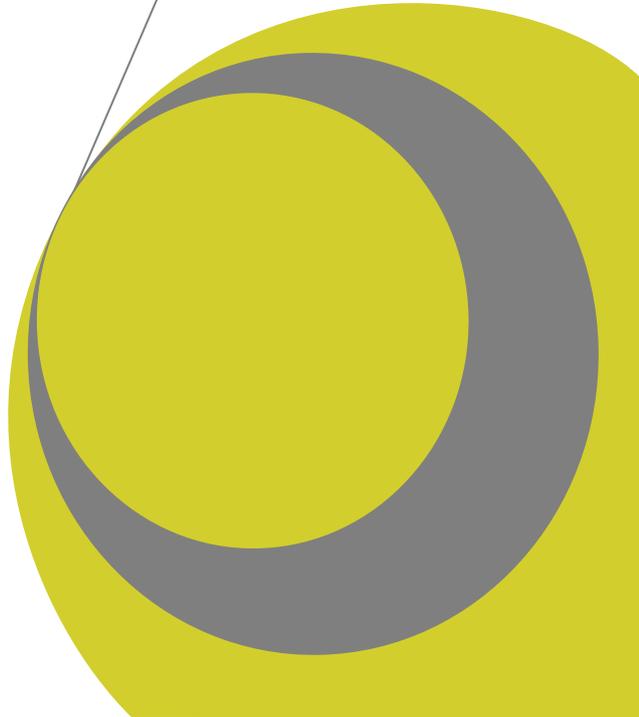


**PRODUCTIVITY IMPROVEMENT SERVICE
EVALUATION - FINAL**



6th January 2014



PRODUCTIVITY IMPROVEMENT SERVICE

EVALUATION

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List of Abbreviations

Abbreviation	Definition
ADS	Aerospace, Defence and Security Sector
BAs	Business Advisers
CEs	Client Executives
EAM	Economic Appraisal Methodology
ERNI	Employers National Insurance Contributions
FTE	Full Time Equivalent
GB	Great Britain
GVA	Gross Value Added
HM	Her Majesty's
HMT's	Her Majesty's Treasury
IA	Innovation Adviser
Invest NI	Invest Northern Ireland
LED	Local Economic Development
LFT	Lean Fundamentals Training
MAS	Manufacturing Advisory Service
NEDp	Non-Executive Director Programme
NI	Northern Ireland
NIGEAE	Northern Ireland Guide to Expenditure Appraisal and Evaluation
PIA	Productivity Improvement Advisers
PIM	Productivity Improvement Manager
PIS	Productivity Improvement Service
PIT	Productivity Improvement Team
PSA	Public Service Agreement
R&D	Research and Development
R,D&I	Research, Development and Innovation
SC21	Supply Chains for the 21 st Century
TPM	Total Productive Maintenance
SMART	Specific, Measurable, Achievable, Realistic and Time-bound
SMAS	Scottish Manufacturing Advisory Service
SMEs	Small and Medium Sized Enterprises
SMED	Single-Minute Exchange of Dies
UK	United Kingdom

EXECUTIVE SUMMARY

Introduction

Invest NI has commissioned Cogent Management Consulting LLP ('Cogent' or the Evaluation Team) to undertake an independent evaluation of its Productivity Improvement Service ('PIS'), covering the period 1st September 2011 to 31st March 2014.

The evaluation has been undertaken in line with national and regional requirements. It is compliant with Central Government guidance including:

- "The Green Book: Appraisal and Evaluation in Central Government", HM Treasury 2003;
- "The Northern Ireland Guide to Expenditure Appraisal and Evaluation (NIGEAE), Current Edition", Department of Finance and Personnel;
- "The Magenta Book: Guidance for Evaluation"; and
- Invest NI Economic Appraisal Methodology (EAM) guidance.

The Productivity Improvement Service

The PIS was established in October 2009 with the overarching aim to deliver an improvement in the productivity, competitiveness and sustainability of participating NI businesses by creating awareness and understanding of productivity improvement concepts, tools and techniques to deliver sustainable productivity improvements.

The PIS is based around the delivery of tailored one-to-one and/or one-to-many support to assist businesses to introduce 'Lean Thinking' and effective supply-chain management approaches in order to enhance their operational efficiency and productivity during different periods of operational performance.

The Service is delivered free-of-charge by Invest NI's Productivity Improvement Team (PIT), supported by external expertise as and when required, and is available to all Invest NI clients regardless of size and sector. Whilst the nature and intensity of the support that is provided will vary depending on business need, businesses are potentially able to avail of the following support:

- **Visit, Contact and Advice** - This support is the least intensive type of support provided by the PIS and typically involved the Team responding to less-complex/intensive requests for support by providing advice by telephone, emails and/or during a company visit and signposting businesses to potential other forms of support (that were more relevant for their needs);
- **Diagnostic and Action Planning** - If deemed necessary, the PIT will perform a productivity diagnostic/assessment which will seek to identify business constraints, possible improvement opportunities and (where possible) provide advice to the company to help them resolve immediate operational / business problems. An action plan will be delivered to the business which will identify a number of issues and problems to address and may recommend more in-depth support through attendance at training workshops and/or an intervention;
- **Awareness, Networking and Training** - Delivered on a one-to-many basis, these PIT delivered activities seek to raise awareness and understanding of 'Lean Thinking' and supply chain management as a basis to drive productivity improvements. This will include the dissemination of marketing materials and delivery of benchmarking best practice networking events (e.g. Beyond Operational Excellence, Hoshin Kanri) and training (e.g. Lean Fundamental Training (LFT), Supply Chain Management Fundamentals Training, Lean for Services);
- **One-to-One Mentoring Support** - The most intensive form of support involves a PIT Advisor providing between 5 - 10 days of tailored mentoring support to implement a specific productivity improvement project that offers the potential to achieve real and quantifiable improvements in the business ('transformational change'). A key feature of the Service is that it seeks to provide businesses with the skills and knowledge to implement effective productivity improvement measures rather than implementing the measures on behalf of the business. Whilst the nature of the project support will differ depending on business need, the PIT will typically utilise a range of lean and supply chain tools and techniques (e.g. Value Stream Maps, Total Productive Maintenance (TPM), 7 Quality Tools, A3, Six Sigma etc.) with the aim of achieving tangible productivity outcomes;
- **Information/Signposting** - There may be occasions when the PIT need to refer a particular company to other services or programmes which are 'non-core' to PIT, for example strategy development or marketing. Where possible, PIT will help clients access the most appropriate Invest NI resources. Where support / services have to be sourced outside of Invest NI, the PIT will liaise with the client to identify the most appropriate provider.

Strategic Context and Rationale

At the time of approval, there was a need for Government to provide support to encourage greater levels of innovation in order to facilitate business growth and reduce the productivity gap with other UK regions. Research suggested that a number of market failures (including asymmetric information and co-ordination failures) and non-market failure factors (e.g. constraints relating to capacity and throughput, businesses utilising inefficient and ineffective equipment etc.) were preventing businesses from implementing measures to address operational inefficiencies and improve productivity independent of receiving support.

Reflecting this market need, the NI Government (including DETI and Invest NI) placed a strong emphasis on the need for support to be provided to encourage businesses to:

- Address barriers to business growth;
- Increase innovation in its widest sense including encouraging businesses to transform creative thinking into new and improved processes (i.e. engage in process innovation);
- Embed a culture of change in approach and behaviours within NI businesses and their leaders; and
- Increase business' understanding of innovation and facilitate the exchange and exploitation of knowledge by supporting businesses with high growth and export potential to apply the use of Productivity Improvement Tools and Techniques in order to leverage competitive advantage from the innovation process

It is the Evaluation Team's view that there was, and continues to be, clear alignment between the aims and objectives of the PIS and the strategic imperatives of the NI Government (including with DETI and Invest NI's Corporate Plans).

Indeed, based upon the outcomes derived by recipients of support, the Evaluation team concludes that the PIS made a positive contribution to realising these strategic imperatives.

Operation and Delivery (TOR Points 32e-32h)

The PIS is based around the delivery of tailored one-to-one and/or one-to-many support to assist businesses to introduce 'Lean Thinking' and effective supply-chain management approaches in order to enhance their operational efficiency and productivity. The Service was managed and delivered internally within Invest NI (by the PIT) who drew upon external expertise, as and when required.

A total of 459 unique businesses received support through the PIS during the period under review. The intensity of the support that was ultimately delivered was tailored to business' specific needs. For example, the analysis suggests that:

- The PIT visited and provided advice to 211 NI businesses on 224 separate occasions;
- 47 businesses received a productivity diagnostic plan;
- There were 665 employee attendances from 231 unique businesses at the benchmarking / best practice networking events;
- There were 1,739 employee attendances from 213 unique businesses at 105 training sessions during the period under review; and
- 137 businesses commenced one-to-one mentoring engagement during the period, the majority of which sought to assist them to implement lean thinking and principles within their business. Just under two-thirds of businesses (64% - N=138) have completed their one-to-one mentoring engagements with the PIT, with the remainder of businesses (36% - N=138) continuing to receive support within their respective areas.

It is Invest NI's view, and shared by the Evaluation Team, that a level of latent demand presently exists for PIS support. This assertion is based on the fact that:

- Despite the broadly equal split in Invest NI's client base between manufacturing and service-based businesses, monitoring information provided by Invest NI indicates that circa four-fifths of the RDS' raised were for businesses from the manufacturing sector. It is Invest NI's view, and shared by the Evaluation Team based on its discussions with a number of CEs and businesses that did not engage with the Service, that this is likely to reflect the fact that there continues to be a misconception (both amongst a number of CEs and within the NI business base) that productivity improvement tools and techniques are more overtly focused on supporting manufacturing rather than service-based businesses.
- It is the PIT's view that, while progress has been made in working with businesses from a more diverse range of sectors, further work is required to support businesses such as those operating in the ICT, financial/transactional services, and legal sectors. In addition to the misconception that may exist amongst these businesses with regards to the applicability of lean concepts to non-manufacturing sectors, consultation with Invest NI indicates that there may be additional issues relating to the perceived credibility and technical ability of the PIT to provide support to these sectors;
- Latent demand is likely to exist within Invest NI's manufacturing client base which the PIT has thus far not been able to address (e.g. due to the availability of resource, a perceived view amongst some businesses that they do not require support and/or do not feel that the Service can provide the support that they require). The Evaluation Team's consultation with a number of manufacturing businesses, that had not received support through the Service, provides weight to this view with a number of businesses expressing strong interest in receiving support from the Service moving forward;
- Whilst noting that considerable work has been undertaken to provide productivity support in the area of supply-chain management, it is Invest NI's view that additional work could be undertaken in this area. It was noted that the Wrightbus supply-chain intervention model could potentially be rolled out to a number of strategically important NI businesses;
- Consultation with the PIT indicates that the majority of effort has been placed on the delivery of support to businesses facing operational instability or stability. However, it is Invest NI's view that additional work is required to support businesses operating at the managed improvement stage which are seeking to implement strategic change management practices and more formally embed a culture of continuous improvement; and
- Moving forward it is the PIT's view that additional work should be undertaken to address the needs of high growth businesses.

It will be essential that a holistic Corporate-wide strategy is developed to address this demand (assuming that appropriate levels of resourcing are made available). We have identified a number of recommendations for Invest NI's consideration in this regard.

Based upon the feedback from businesses, we consider that the Service was, in general, managed and delivered in a proactive and efficient manner by Invest NI, with the Service's content, structure and delivery model being appropriately developed on reflection of evolving client need. This has, in the Evaluation Team's view, contributed to support being channelled in an effective and efficient manner to address the needs of NI businesses.

The feedback from businesses in receipt of PIS support during the period under review also suggests that (amongst other things):

- The content, structure and duration of support is, on the whole, appropriate to meet the needs of businesses;
- The PIT, and any supporting external expertise, transferred relevant knowledge and advice in a timely manner; and
- Recipients of one-to-one mentoring support welcomed the tailored nature of support that was provided and the range of practical productivity improvement tools that were adopted by the PIT.

Reflecting the quality of the support received and subsequent impact that it made on recipients of support, the vast majority of businesses suggested that the support was effective in meeting their needs and this was reflected in (amongst other things) the high proportion of businesses that had taken forward the process innovation activities based on the advice provided by the PIT.

Given the levels of demand for the PIS, business' high levels of satisfaction with the support and the positive contribution of the Service to the NI economy, the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate.

Based upon monitoring information provided by Invest NI, the actual full economic cost of delivering the PIS during the period under review was c. £1.1m. £892k (or 83%) of these costs were in the form of staff costs (primarily associated with the PIT) and the remainder (c. £185k or 17%) related to other delivery costs.

Performance and Impact (TOR Points 32i-32m)

Based on the feedback from businesses in receipt of support, the following key conclusions can be drawn with regards to the monetary and non-monetary economic impact made by the PIS during the period under review:

- The Service has stimulated process innovation amongst recipient businesses by enhancing (amongst other things) their:
 - Ability to identify the issues that were inhibiting their productivity;
 - Understanding of the productivity improvement tools and techniques that can be employed to improve their productivity; and
 - Ability and confidence to ultimately integrate the productivity tools and techniques within the business.
- Levels of activity (61%) and impact (59%) additionality should be viewed positively (especially when benchmarked against other programmes/interventions) indicating that the Service has played a strong role in encouraging business to undertake productivity improvement activities and subsequently realise benefit from the support;
- Market failure, typically in the form of asymmetric information, has played a strong role in preventing businesses from taking forward similar productivity improvement activities independent of support;
- The Evaluation Team's analysis suggests that that the displacement factor at the NI level is 12.95%; whilst at the GB level it is 16.38%;
- Positively, from a monetary perspective the analysis suggests that the PIS has:
 - Contributed £19.6m in gross or £10.1m in net additional GVA;
 - Supported the creation of 90 gross or 46 net additional FTE jobs;
 - Safeguarded 330 gross or 195 net additional jobs; and
 - Delivered £2,767 in gross or £1,421 in net additional annual productivity per FTE.
- The feedback from businesses also suggests that the support has assisted them to realise a number of non-monetary benefits including (but not limited to) increasing competitiveness and sustainability and embedding a cultural shift towards continuous productivity improvement across organisations.
- The majority of businesses suggests that they would not have been able to get similar support elsewhere; and

- The Service has contributed to providing the NI economy with a number of other wider (including knowledge transfers and skills development) and regional (including the innovative nature of the project) benefits.

Return-on-Investment and VFM

Given the level of net additional GVA (i.e. £10,061,559) that has been provided by the Service and the full economic cost of delivering the support (i.e. £1,076,798¹), then the GVA return on investment is £1:£9.34².

