills development however they need to be taken to the next level – export and R&D support. These networks need support on a case-by-case basis, based on the expected return to the economy, their needs and maturity.</p>
Networks in Transition	Networks can be in transition for a number of reasons– for example relationships floundering; lack of linkages within and outside the network; or lack of new / competitive products being developed.	<p>At this stage networks require support to assess their performance (including reasons for poor performance), understand the opportunities available and work to deliver on these. An implementation plan to deal with any issues from the maturity assessment support is critical alongside help to identify market / technology opportunities.</p> <p>The support for networks in transition should be a mix of:</p> <ul style="list-style-type: none"> • Professional support from the Invest NI CNP team (to deal with any relationships / trust etc. issues) • Information / support to identify any technological / export opportunities for the network (to be completed with other teams in Invest NI) and to facilitate joint projects that promote the development of the network.

Source: http://www.cluster-analysis.org/downloads/Clusters_web_singlepage_06092012.pdf- adapted by PACEC to relate supports to Invest NI structure

The CNP is particularly focused on supporting collaborative networks that can be categorised as being at the ‘embryonic / immature’ and / or ‘established’ stage of development and have not reached the

mature stage. Therefore the provision of financial and information / market intelligence on R&D, and business development support by the CNP is appropriate to the focus of the programme.

To ensure that the most appropriate support is offered to a cluster / network it is essential to understand its stage of formation. The maturity assessment tools that are part of the Cluster Excellence Model are a way to ensure that the support provided through the rest of the Programme is valid and based on needs.

Recommendation 14:

We recommend that Invest NI further develop the support they provide to companies / networks. The Cluster Excellence accreditation or similar EU programmes should be explored but at minimum the tools / supports that are available from best practice Cluster Excellence organisations should be offered - i.e. Facilitation Training and Maturity Assessments.

We recommend that Invest NI investigate becoming accredited as a Cluster Excellence organisation as this would:

- Provide Invest NI with the standing to apply for additional funding from Europe; and
- Ensure a standard of support is provided (training etc.).

Skills and training: Research²⁹³ (see section 8.3) suggests that a facilitator should be credible and be able to engage with the sector. The other skills are: commercial acumen, communication, ability to be independent but focused on the goals of the network, and results driven. The successful Cluster Programmes in Europe focus on equipping facilitators with tools and checklists that they can use at different stages of the development of the network.

Overall, 71% of companies surveyed on the Pilot CNP and 82% of companies surveyed from the Formal CNP were satisfied with the knowledge, skills, experience of their facilitators. However 50% of Facilitators felt they would benefit from training in relation to their role and how to identify and deal with risks in relation to their project. The review of best practice Clusters in section 8 highlights the importance of facilitator training. While Invest NI provided Facilitator Training in the Pilot CNP this was not continued under the Formal CNP due to resourcing problems. It is important that training is provided otherwise the success of the networks may be at risk.

Recommendation 15:

We recommend that Invest NI examine the cost / benefits of either providing facilitator training in NI or utilise the accredited training being run by others (if this is an option) in order to ensure that appropriate training is provided.

²⁹³ For example NESTA (2012) The Effects of Cluster Policy on Innovation; and Zagorsek, H., Svetina, A. C., and Jaklic, M. (2008) 'Leadership in Clusters: Attributes of Effective Cluster Leader in Slovenia', Transformations in Business and Economics, Vol. 7, No. 2, pp. 98-113.

9.12 Future of the Networks

Support from other Parts of Invest NI: Whilst the Formal CNP is not yet delivering significant results with regard to evidence of collaborative R+D / innovation (although this was a key driver in the rationale for support; see section 1.3.3 and 3.1), this is not entirely unexpected as there is likely to be a time lag between the intervention and the impacts being realised. Feedback from consultations and from research on cluster development shows there are at least three reasons why this could be the case:

- Difficulty in recording these impacts²⁹⁴;
- Networks not significantly mature enough to move to this level of working²⁹⁵; and
- Those clusters / networks which are ready to work collaboratively need support as a collaborative rather than individual companies.²⁹⁶

Recommendation 16:

We recommend that Invest NI complete Maturity Assessments on networks at the end of their Phase 2 funding and use this work to assess the readiness of the network to grow and develop. In addition there should be a separate assessment of the future business opportunities for the network. This report should be used to identify opportunities for collaboration such as collaborative R+D, collaborative innovation and/or collaborative exporting and should be completed in conjunction with Invest NI colleagues in the relevant departments (cluster, R+D / exporting). If the network is assessed to be mature and the business opportunities identified warrant government investment, then a plan should be developed which transitions the network to the relevant Invest NI team.

²⁹⁴ Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers. This documents states that 'Monitoring and evaluation of clusters, cluster programmes and cluster policy is important, but methods, key performance indicators and data collection differ across countries. A single set of agreed upon evaluation and impact assessment methods and key performance indicators does not exist. The needs and scopes of the analyses also vary, making it difficult to compare programmes, cluster policies and impacts across regions and nations.

²⁹⁵ Ministry of Science, Innovation and Higher Education (2012) Let's Make a Perfect Cluster Policy and Cluster Programme: Smart Recommendations For Policy Makers. States a newly established cluster or a cluster with limited strengths can be expected to be rather less vibrant. Cluster support should therefore focus on developing or "awakening" the existing potentials, which can include "natural or geographical factor advantages, cultural factors, unique skills"

²⁹⁶ CNP Programme Manager

Recommendation 17:

We recommend that the Invest NI CNP team continues to retain responsibility for network projects from LoO through to the end of CNP funding. Networks supported by the CNP will sit on a spectrum – ideally developing from the initial stages when they are “embryonic” and require capacity building support, through to when they are “established” and are able to collaborate. The expectation would be that at the end of Phase 1 support the networks would be working collaboratively.

We recommend that the Invest NI teams (cluster, R+D and exporting) review their supports to encourage and support collaborative applications from the networks that reach the established stage and develop a close working relationship with the CNP team to ensure an effective handover. At this stage the need for continued facilitator funding from Invest NI should be considered on a case-by-case basis.

The CNP is an effective model for identifying the skills needed in a sector (amongst other strategic priorities), assessing these against supply and identifying any gaps. It works because the network is led by the private sector, with private sector members while also including those involved in delivering on the supply side. It provides the granularity of information needed to plan ahead, ensure specialist detailed information is available, and that there is buy in from the sector.

Recommendation 18:

CNP networks should be encouraged to analyse the skills needed for growth against the supply and identify gaps. This information should be used to inform skills policy.