It is the Evaluation Team's view, based upon all available evidence, that the PIS delivered VFM in respect of the costs incurred, during the period under review.

Equality Considerations (TOR Points 32r)

The Evaluation Team has identified no negative equality impacts, and considers the Service to be accessible to all Section 75 groupings and people with disabilities.

Recommendations

1. Given the reported positive impacts that the PIS has had on businesses and the wider NI economy, and evidence of continued need for support, Invest NI should continue to provide support through its PIS. In doing so all appropriate approvals should be sought in a timely manner to ensure the continuity in the provision of support to NI's business base.
2. Invest NI should develop a holistic strategy to addressing the latent demand that is likely to exist for the Service. It is the Evaluation Team's view that such a Strategy should include (at a minimum) consideration of:
 - a) Undertaking additional internal and external awareness raising activities. These activities should place focus on clearly articulating (amongst other things) the:
 - Nature of activity that the Service seeks to support (and importantly the activity that it will not support);
 - Nature and levels of support that is available to businesses; and
 - The wider range of sectors that productivity improvement tools and techniques can potentially be embedded.
 - b) Utilising external expertise to support the PIT in building credibility and sector-specific knowledge/expertise in those non-manufacturing sectors where the Service has had more limited impact e.g. ICT, transactional services etc. This may involve the external expertise leading initial business engagements with the PIT providing a supporting role until such times when it has built a suitable level of credibility and sector-specific knowledge to facilitate these engagements alone.
 - c) Linked to Recommendation 2b, by way of fostering demand and buy-in for the Service within these sectors, Invest NI should seek leverage from its considerable industry linkages e.g. with ICT businesses through the various collaborative networks that have been established as part of the Collaborative Network Programme (CNP) and Momentum (the NI ICT Federation). Invest NI should ensure that suitable marketing/promotional materials (e.g. case studies) are created from these engagements and distributed to other businesses operating within these sectors;

¹ Please note that this cost excludes time spent by PIT members on wider Invest NI and PIT corporate responsibilities (i.e. non-core delivery activities such as assessing Local Economic Development (LED) and INTERREG applications, undertaking Business Health Checks and caseworks/appraisals etc.).

² Return-on-investment is based on actual outcomes derived to date i.e. excludes outturns anticipated to be derived by businesses in the future.

- d) Providing additional resources e.g. through an expansion in the number of PIAs and/or the wider use of external expertise to support the PIT (as and when required);
 - e) Reviewing the appropriateness of the range of interventions that are available to support businesses to implement longer-term strategic cultural and change management practices and more formally embed a culture of continuous improvement; and
 - f) Reviewing how best to integrate the wider range of Invest NI supports/interventions to address businesses' productivity improvement needs. Consideration should also be given to including a formal meeting between the PIT, the business recipient and their CE to identify any further support required by the business.
3. In line with NIGEAE guidance, Invest NI should ensure that appropriate consideration is given to identifying the full-economic costs of delivering any future phase of the Service. The Appraisal should also focus upon establishing a more appropriate mix of SMART activity, output and outcome targets which are more intrinsically focused and linked with the overarching aims and anticipated outcomes of the Service. The outcomes of this evaluation should be used to inform all future target setting.
 4. Invest NI should undertake a review of its procedures for monitoring the activity delivered by Service. Ultimately, monitoring information should be collated and retained on a central database that clearly identifies (at an individual business level) the:
 - Activity that was delivered (including who the support was delivered to, when it was delivered, the number of one-to-one mentoring projects completed and the number of days support provided to each business); and
 - The impacts and outcomes that were achieved. This will require monitoring to be completed on a consistent basis and the nature of impact/outcome metrics to be clearly defined.

All information monitored should be, at a minimum, intrinsically linked to the SMART objectives that are established for the Service.

5. Linked to Recommendation 4, and by way of assisting post programme evaluation, consideration should be given to establishing (where possible) quantified baselines in relation to key operational impact (e.g. levels of output cycle times, changeover times, delivery performance) and business outcome (e.g. turnover, costs) metrics.
6. Whilst the Evaluation Team is not aware of Invest NI's corporate policies on the storage of corporate information or its practices in terms of storing information, we recommend that all Service-related information is saved and filed appropriately in a central repository on Invest NI's server. This should include all pertinent programme information including Economic Appraisals (where completed), casework papers, approval documentation and all programme monitoring information.
7. Consideration should be given to businesses being required to make a financial contribution to the receipt of one-to-one mentoring support. The benefits of such a system should be carefully weighed up against the potential impact on levels of demand and the costs associated with administering the system.
8. Consideration should be given to establishing a networking forum whereby businesses in receipt of support can share good practice.

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

Invest NI has commissioned Cogent Management Consulting LLP ('Cogent' or the Evaluation Team) to undertake an independent evaluation of its Productivity Improvement Service ('PIS'), covering the period 1st September 2011 to 31st March 2014.

The evaluation has been undertaken in line with national and regional requirements and is compliant with Central Government guidance including:

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- "The Magenta Book: Guidance for Evaluation"; and
- Invest NI Economic Appraisal Methodology (EAM) guidance.

1.2 The Productivity Improvement Service

1.2.1 Background to the Development of the PIS³

In August 2008, Invest NI sought (and was subsequently granted) internal approval for the delivery of a Demand Stimulation Programme (later renamed as the 'Innovation Programme') which would offer targeted innovation development programmes for the period September 2008 to March 2011 aimed at improving the productivity, competitiveness and sustainability of NI businesses⁴.

The Programme was built around a model whereby a team of Innovation Advisers (IAs)⁵ would aim to stimulate demand for Invest NI innovation support, promote innovation and assist businesses to maximise efficiencies including by (amongst other things):

- Encouraging businesses to adopt new technologies and apply technology in ways that will have a direct impact on profitability;
- Assisting NI companies to develop and implement strategies to drive down costs, improve productivity, reduce waste to landfill and deliver CO2 savings; and
- Facilitating the implementation of quantifiable productivity improvements through the introduction of a "Lean Thinking" based approach to productivity improvement.

During October 2009, Invest NI established the PIS as part of the wider Innovation Programme. The Service was initially established⁶ for the period October 2009 - August 2011 with the overarching aim to deliver an improvement in the productivity, competitiveness and sustainability of participating NI businesses by creating awareness and understanding of productivity improvement concepts, tools and techniques to deliver sustainable productivity improvements. Associated objectives of the Service included to:

³ Please note a glossary of productivity terms which are frequently used in this Evaluation report is included in Appendix I.

⁴ At that time Invest NI had secured funding from the Innovation Fund which had been established to support projects which had a clear commercial focus and were linked to one or more of the following five strands: Innovation and Stimulation; Research & Innovation Capacity; International Collaboration; New/Emerging Technologies; and Energy.

⁵ The Team was made up of 15 Innovation Advisers and 5 additional administrative personnel on fixed term contracts.

⁶ Initially the PIS model of delivery was based upon a '5 levels of intervention support' model established by the Manufacturing Advisory Service (MAS) model for England and Wales and subsequently deployed by the Scottish Manufacturing Advisory Service (SMAS).

- Create an awareness of productivity improvement opportunities and processes across Invest NI clients and the wider business community;
- Build credibility in regards to practical, hands-on productivity improvement advice and support to companies from the manufacturing and private services sector; and
- Provide hands-on, practical advice and support to facilitate real, measureable value-add to participating companies from the manufacturing and private services sectors.

An internal review of the PIS' activities and impacts was conducted in September 2011 which resulted in a business case being approved to expand the nature, scale and scope of activity delivered through its PIS over the 2011 – 2015 period, in response to emerging client needs (see Section 3). On reflection of the development in the Service and levels of demand, Invest NI sought (and was granted) approval to expand its complement of staff to deliver productivity improvement activities during this period⁷.

1.2.2 *Defining Productivity*

Productivity is an average measure of the efficiency of production. It can be expressed as the ratio of output to inputs used in the production process, i.e. output per unit of input.

Measures of labour productivity, the value of output produced by workers (i.e. GVA/FTEs), are often used to track progress in overall productivity⁸. Broader measures of productivity can also include other inputs in addition to labour such as equipment and raw materials (the calculation of which can provide an estimate of Total Factor Productivity). Assets such as vehicles, computers and software play an important role in helping workers to produce goods and services. However, the value of the role played by different assets is difficult to measure at a UK level and is significantly more challenging at the NI level with larger gaps in economic and financial data.

In the context of the PIS, the Service seeks to support businesses to enhance their operational efficiency which will ultimately result in the realisation of quantifiable business outturns primarily in the form of reduced costs and/or increased turnover⁹. Thus, it is anticipated that the productivity improvement measures embedded as a result of the support provided by the Service will result in enhanced levels of labour productivity at a business level.

1.2.3 *Model of Programme Delivery*

The PIS is based around the delivery of tailored one-to-one and/or one-to-many support to assist businesses to introduce 'Lean Thinking'¹⁰ and effective supply-chain management approaches in order to enhance their operational efficiency and productivity during different periods of operational performance, including during periods of:

- **Operational instability** - Businesses facing operational instability can be provided with support to shape their environment by diagnosing and implementing measures to address inefficiencies and 'waste' that are inhibiting their productivity;

⁷ Specifically, Invest NI increased the size of the Productivity Improvement Team (PIT) from 6 (1 Lean Process Manager, 4 Productivity Improvement Advisers (PIAs), and administrative officer) to 8 through the provision of 2 additional PIAs.

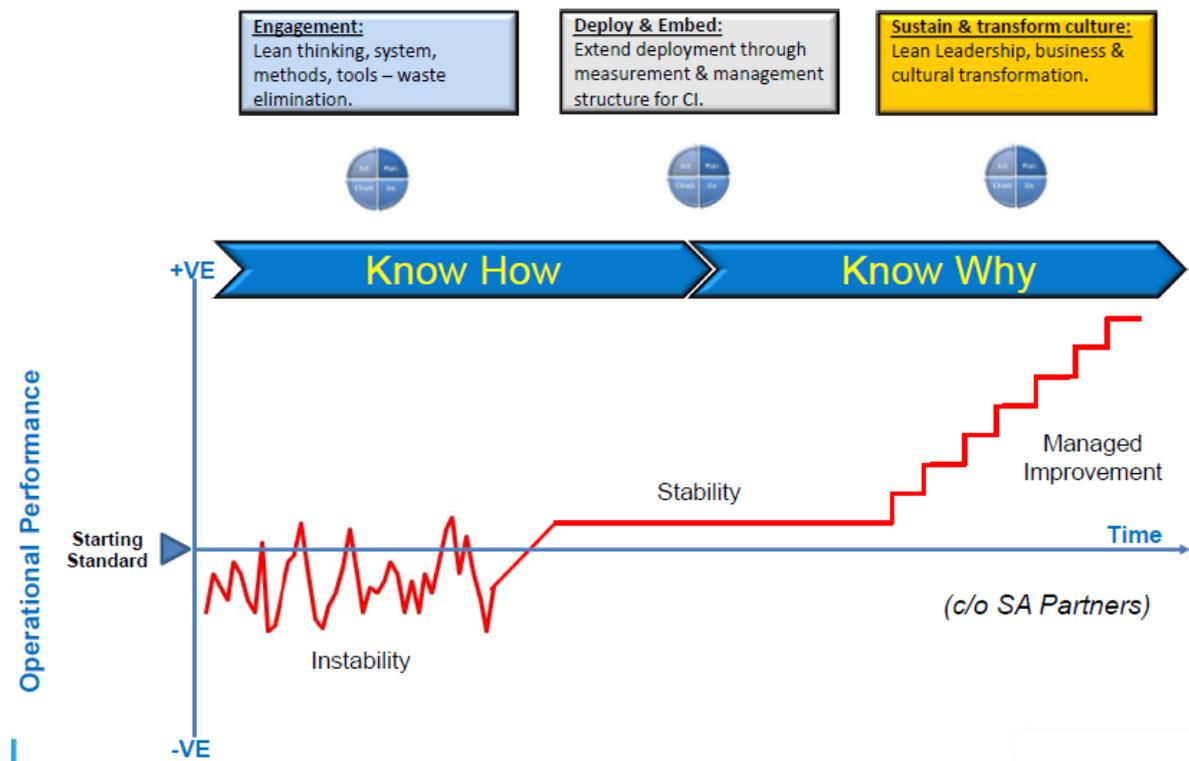
⁸ Indeed this is the standard measure of productivity that has been adopted by Invest NI.

⁹ Whilst not the primary focus of the productivity improvement activities, the operational changes may also result in changes in employment.

¹⁰ "Lean" is best defined as a management philosophy that focuses on reducing waste in all business processes.

- **Operational stability** - During periods of operational stability the PIS seeks to support businesses to maintain operational standards and the stable environment in which they operate. This can involve supporting the business to embed a measurement and management structure for continuous improvement; and
- **Managed operational improvement** - The PIS can assist businesses during periods of operational improvement by creating an environment that facilitates sustainable incremental transformation and cultural change within the business.

Figure 1.1: Targeting of PIS support



The Service is delivered free-of-charge by Invest NI’s Productivity Improvement Team (PIT), supported by external expertise as and when required, and is available to all Invest NI clients¹¹ regardless of size¹² and sector.

Whilst the nature and intensity of the support that is provided will vary depending on business need, the succeeding paragraphs provide a summary of the PIS support that is potentially available to businesses. Please note Appendix II provides an overview of the nature of support that is potentially available to a business at each of three operational performance stages.

¹¹ As noted in Section 3, a number of the elements of the Benchmarking / Best Practice Networking Events were open to the wider business base.

¹² Albeit there is a particular emphasis on providing support to small and medium size enterprises (SMEs).

Visit, Contact and Advice

This support is the least intensive type of support provided by the PIS and typically involves the Team:

- Responding to less-complex/intensive requests for support by providing advice by telephone, emails and/or during a company visit and signposting businesses to potential other forms of support (that were more relevant for their needs); and
- Dealing with requests for productivity assessments/diagnostics.

Diagnostic and Action Planning

If deemed necessary by the PIT in conjunction with the business, the Team performs a productivity diagnostic/assessment which typically takes up to 1 day and is conducted at the client's site.

The diagnostic seeks to identify business constraints, possible improvement opportunities and (where possible) provide advice to the company to help them resolve immediate operational / business problems. There is a distinction between the advice given at this level during the assessment and the in-depth support provided during a one-to-one mentored project.

On completion of the productivity diagnostic/assessment an action plan is delivered to the business which identifies a number of issues and problems to address and may recommend more in-depth support through attendance at training workshops and/or a one-to-one mentored intervention. On receipt of the action plan the business has four options:

1. Do nothing;
2. Carry out improvement with own internal resources;
3. Request attendance at training workshops and/or request one-to-one mentoring support; or
4. Obtain assistance from other Invest NI initiatives/programmes or from third party providers.

Awareness, Networking and Training

Delivered on a one-to-many basis, these activities delivered by PIT seek to raise awareness and understanding of 'Lean Thinking' and supply chain management as a basis to drive productivity improvements. This includes the creation and dissemination of materials and delivery of benchmarking best practice networking events and training.

Service Awareness Raising

The PIT develops and delivers a range of awareness raising and promotional activities (e.g. targeted mailshots, online case studies, presentations) to introduce 'Lean Thinking' and supply chain management concepts in order to market the services delivered by the PIT. These are made available to Invest NI (including the Regional Office Network), Invest NI clients and the wider business base (in conjunction with the appropriate representative bodies such as local councils, Local Enterprise Agencies, sector bodies etc.).

Benchmarking Best Practice Networking Events

The objective of the Benchmarking Best Practice Networking Events is to enable companies to develop their processes and practices by sharing best practice information, learning from other business' experience, sharing solutions to common problems, benchmarking and collaborating on issues of common interest. Benchmarking Best Practice Networking Events are typically held 3-4 times per annum.

Each event deals with a specific productivity-related topic and includes a presentation delivered by an industry expert. The events range in duration (from breakfast meetings to all day events) and typically include a question and answer session and networking opportunities with other attendees.

Examples of benchmarking Best Practice Networking events delivered as part of the PIS includes: Beyond Operational Excellence, Hoshin Kanri, Mastering Lean Product Development and the People Side of Lean.

Training

The PIT, supported on occasions by external organisations, delivers one-to-many and one-to-one training (typically onsite) to create awareness and understanding of lean thinking and supply chain management concepts and the tools and techniques required to deliver sustainable productivity improvements. All training materials are mapped against National Occupational Standards to ensure alignment with best practice and industry requirements. This also provides an opportunity for the attendees to consider using the training as a base for the achievement of nationally recognised qualifications (e.g. NVQ Level III).

During the period of the evaluation the PIS has developed the range and scope of training considerably and now includes: Lean Fundamental Training (LFT), Supply Chain Management Fundamentals Training, Lean for Services, Total Productive Maintenance (TPM), Single-Minute Exchange of Dies (SMED) and Practical Problem Solving.

One-to-One Mentoring Support

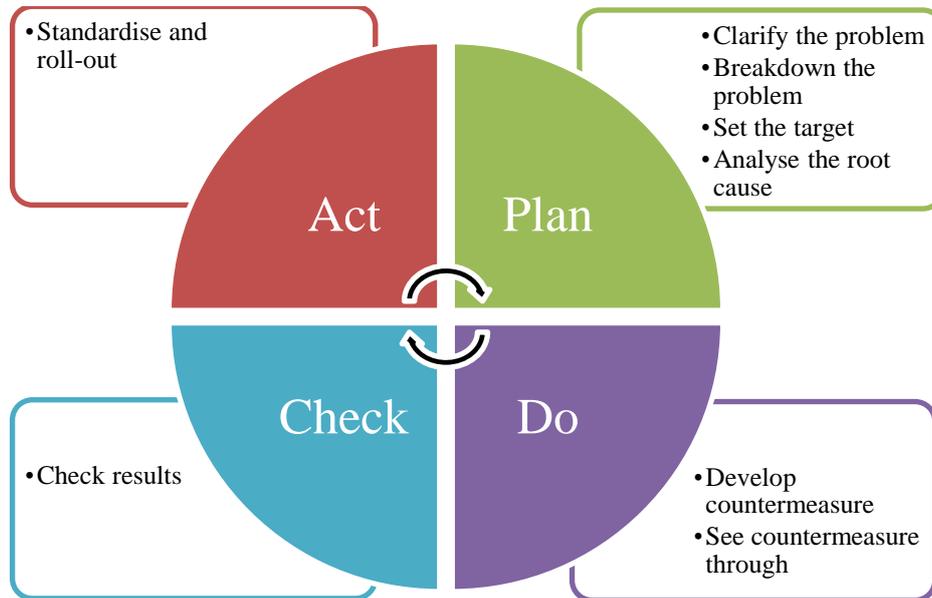
The most intensive form of support involves a PIT Advisor providing tailored mentoring support¹³ to implement a specific productivity improvement project that offers the potential to achieve real and quantifiable improvements in the business ('transformational change'). These interventions can therefore be viewed as progressing a business' operation from its current state (as defined in the initial Productivity Diagnostic and Action plan) to an improved state which results in added value and tangible results. The project support involves working closely with business personnel on a 'learn and do' basis, and hence typically involves a mix of training and work based facilitation/mentoring.

A key feature of the Service is that it seeks to provide businesses with the skills and knowledge to implement effective productivity improvement measures rather than implementing the measures on behalf of the business. In doing so, the service seeks to embed a sustainable business-led approach to productivity improvement and develop a culture of continuous improvement within the business.

The one-to-one project support typically involves the PIT implementing an 8-step 'Plan-Do-Check-Act' methodology in conjunction with the business.

¹³ The number of days of mentoring support will depend on the individual needs of the business.

Figure 1.2: Overview of the Plan-Do-Check-Act methodology



Whilst the nature of the project support will differ depending on business need, the PIT typically utilises a range of lean and supply chain tools and techniques (e.g. Value Stream Maps, Total Productive Maintenance (TPM), 7 Quality Tools, A3, Six Sigma etc.) with the aim of achieving tangible operational outcomes such as:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Increased output • Reduction in waste • Improved space utilisation • Delivery improvement (both on-time and in-full) | <ul style="list-style-type: none"> • Enhanced management capabilities • Improved stock turns • Enhanced equipment productivity • Enhanced supply chain management |
|---|---|

Ultimately it is anticipated that the achievement of these productivity outcomes will result in greater business efficiency, enabling the business to increase its productivity by reducing costs and/or increasing turnover.

Operational and financial outcomes anticipated to be derived from the one-to-one mentoring support will be identified, by the client in conjunction with the PIT, at the outset of the project. Where this is not possible, these will be identified at a later stage during the project’s implementation. All agreed anticipated outcomes will typically be signed off by the client company. In instances where clients do not sign off on anticipated outcomes, the PIT will make an estimation of these. Depending on the length of engagement with the client, actual business outturns may be verified with the client company.

Information/Signposting

There may be occasions when the PIT need to refer a particular company to other services or programmes which are ‘non-core’ to PIT, for example strategy development or marketing. Where possible, the PIT will help clients access the most appropriate Invest NI resources. Where support / services have to be sourced outside of Invest NI, PIT will liaise with the client to identify the most appropriate provider.

1.2.5 PIT Enquiry/Engagement Process

The following process has been broadly adopted by the PIT in response to a referral to the service (or request for assistance)¹⁴:

Figure 1.3: The PIT Enquire/Engagement Process



Reflecting the tailored nature of the support delivered through the PIT, it should be noted that a business is not necessarily required to progress through each stage of this engagement process. Rather the most appropriate business journey through the Service is determined by the PIT, in conjunction with the business.

1.3 Invest NI's Requirements

Invest NI requires an Evaluation of its PIS for the period 1st September 2011 to 31st March 2014. The overall evaluation objectives are to:

- Determine the extent to which the principal aims, objectives and targets of the PIS intervention have been met;
- Determine the extent to which the intervention represents good Value For Money (VFM) and appropriate use of public funds; and
- Identify areas for PIS service/delivery improvement based on evaluation and customer feedback (including external stakeholders) and make recommendations.

Further details of Invest NI's specific requirements are detailed in full within Appendix IV.¹⁵

¹⁴ A more detailed summary of the Invest NI PIT Enquiry/Engagement process is provided in Appendix III.

¹⁵ Please note that the PIS also plays a role in supporting the aerospace, defence and security sector (ADS) initiative Supply Chains for the 21st Century (SC21). However, on the direction of Invest NI, this work is outside the scope of the Evaluation.

1.5 Methodology

In conducting the evaluation, Cogent employed a methodology that included:

- A robust desk-based analysis of pertinent materials relating to the PIS during the period under review;
- Consultation with the Steering Group that was established for the evaluation. This included representation from Invest NI's PIT;
- Face-to-face consultation with members of the PIT (Le (N=8);
- 6 cases study visits to businesses that had completed (at a minimum) a one-to-one mentoring engagement with the PIT;
- A telephone survey with all other businesses that completed (at a minimum) a one-to-one mentoring engagement with the PIT;
- Distribution of an online survey to all remaining businesses that attended a benchmarking/best practice networking event and/or attended training provided by the PIT;

Tables 1.1 and 1.2 provide a summary of the PIS participant feedback derived through the primary research, including all associated response rates and confidence intervals.

Table 1.1: Overview of business and employee respondents		
Completed surveys	Business respondents	Employee respondents
Case study visits	6	6
Telephone consultations ¹⁶	37	37
Online survey	52	74
Total	95	117

Please note that Table 1.2 reflects the variety of support that was received by the 95 businesses that engaged in the primary research.

Table 1.2: Response rates and confidence levels achieved					
	Unique businesses that received support	No. of respondents		Business Response rate	Business Confidence Interval
		Businesses¹⁷	Employees		
Benchmarking / best practice networking event	231	54	72	24%	+/-11.7%
Training	213	73	94	34%	+/- 9.3%
One-to-one mentoring support (completed support)	87 ¹⁸	43	43	49%	+/- 10.7%

- Telephone consultations with businesses that did not engage with the PIS¹⁹ (N=20);
- Face-to-face consultations with Invest NI Client Executives and Business Advisers (N=7); and
- Telephone consultations with the managers of similar programmes elsewhere (N=3).

¹⁶ All non-responding businesses were contacted on at least three occasions.

¹⁷ The number of businesses will not sum to 95 on the basis that businesses could receive more than one type of support.

¹⁸ Figure reflects the number of businesses that had completed their one-to-one mentoring support at the time of Evaluation. It should be noted that whilst 87 businesses had completed their respective engagement with the PIT, 20 of these businesses were not available for consultation at the time of Evaluation or were not willing to participate; thus the maximum number of businesses available to provide feedback was 67 businesses. As noted in Section 3, the total number of businesses that had received one-to-one mentoring support from the PIT was 137 businesses.

¹⁹ These businesses included those that had been contacted by the PIT on up to three occasions but did respond and businesses that had been contacted by the PIT but stated that they were not interested in engaging with the Service.

2. STRATEGIC CONTEXT & RATIONALE

2.1 Introduction

Section 2 provides a high-level summary of the rationale that was approved for supporting the PIS during the period under review, as well as reviewing the strategic context in which the Service operated.

2.2 Service Rationale

A review of the approval and internal review documentation²⁰ provided by Invest NI suggests that a number of factors combined to provide a strong rationale for Government intervention. These included:

- **NI's relatively poor economic performance vis-à-vis other UK regions** - At the time of approval it was noted that there was a significant productivity gap with other UK regions, with NI's GVA per capita equating to c. 80% of the UK average. Research undertaken by Oxford Economics suggested that two thirds of the productivity gap could be explained by lower productivity in individual sectors with the remainder of the gap arising as a result of the industrial structure of the NI economy (with NI having a relatively higher share of low productivity sectors compared to the rest of the UK);
- **Low levels of innovation activity** - A relatively low number and proportion of businesses were actively engaged in undertaking Research, Development and Innovation (R,D&I) activities. For example, at the time of approval, NI ranked joint lowest (along with Scotland) of the 12 UK regions in terms of innovative activity by firms. Similarly, expenditure on R,D&I activities was significantly lower than other UK regions with the region highly dependent on a relatively small number of companies for a significant proportion of R&D expenditure;
- **Complexity of the managing innovation for change** - The approval documentation highlighted the complex nature of business innovation which typically requires businesses to simultaneously manage the interaction of a number of key functions including technology, marketing, regulation, financing and human resources. It was suggested that the *"lack of critical support in these areas can jeopardise a company's entire innovation process"*;
- **Barriers inhibiting operational effectiveness and business growth** - It was noted that there were a number of market failures, including asymmetric information and co-ordination failures, that were preventing businesses from undertaking innovation-related activities including the implementation of productivity improvement and cost saving measures. Examples of these market failures include: a lack of awareness of the benefit of implementing productivity improvement activities, a lack of knowledge on how to develop and implement the productivity improvement activities, a lack of awareness of the expertise that could potentially provide the support required by the business.

Based upon its own observations, the PIT also identified a range of other barriers that were inhibiting the operational effectiveness, productivity and growth of NI's business base. These included: constraints relating to capacity and throughput, unnecessary capital expenditure, businesses utilising inefficient and ineffective equipment, businesses incurring unnecessary costs and excessive lead times.

²⁰ Source: Proposal for the delivery of a Demand Stimulation Programme to encourage greater uptake of Invest NI's Innovation Products and Services (August 2008), Review of Activity and Impact under the Productivity and Innovation Strands of the Innovation Fund (September 2011) and the Innovation Fund Business case for the Extension of the Innovation Adviser contracts (December 2011).

On the basis of these points, Invest NI identified a need to stimulate demand for innovation interventions, promote innovation and assist businesses to maximise efficiencies. This included the need to:

- Make companies aware of up-to-date services, sources of funding and advice;
- Provide a valuable external perspective, which prevents the company from becoming blinkered in its approach to innovation;
- Facilitate the process of seeking help, obtaining funding, saving time and accelerating the innovation process;
- Give confidence and encourage the uptake of more adventurous, leading edge projects rather than ‘safer’ routes;
- Open up more innovation opportunities that had not been considered and help managers to look at their business in a different way;
- Provide hands-on, practical advice and support to facilitate real, measureable value-add to participating companies from the manufacturing and private services sectors; and
- Enable businesses to understand the true value of innovation.

2.3 Strategic Context

Subsection 2.3 provides a succinct overview of the strategic context in which the PIS operated during the period under review. In doing so, the subsection considers (amongst other things) the ‘fit’ of the Service with the DETI and Invest NI Corporate Plans that operated.

2.3.1 NI Programme for Government 2011-2015

The Programme for Government (PfG) 2011-2015 sets out that the Executive has taken the important step of making the economy the top priority. The PfG contains 5 key priorities, one of which is: “*Growing a Sustainable Economy and Investing in the Future*”. The primary purpose of this Priority is to achieve long term economic growth by improving competitiveness and building a larger and more export-driven private sector. To do this, the PfG notes that we must *rebuild* the labour market in the wake of the global economic downturn and *rebalance* the economy to improve the wealth and living standards of everyone.

Two specific PfG objectives that the PIS offered the potential to contribute to during the period under review included:

- Encouraging innovation and R&D; and
- Growing the private sector.

Furthermore, in-line with the PfG, it is the Evaluation Team’s view that the Service also offered the potential to target activities and resources in priority areas in order to “*ensure that we stimulate action and interventions to increase productivity and competitiveness, and enable local companies to grasp opportunities*”.

2.3.2 NI Economic Strategy - Priorities for Sustainable Growth and Prosperity

Within its Economic Strategy the NI Executive has established an overarching goal to improve the economic competitiveness²¹ of the Northern Ireland economy. In order to achieve this, the Executive is committed to strengthening our competitiveness through a focus on export led economic growth. The Strategy suggests that this can only be achieved by rebalancing and rebuilding our economy.

²¹ Economic competitiveness is defined by the World Economic Forum as ‘the set of institutions, policies and factors that determine the level of productivity of a country’.

In-line with the strategic imperatives identified within the Economic Strategy, the PIS offered the potential to contribute to the rebalancing of the NI economy by delivering higher productivity as a result of stimulating greater levels of innovation, improving the skills and knowledge of the workforce, assisting NI business to compete effectively within the global economy and encouraging business growth.

2.3.3 *Innovate NI - Innovation Strategy for Northern Ireland 2014-2025*

Within its Innovation Strategy, the NI Executive has established that: *“Northern Ireland, by 2025, will be recognised as an innovation hub and will be one of the UK’s leading high-growth, knowledge-based regions which embraces creativity and innovation at all levels of society”*.

It is the Evaluation Team’s view that the PIS offered the potential to contribute to the following strategic imperatives identified within the Innovation Strategy:

- Increasing innovation in its widest sense including encouraging businesses to transform creative thinking into new and improved processes;
- Embedding a culture of change in approach and behaviours within NI businesses and their leaders; and
- Increasing business’ understanding of innovation and facilitating the exchange and exploitation of knowledge by supporting businesses with high growth and export potential to *“apply the use of Productivity Improvement Tools and Techniques in order to leverage competitive advantage from the innovation process”*.

2.3.4 *DETI Corporate Plan 2011-2015*

In-line with the NI PfG and Economic Strategy, DETI’s current Corporate Plan places focus on creating wealth and employment through a focus on export-led economic growth. In reflection of this, the Department’s goal over the life of the Plan is to *“promote the growth of a competitive and export led economy”*.

The Plan highlights the need for the NI Government to place focus on *rebalancing* and *rebuilding* the Northern Ireland economy, i.e. focusing on actions that will deliver the necessary rebalancing of the economy over the longer term, while taking immediate steps to rebuild the local labour market after the recession.

Specifically, in-line with the economic priorities established within DETI’s Corporate Plan, it is the Evaluation Team’s view that PIS offered the potential to contribute to stimulating R&D, innovation and creativity, helping Northern Ireland businesses compete in the global economy and encouraging business growth.

2.3.5 *Invest NI Corporate Plan 2011-2015*

In-line with the NI PfG and DETI’s Corporate Plan, Invest NI’s 2011-2015 Corporate Plan states that the organisation will contribute to the rebalancing and rebuilding of the NI economy to increase the overall standard of living by driving productivity growth and increasing employment. The Plan states that the support provided will be fully aligned with the drivers of economic growth and its activities will be targeted to increase the size, productivity, competitiveness and value of the private sector by embedding innovation, growing our local companies to scale, increasing our export base and attracting inward investment.

Given the nature of support delivered by the PIS, it is the Evaluation Team’s view that the Service offered the potential to contribute to the following strategic priorities:

- Stimulating innovation. R&D and creativity - The Plan highlights the need to put innovation at the core of enterprise in NI by driving market led innovation within its business base, supporting research, product, process, market and organisational development for the earliest stages to the leading edge technologies;
- Enabling NI businesses to compete in the global economy; and
- Encouraging business growth by addressing the real and perceived barriers to growth.

2.4 Summary Conclusions

The preceding analysis suggests that:

- At the time of approval, there was a need for Government to provide support to encourage greater levels of innovation in order to facilitate business growth and reduce the productivity gap with other UK regions;
- A number of market failure (including asymmetric information and co-ordination failures) and non-market failure factors (e.g. constraints relating to capacity and throughput, businesses utilising inefficient and ineffective equipment etc.) were preventing businesses from implementing measures to address operating inefficiencies and improve productivity independent of receiving support;
- There was, and continues to be, clear alignment between the aims and objectives of the PIS and the strategic imperatives of the NI Government (including with DETI and Invest NI's Corporate Plans). Specifically, in line with Government's strategic focus, the activities supported by the PIS offers the potential to:
 - Address barriers to business growth;
 - Increase innovation in its widest sense including encouraging businesses to transform creative thinking into new and improved processes (i.e. engage in process innovation);
 - Embed a culture of change in approach and behaviours within NI businesses and their leaders; and
 - Increase business' understanding of innovation and facilitate the exchange and exploitation of knowledge by supporting businesses with high growth and export potential to apply the use of Productivity Improvement Tools and Techniques in order to leverage competitive advantage from the innovation process.

In doing so the Service offers the potential to *“stimulate action and interventions to increase productivity and competitiveness, and enable local companies to grasp opportunities.”*

Please note that the Evaluation Team's analysis of the degree to which there continues to be a need for Government intervention (including the nature and extent of market failure that currently exists) can be found in Sections 5 and 9.

3. PROGRAMME ACTIVITY

3.1 Introduction

Section 3 provides a summary of the activity that was supported through the PIS during the period under review.

All information presented is based upon monitoring information provided by Invest NI. The Evaluation Team's review of monitoring information retained by Invest NI suggests that whilst the PIT has placed effort to monitor information relating to the Service's inputs, activities, outputs and outcomes, this information could be collated more robustly in a central location in order to provide more effective Service management information and assist with future evaluation. Specifically, the manner in which monitoring information was collated resulted in a disproportionate effort, made by both the PIT and Evaluation Team during the evaluation exercise, to establish programme-level activity (and identify recipients of support) during the review period²². Indeed, much of this information had to be collated and built-up from the level of individual businesses.

Additional monitoring issues have been identified by the Evaluation Team through the research process and have been identified elsewhere in this report. The Evaluation Team has made a number of recommendations in Section 9 relating to the future monitoring and retention of data.

3.2 Service Marketing

During the period under review, a range of mechanisms were utilised by the PIT to raise awareness of the Service. These included (but were not limited to):

- Provision of training to Invest NI Client Executives (CEs) to increase awareness of the service and to improve the quality of referrals being made;
- Attendance, and provision of Service information, at Invest NI Sector Team meetings;
- Presentation at client facing Invest NI workshops;
- Hosting of workshops, seminars and events to raise awareness and understanding of Productivity Improvement strategies, tools and techniques (focused on Invest NI clients);
- Awareness raising workshops as part of Invest NI's Boosting Business campaign (which were made available to the wider business base);
- Presentations at external Invest NI supported events (e.g. World Quality Day, Accountants in Ireland, Sustainex etc.) as well as external events held at local colleges, local universities, Enterprise Ireland etc.;
- Creation and distribution of promotional literature documenting the nature of support available through the Service through local media, Invest NI's website (and intranet) and E-zine/newsletter; and
- Creation of a social media channel providing case studies of businesses that have benefited from the Service.

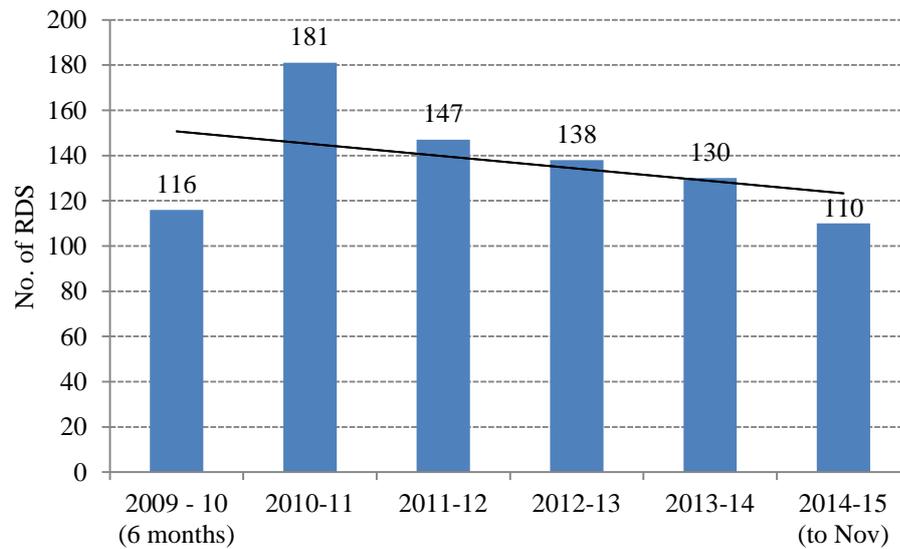
3.3 Service Referrals and Demand

Analysis of monitoring information provided by Invest NI indicates that demand for support remained strong for the PIS during the period under review. A total of 341 Requests for Development Services (RDS) were made by 91 Invest NI Client Executives (CEs) and Business Advisers (BAs) during the period under review. Half (50%) of the RDS' were raised by a relatively small proportion (20%) of CEs and Business Advisors.

Figure 3.1 provides a summary of the RDS' raised by Invest NI Client Executives and Business Advisors since the creation of the Service.

²² This is best illustrated by the differences in the profile of activity documented in Section 3 of this Evaluation Report and the profile of activity identified within Terms of Reference.

Figure 3.1: No. of RDS' raised by Invest NI Client Executives and Business Advisors



Whilst the trend analysis indicates that the number of RDS' fell by just over one-quarter (28%) between 2010/11 and 2013/14, discussions with Invest NI indicates that this is likely to reflect the following:

- The number of RDS' may have been artificially high at the outset of the Service, as Client Executives sought to identify means of supporting client businesses during the preliminary years of the economic downturn (2009-2011); and
- Internal awareness raising activities undertaken by the PIT since the creation of the Service has resulted in a greater understanding of its role and remit. This has, in turn, resulted in a decrease in the number of non-relevant referrals being made. Notwithstanding this point, consultation with Invest NI suggests that, whilst the quality of referrals that have been provided to the PIT has generally increased during the period under review, the Team continues to receive a large number of referrals that are not of the quality (in terms of their relevance to the Service's offering) as would preferably be the case.

Consultation with Invest NI indicates that whilst the numbers of RDS's raised have decreased over the period the proportion of RDS resulting in an intervention has significantly increased.

On reflection of the activity that was delivered during the period under review, and on consideration of the future direction of the Service (if it continues beyond March 2015), it is Invest NI's view that the scale and nature of activities delivered by the PIS could be expanded upon in order to address the latent demand which it perceives to exist and further increase the effectiveness of the Service. This assertion is based on the following:

- Despite the broadly equal split in Invest NI's client base between manufacturing and service-based businesses, monitoring information provided by Invest NI (Table 3.1) indicates that circa four-fifths of the RDS' raised were for businesses from the manufacturing sector. It is Invest NI's view, and shared by the Evaluation Team based on its discussions with a number of CEs and businesses that did not engage with Service, that this is likely to reflect the fact that there continues to be a misconception (both amongst a number of CEs and within the NI business base) that productivity improvement tools and techniques are more overtly focused on supporting manufacturing rather than service-based businesses.

Table 3.1: Sectoral profile of RDS' raised							
	2009 - 10 (6 months)	2010 - 11	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2009 – 15 (to date)
Manufacturing	88%	89%	88%	80%	80%	83%	84%
Service	12%	11%	12%	20%	20%	17%	16%

It is the PIT's view that, while progress has been made in working with businesses from a more diverse range of sectors, further work is required to support businesses such as those operating in the ICT, financial/transactional services, and legal sectors. In addition to the misconception that may exist amongst these businesses with regards to the applicability of lean concepts to non-manufacturing sectors, consultation with Invest NI indicates that there may be additional issues relating to the perceived credibility and technical ability of the PIT to provide support to these sectors;

- Latent demand is likely to exist within Invest NI's manufacturing client base which the PIT has thus far not been able to address (e.g. due to the availability of resource, a perceived view amongst some businesses that they do not require support and/or do not feel that the Service can provide the support that they require). The Evaluation Team's consultation with a number of manufacturing businesses, that had not received support through the Service, provides weight to this view with a number of businesses expressing strong interest in receiving support from the Service moving forward;
- Whilst noting that considerable work has been undertaken to provide productivity support in the area of supply-chain management, it is Invest NI's view that additional work could be undertaken in this area. It was noted that the Wrightbus supply-chain intervention model could potentially be rolled out to a number of strategically important NI businesses;
- Consultation with the PIT indicates that the majority of effort has been placed on the delivery of support to businesses facing operational instability or stability (as outlined in Section 1.1). However, it is Invest NI's view that additional work is required to support businesses operating at the managed improvement stage which are seeking to implement strategic change management practices and more formally embed a culture of continuous improvement; and
- Moving forward it is the PIT's view that additional work should be undertaken to address the needs of high growth businesses that have the greatest potential to contribute to the NI economy. During 2014-15 (to date) 17% of the RDS' raised were for high growth businesses.

As part of any strategy to address the latent demand that potentially exists, the Evaluation Team recommends that Invest NI gives consideration to each of the following:

- Whilst noting that the PIT was actively involved in undertaking activities to raise awareness of the PIS during the period under review (as noted in Section 3.2), it is the Evaluation Team's view (and shared by Invest NI) that additional internal and external awareness raising activities will be required moving forward. These activities should place focus on clearly articulating (amongst other things) the:
 - Nature of activity that the Service seeks to support and importantly the activity that it will not support;
 - Nature and levels of support that is available to businesses; and
 - The wider range of sectors in which productivity improvement tools and techniques can potentially be embedded.
- Consideration should be given by Invest NI to utilising external expertise to support the PIT in building credibility and sector-specific knowledge/expertise in those non-manufacturing sectors that the Service has had more limited impact on e.g. ICT, financial/transactional services. In the short-term, this may involve the external expertise leading initial business engagements with the PIT providing a supporting role until such times when it has built a suitable level of credibility and sector-specific knowledge to facilitate these engagements alone.

Linked to this, by way of fostering demand and buy-in for the Service within these sectors, Invest NI should seek leverage from its considerable industry linkages e.g. with ICT businesses through the various collaborative networks that have been established as part of the Collaborative Network Programme (CNP) and Momentum (the NI ICT Federation). Invest NI should ensure that suitable marketing/promotional materials (e.g. case studies) are created from these engagements and distributed to other businesses operating within these sectors;

- In addition to utilising external expertise to enhance the capacity and capability of the PIT to address the latent demand that exists within particularly underrepresented sectors, the ability of the PIT to address wider latent demand may require additional resources e.g. through an expansion in the number of Productivity Improvement Advisers (PIAs) and/or the wider use of external expertise to support the PIT (as and when required);
- The PIT should review the appropriateness of the range of interventions that are available to support businesses to implement longer-term strategic cultural and change management practices and more formally embed a culture of continuous improvement. Consideration should also be given to how best utilise its wider range of Invest NI supports/interventions to address businesses' needs in this area e.g. Non-Executive Director Programme (NEDp); and
- Allied to the previous point, as part of the PIT engagement process, consideration should be given to including a formal meeting between the PIT, the business recipient and their CE to identify any further PIS support required by the business.

3.4 Business Support Delivered

During the period under review, the PIT delivered productivity improvement support to 459 unique businesses. As noted in Section 1 the intensity of the support that was ultimately delivered was (resource permitting) tailored to the business' needs.

Table 3.2 provides a high level of summary of the support that was delivered to the 459 unique businesses during the period under review with further detail provided in the succeeding subsections.

Table 3.2: Overview of unique businesses receiving support	
Nature of support	Unique businesses in receipt of the support²³
Visit	211
Advice	93
Diagnostic plan	47
Benchmarking / best practice networking events	231
Training	213
One-to-one engagements (projects commencing)	137
Total Unique businesses	459

The table above indicates that business will typically have received more than one form of support through the PIS (discussed further in Section 3.4.3).

²³ Please note that the figures will not sum to 459 unique businesses on the basis that businesses may have received more than one type of support.

3.4.2 Visit, Advice and Productivity Diagnostics

As detailed in Table 3.3, during the period under review:

- The PIT visited and provided advice to 211 unique NI businesses on 224 separate occasions;
- Advice (typically by phone or email) on productivity related issues was provided to 93 businesses; and
- 47 businesses received a productivity diagnostic plan. It should be noted that the number of unique businesses that received a productivity diagnostic is significantly below the number of unique businesses that received a one-to-one mentoring project (N=137 – see Section 3.4.4 for further details). Discussions with Invest NI indicates that this is a reflection of the fact that the PIT was able to utilise a number of the one-to-many training interventions (e.g. LFT) as means to raise awareness of the common productivity issues facing businesses and the tools and techniques that could be employed to address these issues. As such, in many cases this removed the need for the PIT to complete a business-specific diagnostic or, if still required, deliver a ‘scaled-down’ version of this.

Table 3.3: Overview of support delivered					
Nature of support delivered	Sep 2011 - March 2012	April 2012 - March 2013	April 2013 - March 2014	Total	
				Business interventions	Unique businesses²⁴
Visit	78	78	68	224	211
Advice	21	46	29	96	93
Diagnostic plan	21	17	10	48	47

²⁴ The unique businesses under each area of support are not mutually exclusive i.e. a business may have received a visit, advice or diagnostic plan or some combination of these types of support.

3.4.3 Networking and Training

Benchmarking / Best Practice Networking Events

Table 3.4 provides a summary of the benchmarking / best practice networking events that were delivered during the period under review, with further detail provided in the succeeding paragraphs.

Table 3.4: No. of benchmarking/best practice networking events and attendances														
Benchmarking / Best practice networking event	Delivery Organisation	Sep 2011 - March 2012			April 2012 - March 2013			April 2013 - March 2014			Total			
		No. of events	No. of event attendances		No. of events	No. of event attendances		No. of events	No. of event attendances		No. of events	No. of event attendances		Unique businesses
			Businesses	Employees		Businesses	Employees		Businesses	Employees		Businesses	Employees	
Boosting Business	• Invest NI	5	53	72	9	91	116	-	-	-	14	144	188	139
University of Kentucky	• University of Kentucky	1	2	30	1	7	74	1	35	98	3	44	202	38
Beyond Operational Excellence	• Lundbeck • Survitec Group • Copeland Emerson • The Manufacturing Institute	-	-	-	-	-	-	1	45	98	1	45	98	45
Hoshin Kanri	• University of Kentucky	-	-	-	-	-	-	1	20	30	1	20	30	20
Mastering Lean Product Development	• The Industry Research & Development Group (IRDG) • Technology Perspectives	-	-	-	-	-	-	1	28	45	1	28	45	28
Coaching as an Enabler for Continuous Improvement	• Accelerated Improvement Ltd.	-	-	-	-	-	-	1	25	51	1	25	51	25
Simulated work environments	• FG Wilson / Caterpillar	-	-	-	3	20	51	-	-	-	3	20	51	20
Total		6	55	102	13	118	241	5	153	322	24	326	665	231²⁵

²⁵ The total number of unique businesses will not equal the sum of unique businesses that attended each event on the basis that a business may have attended more than one type of benchmarking/best practice networking event.

Salient points to note include:

- A total of 24 benchmarking/best practice networking events were delivered based around 7 key events. Consultation with Invest NI suggests that the range and nature of events broadened during the period under review in response to client need;
- With the exception of the ‘Boosting Business’ events, all other events were delivered by external businesses and organisations with a reputation for productivity excellence;
- There were 665 employee attendances from 231 unique businesses at the events. Attendees were drawn from Invest NI’s client base and the wider NI business base;
- Whilst ‘Boosting Business’ was the most frequently delivered event (N=14) and attracted the highest number of businesses (N=144), the ‘Beyond Operational Excellence’ attracted the highest number of businesses and employees on a per event basis; and

Training

Table 3.5 provides a summary of the training that was delivered by the PIT during the period under review²⁶.

Table 3.5: Summary of training delivered													
Training	Sep 2011 - March 2012			April 2012 - March 2013			April 2013 - March 2014			Total			Unique businesses
	No. of training sessions	No. of training attendances		No. of training sessions	No. of training attendances		No. of training sessions	No. of training attendances		No. of training sessions	No. of training attendances		
		Businesses	Employees		Businesses	Employees		Businesses	Employees		Businesses	Employees	
One-to-many training													
Lean Fundamentals Training	5	50	108	10	81	192	6	60	123	21	191	423	160
Supply Chain Management Training	-	-	-	2	15	27	4	31	57	6	46	84	44
Lean for Services	-	-	-	-	-	-	3	13	30	3	13	30	13
Total Productive Maintenance	-	-	-	1	6	9	2	14	31	3	20	40	16
8 Step Practical problem solving/A3 ²⁷	-	-	-	-	-	-	4	29	56	4	29	56	29
Sub-total	5	50	108	13	102	228	19	147	297	37	299	633	193
One-to-one training													
Wrightbus Supplier Development Programme	-	-	-	-	-	-	2	6	41	2	6	41	6
In-House/On-site training	15	15	315	39	39	564	12	12	186	66	66	1,065	58
Sub-total	15	15	315	39	39	564	14	18	227	68	72	1,106	60
Total	20	65	423	52	141	792	33	165	524	105	371	1,739	213²⁸

²⁶ Appendix V provides further details on nature of training that was delivered during the period under review.

²⁷ Delivered in conjunction with external providers.

²⁸ The total number of unique businesses will not equal the sum of unique businesses that attended each event on the basis that a business may have attended more than one type of training.

Salient points to note include:

- With the exception of the 8 Step Practical problem solving/A3 training (which was delivered in conjunction with an external provider), all other training was delivered by the PIT;
- There were 1,739 employee attendances from 213 unique businesses at 105 training sessions during the period under review;
- Lean Fundamentals Training was the most frequently delivered ‘one-to-many’ training type (N=21 training sessions) and attracted the largest number of business attendances; and
- The majority of employee attendances (61% - N=1,739) resulted from the delivery of one-to-one in-house/on-site training.

3.4.4 One-to-One Mentoring Projects/Engagements

Table 3.6 provides a summary of the number of businesses that received one-to-one mentoring support during the period under review.

Engagement Type	No. of businesses commencing support		No. of businesses completing support		No. of businesses with support ongoing	
	No.	% ²⁹	No.	%	No.	%
Lean	112	82%	71	63%	41	37%
SCM	18	13%	10	56%	8	44%
Lean and SCM	7	5%	6	86%	1	14%
Total	137	100%	87	64%	50	36%

During consultation, Invest NI indicated that its project monitoring procedures were not as robust as might have preferably been the case during the majority of the period under review (September 2011 to December 2013). This led to a situation whereby, following an initial engagement with a client, some clients would request additional support from the PIT to address issues other than those that were subject to the initial engagement. However, rather than ‘close’ the original project and raise a new RDS, the PIT would (resource permitting) extend the original project.

The Evaluation Team is therefore unable to determine the number of different one-to-one projects that were delivered by the PIT during this period and has instead summarised the PIT’s activity in relation to the number of businesses that received a one-to-one mentoring engagement during the period (see Table 3.6). In doing so, the numbers identified are likely to underestimate the extent of support provided by the PIT during the period under review.

Discussion with the PIT indicates that whilst it formally tried to address this issue (in January 2014) by placing focus on ‘closing’ initial projects and raising new RDS’ for additional projects, it is the PIT’s view that this process is not as robust as it could be.

The Evaluation Team notes that whilst there was not a formal requirement of the PIT to record the number of mentoring days support that was delivered to businesses, the Evaluation Team understands that the PIT commenced recording this information in the last 6 months of the period under review (albeit this information does not appear to have been monitored and centrally collated on a consistent basis). By way of assisting with future Appraisal and Evaluation processes, Invest NI should ensure to monitor and collate this information on a consistent basis.

²⁹ Relates to the proportion of each type of PIS one-to-one engagement.

Salient points to note include:

- 137 businesses commenced one-to-one mentoring engagement during the period. More than four-fifths of these businesses (82% - N=137) received mentoring support to assist them to implement lean thinking and principles within their business, whilst 19 businesses (13% - N=137) received support in the area of supply chain management. The remaining 7 businesses received support in the area of both lean and supply chain management; and
- Just under two-thirds of businesses (63% - N=137) have completed their one-to-one mentoring engagements with the PIT, with the remainder of businesses (37% - N=137) continuing to receive support within their respective areas.

As illustrated in Table 3.7, in addition to the support provided through their respective one-to-one engagements, businesses will typically have received different types of support through the PIS.

Table 3.7: Support received by businesses that completed a one-to-one engagement	
Level of support	Number receiving
One-to-one mentoring support only	0
Visit/contact/advice, benchmarking / best practice networking event, training and one-to-one mentoring support	27
Visit/contact/advice and one-to-one mentoring support	11
Visit/contact/advice, benchmarking / best practice networking event, and one-to-one mentoring support	3
Visit/contact/advice, training and one-to-one mentoring support	36
Benchmarking / best practice networking event,, training and one-to-one mentoring support	5
Benchmarking / best practice networking event and one-to one mentoring support	1
Training and one-to-one mentoring support	4
Total	87

In addition to the activity detailed above, the PIT indicated that it was involved in a range of other activities that have sought to contribute to wider Invest NI and PIT corporate responsibilities (e.g. assessing Local Economic Development (LED) and INTERREG applications, undertaking Business Health Checks and caseworks/appraisals, implementing internal productivity improvements and facilitating external events/presentations.

3.5 Risks

The initial 2008 Demand Stimulation (Innovation Programme) Business Case identified four key risks that could potentially impact upon delivery. These included:

Table 3.8: Risks identified as part of the Demand Stimulation/Innovation Programme	
Risk	Likelihood of risk occurring
Recruitment and retention of quality Advisers	Low
Lack of follow through from awareness to project implementation	Low
Lack of local demand (interventions) due economic downturn	Medium
Lack of demand (interventions) due to economic downturn	Medium

Based upon discussions with Invest NI and the wider research findings, we note the following in relation to each of these risks:

- No issues were faced in recruiting suitably qualified Productivity Improvement Advisers to deliver the Service. Based upon the positive feedback from recipients of support (see Sections 4 and 5), the Evaluation Team concludes that the Advisers recruited by Invest NI are of a high quality.

Notwithstanding this, discussions with Invest NI suggest that the continued employment of two Advisers on fixed-term contracts continues to raise concerns over their retention in the longer term. As part of any continuation of the Service, Invest NI should give consideration to the most appropriate means of retaining these Advisers. Any loss of staff resource is likely to have a detrimental impact on the ability of the PIT to sustain the current level of support and the ability to realise the productivity improvement impacts documented in Section 5.

- As noted in Section 5, 93% (N=92) of businesses indicated that they had wholly (28%) or partially (66%) implemented the advice that had been provided by the PIT. Again, the Evaluation Team suggests that this is a reflection of the quality of support that was delivered by the Service during the period under review.
- Levels of demand for PIS support remained high through-out the period. However, as noted, discussions with Invest NI indicates that a level of latent demand potentially exists (e.g. from businesses operating within service industries) and the Evaluation Team recommends that options for addressing this demand are considered as part of any future Economic Appraisal.

In summary, based on levels of demand for the Service, business' high levels of satisfaction with the Service (see Section 4) and the positive contribution of the Service to the NI economy (see Section 5), the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate.

3.6 Equality Considerations

Section 75 of the Northern Ireland Act 1998 requires that Invest NI shall, "*in carrying out its function relating to Northern Ireland, have due regard to the need to promote equality of opportunity*" between the following nine Section 75 groups:

- Persons of different religious belief, political opinion, racial group, age, marital status or sexual orientation;
- Men and women generally;
- Persons with a disability and persons without; and
- Persons with dependents and persons without.

In addition and without prejudice to these obligations, in carrying out its functions, Invest NI is also committed to promote good relations between persons of different religious belief, political opinion or racial group.

During December 2011, Invest NI undertook a Section 75 Screening of the Productivity Improvement Team and Supply Chain Development support. This exercise concluded that there was no or limited evidence to suggest that:

- The policy was likely to impact on the equality of opportunity for each of the Section 75 equality categories;
- There were opportunities to better promote equality of opportunity for people within the Section 75 equalities categories;
- The policy was likely to impact on good relations between people of different religious belief, political opinion or racial group;
- There were opportunities to better promote good relations between people of different religious belief, political opinion or racial group; and
- The policy was likely to impact upon individuals with multiple identities.

Both Screenings concluded that there was no requirement to undertake an Equality Impact Assessment (EQIA).

The Evaluation Team's review of PIS activity, monitoring information provided during the evaluation process and our discussions with PIS recipients has identified:

- No evidence of higher or lower participation or uptake of different groups;
- No evidence to indicate that different groups had different needs, experiences, issues and priorities in relation to PIS activity;
- No opportunities to better promote equality of opportunity or better community relations by altering the work of PIS;
- No accessibility issues that might run contrary to the Disability Discrimination Act 1995.

On this basis, the Evaluation Team would conclude that whilst the PIS was not specifically targeted at any specific Section 75 categories, it does not appear to have had an adverse impact on any Section 75 group.

3.7 Summary Conclusions

Salient points to note with regards to the Evaluation Team's review of the Service's activity include:

- A total of 459 unique businesses received support through the PIS during the period under review. The intensity of the support that was ultimately delivered was tailored to business' specific needs. For example, monitoring information provided by Invest NI suggests that:
 - The PIT visited and provided advice to 211 NI businesses on 224 separate occasions;
 - 47 businesses received a productivity diagnostic plan;
 - There were 665 employee attendances from 231 unique businesses at the benchmarking / best practice networking events;
 - There were 1,739 employee attendances from 213 unique businesses at 105 training sessions during the period under review; and
 - 137 businesses commenced one-to-one mentoring engagement during the period, the majority of which sought to assist them to implement lean thinking and principles within their business. Just under two-thirds of businesses (63% - N=137) have completed their one-to-one mentoring engagements with the PIT, with the remainder of businesses (37% - N=137) continuing to receive support within their respective areas.
- The Evaluation Team faced a number of difficulties in profiling the activity that was supported during the period under review and would recommend that Invest NI undertakes a review of its procedures for monitoring the activity delivered by the Service and the associated storage of information. Specific recommendations are provided in Section 9.
- It is Invest NI's view, and shared by the Evaluation Team, that a level of latent demand presently exists for PIS support. Whilst the options for addressing this latent demand should be carefully considered, this may require Invest NI to:
 - Undertake additional internal and external awareness raising activities;
 - Utilise external expertise to support the PIT in building credibility and sector-specific knowledge/expertise in those non-manufacturing sectors that the Service has had more limited impact;
 - Provide additional resources e.g. through an expansion in the number of PIAs and/or the wider use of external expertise to support the PIT (as and when required);
 - Review the appropriateness of the range of interventions that are available to support businesses to implement longer-term strategic cultural and change management practices and more formally embed a culture of continuous improvement; and
 - Utilise its wider range of Invest NI supports/interventions to address businesses' productivity improvement needs.

- Given the levels of demand for the Service, business' high levels of satisfaction with the Service and the positive contribution of the Service to the NI economy, the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate; and
- Whilst the PIS was not specifically targeted at any specific Section 75 categories, it does not appear to have had an adverse impact on any Section 75 group.

4. STAKEHOLDERS' SATISFACTION WITH, & VIEWS OF, THE PIS SERVICE

4.1 Introduction

Section 4 provides a detailed analysis of the key findings, emerging from the primary research with businesses in receipt of PIS support, in terms of their satisfaction with, and views of the Service.

Tables 4.1 and 4.2 provide a summary of the PIS participant feedback derived through the primary research, including all associated response rates and confidence intervals.

Table 4.1: Overview of business and employee respondents		
Completed surveys	Business respondents	Employee respondents
Case study visits	6	6
Telephone consultations	37	37
Online survey	52	74
Total	95	117

Table 4.2 reflects the variety of support that was received by the 95 businesses that engaged in the primary research.

Table 4.2: Response rates and confidence levels achieved					
	Unique businesses that received support	No. of respondents		Business Response rate	Business Confidence Interval
		Businesses ³⁰	Employees		
Benchmarking / best practice networking event	231	54	72	24%	+/-11.7%
Training	213	73	94	34%	+/- 9.3%
One-to-one mentoring support (completed support)	87 ³¹	43	43	49%	+/- 10.7%

Please note, at the request of Invest NI, the analysis of businesses' view of, and satisfaction with, the support delivered through the PIS has been limited to those businesses that availed of, at a minimum, training support. The number of questions posed to businesses, and the number of business responses provided, varies depending on the nature of PIS support received by the business and also the method of primary research employed (i.e. a telephone consultation, a case study visit or the online survey). As such, the number of respondents (N) will differ across questions.

³⁰ The number of businesses will not sum to 95 on the basis that businesses could receive more than one type of support.

³¹ Figure reflects the number of businesses that had completed their one-to-one mentoring support at the time of Evaluation. It should be noted that whilst 87 businesses had completed their respective engagement with the PIT, 20 of these businesses were not available for consultation at the time of Evaluation or were not willing to participate; thus the maximum number of businesses available to provide feedback was 67 businesses. As noted in Section 3, the total number of businesses that had received one-to-one mentoring support from the PIT was 137 businesses.

4.3 Marketing and Promotion

Just over four-fifths (81%, N=43 businesses) of respondents suggested that they had been made aware of the PIS as a result of a representative from Invest NI; typically by a member of the PIT or their CE.

Source	%of business respondents
A representative from Invest NI	81%
Other	7%
Invest NI E-zine or newsletter	5%
Through attendance at an event or seminar	5%
Cannot Recall/Not Sure	2%
Invest NI website	-
Local press	-
N=	43

Positively, nearly all (95% - N=43) were in agreement that the PIS was an appropriate solution to address their business' needs at that time.

“Our Invest NI Client Executive spent quite a bit quite of time listening to our needs. He set up a meeting with a Productivity Improvement Adviser and we haven't looked back...the support was exactly what we needed.”

“The Productivity Improvement Team contacted us directly and made us aware of the range of support that we could avail of through its Service. We subsequently attended a Lean Fundamentals Training session and got some one-to-one project support which really helped us to reduce our cost and increase our bottom line.”

4.4 Satisfaction with the Support Provided

Positively, as detailed in Figure 4.1, the vast majority of respondents expressed a high level of satisfaction with the support that was delivered through the benchmarking/best practice networking events and training elements of support. For example, 90% or more of respondents indicated that they were 'very satisfied' or 'satisfied' with the:

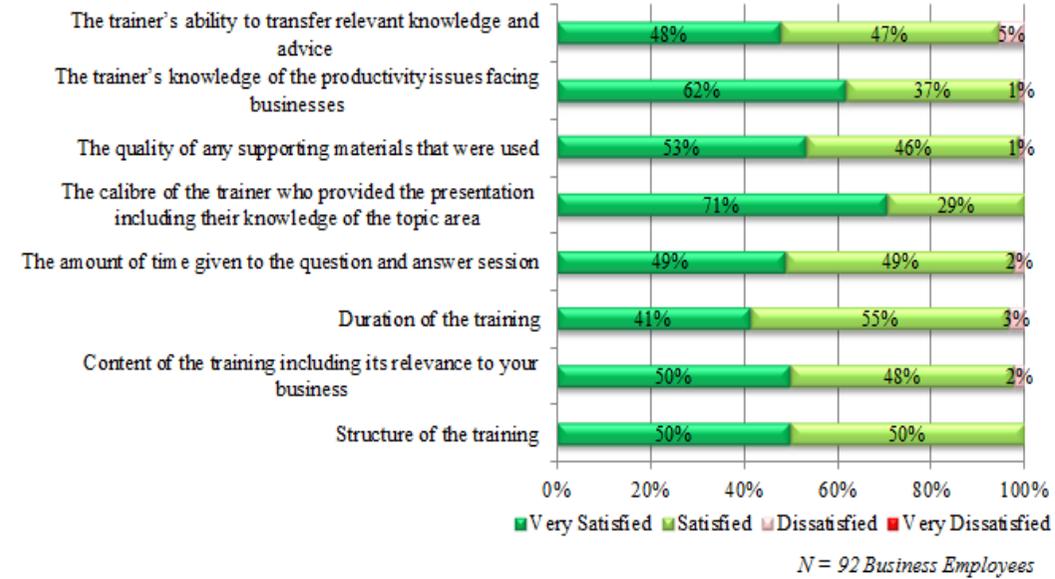
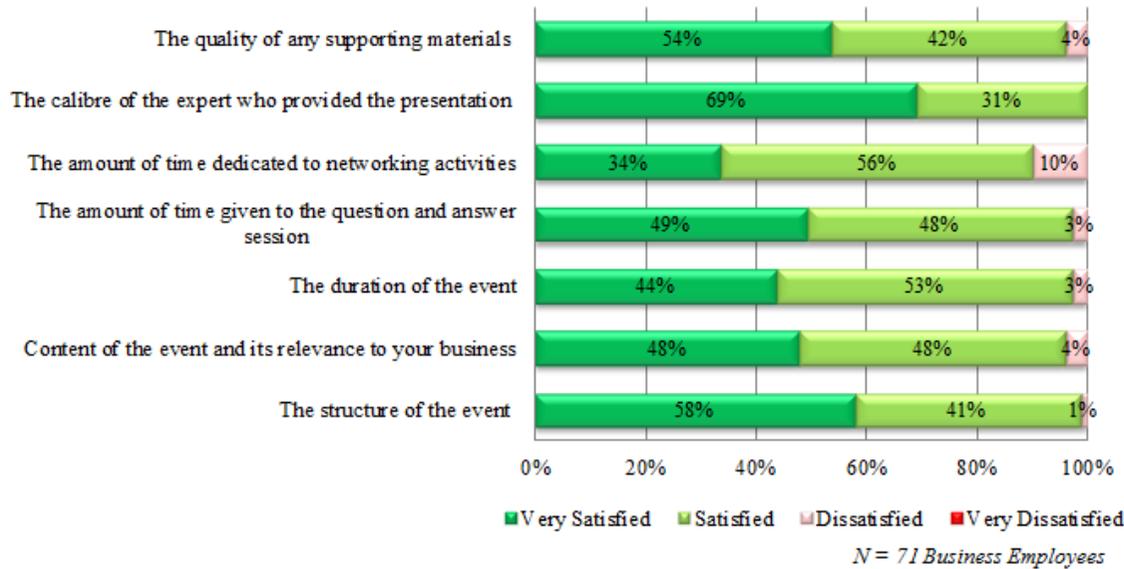
- Calibre of the expert/trainer who provided the support (i.e. the PIT and/or any external expertise that was utilised) including their knowledge of the subject matter and ability to transfer relevant knowledge and advice;
- Duration, structure and content of the support;
- Quality of the supporting materials (e.g. presentations) that were used; and
- Opportunities to network with like-minded businesses and garner additional support (where required).

³² Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

Figure 4.1: Satisfaction with support provided through the PIS³³

Benchmarking/Best Practice Networking Events

Training

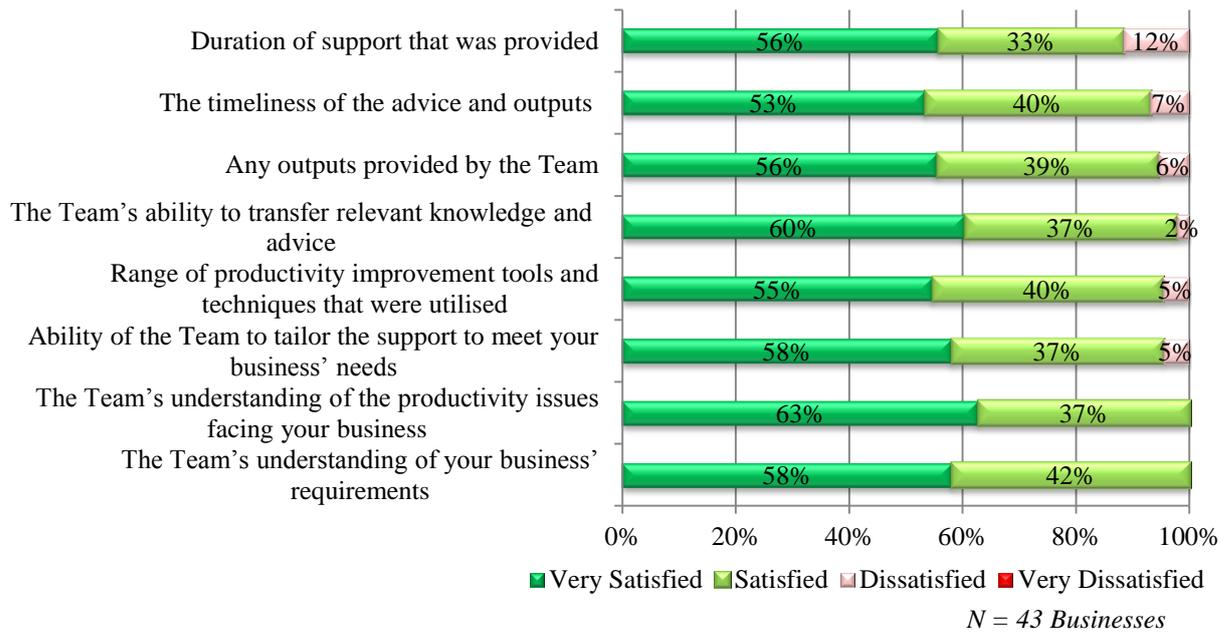


³³ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

Businesses in receipt of one-to-one mentoring support also expressed a high-level of satisfaction with the support that was provided by the PIT in terms of the:

- Team’s understanding of the business’ requirements and the productivity issues it was facing and its ability to subsequently tailor support to address these needs by using a broad range of productivity tools and techniques (e.g. Value Stream Maps, 7 Quality Tools, A3, Six Sigma etc.);
- Quality and timeliness of any advice and outputs that were provided.

One-to-one mentoring support³⁴



“Whilst the event that we attended only lasted a few hours, it was long enough to give us a good understanding of ‘lean’ and how it could potentially be integrated within our business. The event also made us aware of other support through the Service, which we subsequently availed of.”

“The structure and content of the events were excellent. The expert was knowledgeable in the area and gave some practical tips on changes that could be made within the business to make it more efficient.”

PIS Benchmarking/Best Practice Networking Event attendees

“The Lean Fundamentals Training and TPM training sessions that we attended were excellent. It was clear that the Invest NI team were highly experienced and knowledgeable in the area and the trainers provided excellent practical advice that we have subsequently integrated within the business.”

“All support was of a really high quality and the Team spent time at the end to make sure that we had understood what had been discussed.”

PIS Training attendees

“The support that we received from our Advisor was of the highest quality. He took time to get to know the business and the issues that it was facing and then provided us with the knowledge and skills to address these issues. Due to other business priorities we haven’t had the opportunity to make all the changes that are required but I would be confident that we now have the ability to do so at some point in the future”.

“Our Advisor was able to take a fresh objective look at our operations and subsequently spend time with us to develop a plan of attack and give us the skills to implement the changes for ourselves. The changes that have made have already made a big difference.”

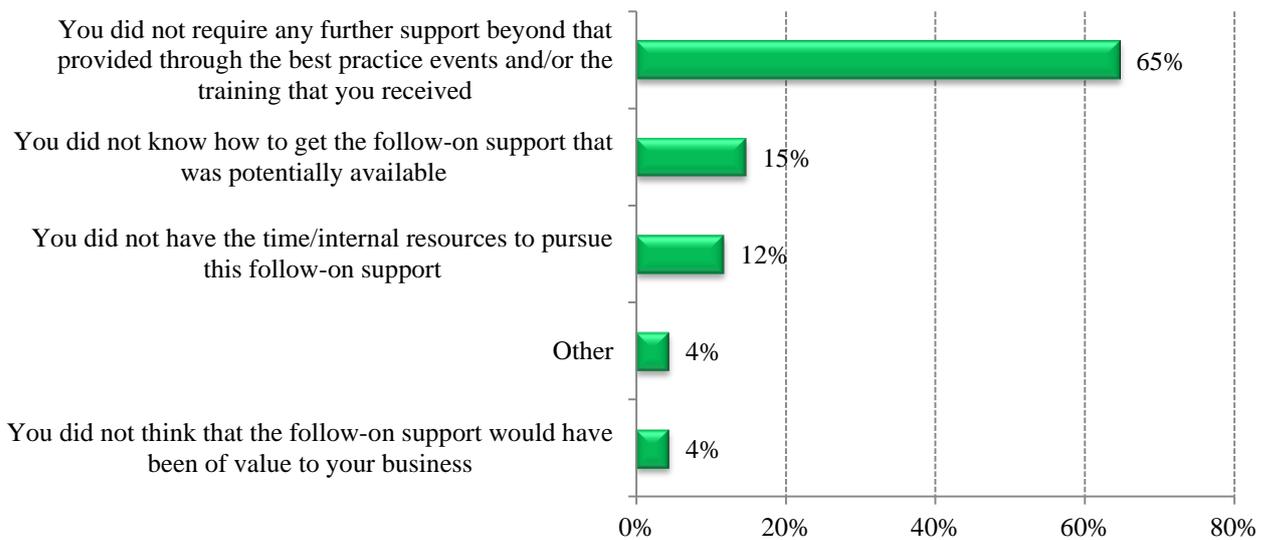
PIS One-to-one mentoring business recipients

³⁴ Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

Almost two-thirds of businesses (65% - N=68) that had attended either a benchmarking/best practice networking event and/or training but had not proceeded on to a more intensive form of support, reported that they had not proceeded on the basis that they did not require any further support³⁵.

However, almost one-fifth of business employee respondents indicated that they had not pursued further support on the basis that they were unaware that other support was available (15% - N=68) or they did not think that the follow-on support would have been of value to their business (despite potentially requiring further support). Based upon this feedback, the Evaluation Team recommends that Invest NI ensure to exploit all opportunities to market that nature of support that is potentially available to businesses.

Figure 4.2: Reasons for not pursuing further support available from the PIT³⁶



N = 68 Business Employees

“We didn’t need the intensive support as we got all the support that was required through the events and lean training that we attended.”

“I wasn’t aware that there was further support available beyond the training. I’d be keen to avail of this if this is still available in the future.”³⁷

PIS Training attendees

4.5 Overall Satisfaction with the Support

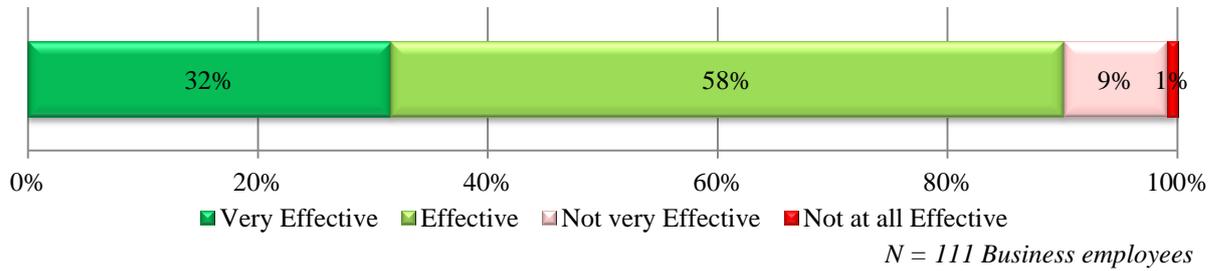
Building on the high levels of satisfaction reported by business recipients in relation to the individual areas of support that were delivered through the Service, the vast majority of respondents (90%) indicated that the support was very effective (32%) or effective (58%) in terms of addressing their business’ needs.

³⁵ It should be noted that benchmarking/ best practice events are not in themselves delivered as a prelude to additional support (albeit businesses can be signposted to additional PIS support) rather they were utilised as a means to bring best practice to the wider business base.

³⁶ Feedback provided by those businesses that engaged in the online survey.

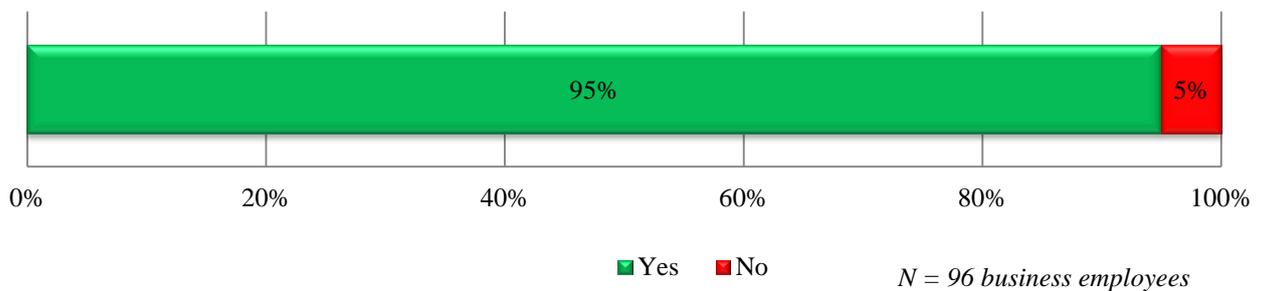
³⁷ As noted previously, the scale and scope of the PIS developed across the period under review. As such, depending on the time when this business received support, there may not have been further support available. It is also noted that this business may not have been eligible to receive further support.

Figure 4.3: Effectiveness of support in addressing businesses' needs³⁸



Aligned to the high level of overall satisfaction with the Service, almost all respondents (95% -N=96) stated that they would recommend the PIS to other businesses who are in need of support to address their operational efficiency and productivity needs.

Figure 4.4: Willingness to recommend the Service³⁹



“Overall, I’m delighted with the support that we received. We received high quality support that we have been able to embed with limited fuss within our business...I would be happy to recommend the Service to others seeking to improve their operational efficiency.”

“I have already recommended the Service to two other businesses. Both have got support from Invest NI and were equally happy with the support that they received.”

PIS Recipients of support

4.6 Willingness to pay for support

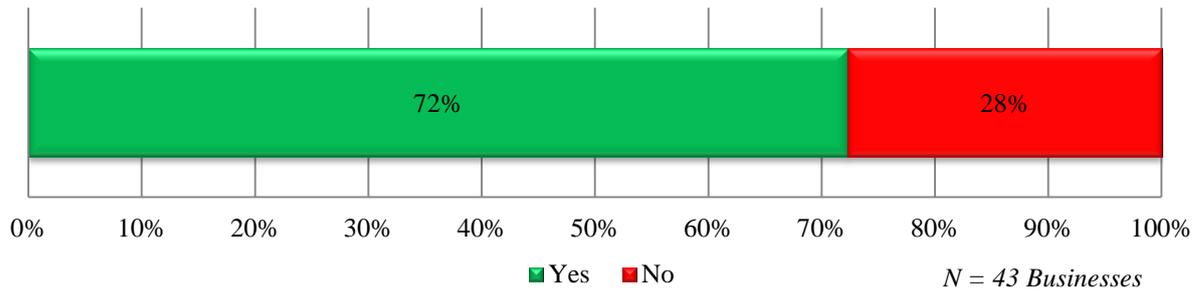
Reflecting the quality of the support received and subsequent impact that it made on recipients of support, almost three-quarters of businesses (72% - N=43) indicated that they would be willing to pay for the support in the event that they required it again in the future⁴⁰.

³⁸ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

³⁹ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

⁴⁰ This question was only asked to those that received one-to-one mentoring support. A number of these business may also have attended a benchmarking/best practice networking event and/or availed of training support

Figure 4.5: Willingness to pay for the support⁴¹



Businesses that were willing to quantify the level that they would be prepared to pay (N=15) indicated that they would be willing to pay, on average:

- £75 per business attendance at a training event (the price ranged from £25 per business to £150 per business); and
- £800 for a one-to-one engagement (the price ranged from £100 per business to £1,100 per business), which is broadly equivalent to c. £100 - £160 per day of mentoring support⁴².

Whilst acknowledging the quality of the support provided through the benchmarking/best practice networking events, businesses indicated that they would be less likely to pay for these events on the basis that these were viewed to be less intensive introductory sessions to productivity improvement activities and the more intensive support available through the PIS.

For those businesses that were not willing to pay for similar support in the future (28% - N=43), these businesses indicated that this was more a reflection of the ongoing challenging economic environment in which they operate, rather being dissatisfied with the quality of the support that was provided to them.

4.7 Businesses' Recommendations for Improvement

Given the reported high levels of satisfaction, only a small number of businesses (N=15⁴³) made recommendations to improve the Service. These recommendations included:

- Improving the promotion and marketing of the full range of supports that are available through the Service (N=8);
- Providing additional support to businesses to assist the implementation of the productivity improvement measures within the business (N=6);
- Following up with businesses after a period (e.g. six months) to evaluate its progress towards implementing the changes and providing additional mentoring support (where necessary) (N=4); and
- Tailoring support for businesses operating in different sectors (N=4).

"I wasn't aware that support was available beyond the training that I attended. Business should be made better aware of this support."

"I felt that the support was too focused on supporting manufacturing businesses. It would be useful if sessions could be provided that were tailored to different sectors."

PIS Recipients of support

⁴¹ Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

⁴² On the basis that Invest NI indicated that between 5 and 8 days of mentoring support would typically have been made provided to businesses in receipt of one-to-one mentoring support.

⁴³ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

4.9 Summary Conclusions

The preceding analysis suggests that businesses are, on the whole, highly satisfied with the support provided through the PIS. Specifically, the feedback from businesses in receipt of PIS support during the period under review suggests that (amongst other things):

- The content, structure and duration of support is, on the whole, appropriate to meet the needs of businesses;
- The PIT, and any supporting external expertise, transferred relevant knowledge and advice in a timely manner; and
- Recipients of one-to-one mentoring support welcomed the tailored nature of support that was provided and the range of practical productivity improvement tools that were adopted by the PIT.

Reflecting the quality of the support received and subsequent impact that it made on recipients of support, the vast majority of businesses suggested that the support was effective in meeting their needs, would be willing to recommend to others and would be willing to pay for the support if they required the service in future.

5. IMPACT OF THE PIS SERVICE

5.1 Introduction

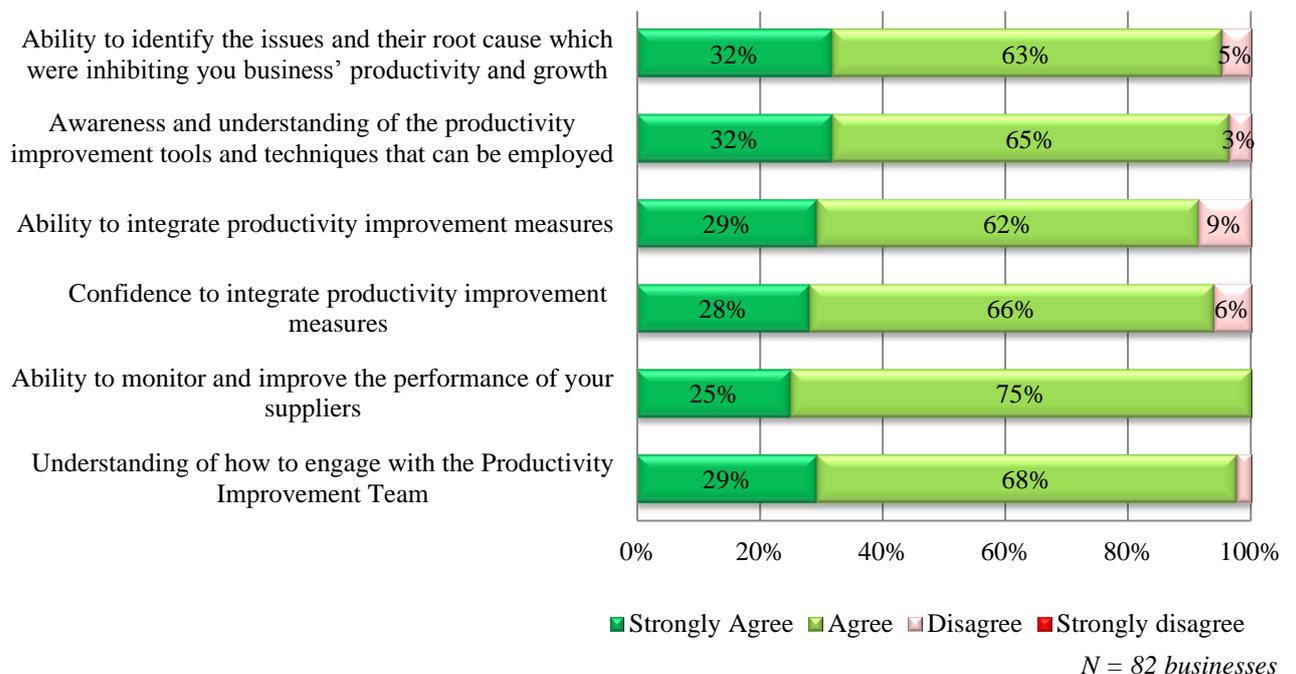
Section 5 considers the impact that the receipt of PIS support had on recipient businesses⁴⁴.

5.2 Businesses’ Ability to Integrate Productivity Improvement Measures

The vast majority of businesses (91%+ - N=82) were in agreement that the support provided through the PIS had provided them with the:

- Ability to identify the issues that were inhibiting their productivity;
- Understanding of the productivity improvement tools and techniques that can be employed to improve their productivity; and
- Ability and confidence to ultimately integrate the productivity tools and techniques within the business.

Figure 5.1: To what extent would you agree that the support has increased your/your business’...⁴⁵



“The support has given me a better understanding of the productivity inefficiencies that were holding the business back and the actions that should be taken to address these issues. The advice provided by the Invest NI Adviser gave me the confidence and ability to take forward the business improvement activities and the business is starting to see the results.”

“I definitely feel that I now have the confidence and ability to identify and address productivity issues as and when they arise.”

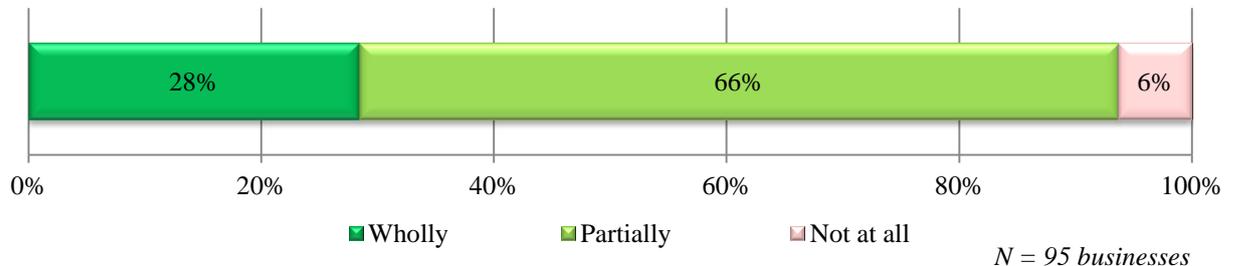
PIS Recipients of support

⁴⁴ The number of questions that respondents will have provided feedback on will have varied depending on the nature of support that it received and the associated method of primary research that it engaged in (i.e. a telephone consultation, a case study visit or the online survey). As such, the number of respondents (N) will differ between questions.

⁴⁵ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

Reflecting the high quality of the support that was provided through the service, 93% of businesses indicated that they had wholly (28%) or partially (66%) integrated the productivity improvement advice and knowledge within the business.

Figure 5.2: Integration of advice, knowledge and expertise⁴⁶



The vast majority of businesses (90% - N=69) who had not integrated the advice and knowledge (N=6), or had only partially integrated it (N=63), suggested that a lack of internal human, financial resources and/or other business priorities had prevented them from integrating the support that had been provided. Positively, all of these business (90%) anticipated (resources permitting) integrating the support at some point in the future. The remaining 10% of businesses, were of the view that they were unlikely to integrate the support on the basis that they perceived that the support was not the most appropriate solution to address their needs.

“Unfortunately due to other business priorities and a lack of manpower, we haven’t been able to make all the changes that our Adviser suggested. It’s a work in progress and we hope to make the rest of the improvements soon.”

“Our internal productivity improvement champion has been diverted to other business priorities over the last number of months and just hasn’t had the time to finish the good work that he had started”.

“We have made all the improvements recommended by the Team and are reaping the rewards...our costs are down 10% since last year as a result of the changes.”

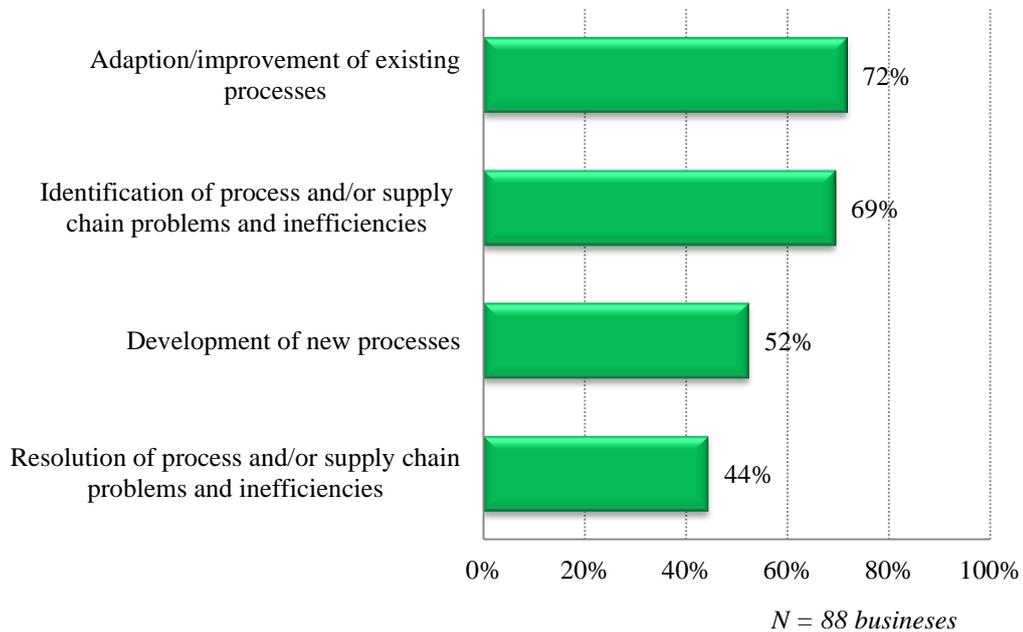
PIS Recipients of support

Positively, for those businesses that had wholly or partially implemented the advice, knowledge and expertise, the majority indicated that this had resulted in the:

- Adaption/improvement of existing processes (72% - N=88); and/or
- Identification of process and/or supply chain problems and inefficiencies (69% - N=88); and/or
- Development of new processes (52% - N=88).

⁴⁶ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

Figure 5.3: Businesses' achievement of productivity outputs⁴⁷



5.3 Activity Deadweight/Additionality

The net impact of Invest NI's PIS (i.e. its additionality) relating to businesses' decision to engage in similar activities to improve their productivity, or where relevant, to undertake these activities to a similar scale and/or within a similar timescale, can only be measured after making allowances for what would have happened in the absence of the support. That is, the support must allow for deadweight. 'Deadweight' refers to activity that would have occurred without the intervention i.e. the PIS support.

Appendix VI provides a detailed overview of the Evaluation Team's deadweight/additionality calculations. However, in summary, we have calculated levels of activity deadweight using a 'participant self-assessment' methodology. The methodology utilises a series of questions⁴⁸ within the participant survey and assigns weightings (agreed in conjunction with DETI's Economist Team) to the individual responses.

The questions sought to ascertain respondents' views on the impact that the receipt of PIS support had on their decision to take forward the productivity improvement activities. Options included:

- Whether they would have taken forward the activities at all;
- Whether they would have taken forward the activities but on a reduced scale;
- Whether they would have taken forward the activities, but at a later date;
- Whether they would have taken forward the activities but on a reduced scale and at a later date; and
- Whether they would have taken forward the activities at the same scale and within the timescale regardless of the PIS.

⁴⁷ Responses will not sum to 100% on the basis that businesses were able to select more than one response. Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

⁴⁸ In-line with DETI guidance, these questions focused on identifying the likelihood that the individual would have undertaken the productivity improvement activities, what scale of activities would have been undertaken in the absence of support (if relevant) and how much later would the activities would be undertaken (if relevant).

Depending on the response provided, a level of additionality/deadweight was applied. For example, a respondent who indicated that they definitely would not have taken forward the productivity improvement activities in the absence of the PIS would have been assigned a level of 100% additionality (i.e. full additionality). Conversely, a respondent who indicated that they definitely would have taken forward the activities within the same timescale regardless of the receipt of the PIS would have been assigned a level of 100% deadweight (i.e. no additionality). Other responses were given a weighting somewhere between these two extremes (i.e. a level of partial additionality/deadweight).

The outcomes of the analysis are provided below:

Table 5.1: Impact Additionality/deadweight (N=43)⁴⁹	
Deadweight	Additionality
39%	61%

It is the Evaluation Team’s view that the calculated levels of activity additionality should be viewed positively.

5.4 Nature and Extent of Market Failure

Subsection 5.4 examines the factors that would have prevented businesses from undertaking the productivity improvement activities or undertaking them in the same manner (i.e. at the same scale or in the same timescale) independent of the support provided through the PIS. In doing so the analysis utilises a methodology agreed in conjunction with DETI and Invest NI to quantify the nature and extent of market failure⁵⁰.

Based on the feedback, the factors that would have prevented businesses from undertaking the productivity improvement activities or taking them forward in the same manner included:

Table 5.2: Factors preventing businesses from undertaking the productivity improvement activities that were supported by the PIS, or undertaking them in the same manner	
Need for support	% of businesses
The business lacked the knowledge required to develop and implement the productivity improvement activities	44%
Without knowing more about the potential benefits, you would not have considered undertaking the productivity improvement activities	33%
The business was not aware of external expertise that could offer the support required to address your needs	16%
The business would have been unwilling to fund the external expertise to provide the support required	12%
The business could not have afforded the external expertise to provide the support required	12%
Other business priorities would have prevented the business from taking forward the activities	9%
Project was too risky to take on without financial support	2%
N=	43⁵¹

⁴⁹ By way of maintaining the validity of responses, this question was only asked to businesses that took part in the telephone consultations or case study visits.

⁵⁰ Given the fact that the analysis seeks to examine the factors that would have prevented businesses from undertaking the productivity improvement activities or undertaking them in the same manner (i.e. at the same scale or in the same timescale) independent of the support provided through the PIS, the analysis is intrinsically linked to the activity additionality/deadweight analysis detailed in subsection 5.3.

⁵¹ By way of maintaining the validity of responses, this question was only asked to businesses that took part in the telephone consultations or case study visits. Responses will not sum to 100% on the basis that businesses were able to select more than one response.

Based on these findings, the Evaluation Team was able to undertake an analysis of the degree to which market failure played a role in businesses' decision to take forward the productivity improvement activities. This analysis involved categorising a business' motives for participation based on:

- **No Market failure** - The business felt that the productivity improvement activities 'definitely would have happened anyway' or stated that they would not have undertaken the activities because they:

- Would not have be able to afford the external expertise without financial support; and/or
- Would have been unwilling to pay the cost of using the external expertise without financial support; and/or
- Other business priorities would have prevented the business from taking forward the activities.

- **Partial Market failure** - The business' decision to undertake the productivity improvement activities was due to **both** non-market failure and market failure factors. That is to say, they would not have undertaken the activities or would not have undertaken them in the same manner (i.e. to the same scale and/or within the same timescales), because they:

- Would not have be able to afford the external expertise without financial support; and/or
- Would have been unwilling to pay the cost of using the external expertise without financial support; and/or
- Other business priorities would have prevented the business from taking forward the activities; **and**
- The business lacked the knowledge required to develop and implement the productivity improvement activities (market failure – asymmetric information); and/or
- Without knowing more about the potential benefits, the business would not have considered undertaking the productivity improvement activities (market failure – asymmetric information) and/or
- The business was not aware of the external expertise that could offer the support required to address your business needs (market failure – asymmetric information); and/or
- Project was too risky to take on without financial support (market failure – risk aversion due to asymmetric information).

- **Full Market Failure** - The business' decision to undertake the productivity improvement activities was solely due to market failure factors (asymmetric information) i.e.:

- The business lacked the knowledge required to develop and implement the productivity improvement activities (market failure – asymmetric information); and/or
- Without knowing more about the potential benefits, the business would not have considered undertaking the productivity improvement activities (market failure – asymmetric information) and/or
- The business was not aware of the external expertise that could offer the support required to address your business needs (market failure – asymmetric information); and/or
- Project was too risky to take on without financial support (market failure – risk aversion due to asymmetric information).

The results of this analysis are presented in the table below:

Table 5.3: Impact of market failure	
	No. of businesses
No Market Failure	26%
Partial Market Failure	14%
Full Market Failure	60%
Total (N=43)⁵²	100%

In summary, the analysis indicates that almost three-quarters of businesses (74% - N=43) would not have taken forward the productivity improvement activities (or would have taken the activities forward to a different scale and/or timescale) due to full (60%) or partial market failure factors (14%) primarily relating to asymmetric information.

⁵² Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

5.5 Achievement of Operational Impacts

As detailed in Table 5.4, the PIS supported businesses to achieve a range of quantifiable and non-quantifiable operational impacts.

Table 5.4: Achievement of productivity-related outcomes ⁵³						
Productivity Outcomes	N	% of business deriving benefit	Businesses able to quantify the impact			
			N	% Range	% average change	% median change
Increased levels of production/outputs/throughput	88	51%	29	5% - 100%	20%	29%
Reduced cycle/process/lead times	88	49%	22	8% - 50%	19%	22%
Reduction in levels of waste	88	47%	21	2% - 50%	12%	21%
Improved your on-time delivery performance	88	42%	17	1% - 100%	22%	17%
Improved your in-full delivery performance	88	34%	17	1% - 100%	22%	17%
Reduced inventory/work in progress	88	30%	13	2% - 30%	13%	13%
Reduced changeover time	88	26%	15	5% - 50%	23%	15%
Increased inventory turnover/higher stock turn rates	88	18%	9	2% - 50%	20%	9%
Improved supplier on-time delivery performance (supply chain engagements only)	4	1 business	1 business	1 business	1 business	1 business
Improved supplier in-full delivery performance (supply chain engagements only)	4	1 business	1 business	1 business	1 business	1 business
Improved employee engagement, morale and communication with employees	88	61%				
Enhanced utilisation of human capital i.e. manpower	88	60%				
Increased customer satisfaction	88	56%				
Enhance management capabilities	88	53%				
Increased product or service quality	88	48%				
Enhanced utilisation of physical capital i.e. machines	88	43%				
Increased space and/or more effective space utilisation	88	34%				
Safer working environment	88	33%				
Improved communication with suppliers (supply chain engagements only)	4	2 businesses				

⁵³ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

From a quantifiable perspective, key operational outcomes achieved by one-third or more of businesses included:

- Increased levels of production/outputs/throughput (51%);
- Reduced cycle/process/lead times (49%);
- Reduction in levels of waste (47%);
- Improved on-time delivery performance (42%); and
- Improved ‘in-full’ delivery performance (i.e. all of the order arriving at once rather than in a more piecemeal fashion) (34%).

Businesses that achieved these benefits, and were able to quantify the impact of the changes, indicated that these metrics had changed by, on average, between 12% and 20%.

Non-quantifiable outcomes identified by more than half of businesses included:

- Improved employee engagement, morale and communication with employees (61%);
- Enhanced utilisation of human capital i.e. manpower (60%);
- Increased customer satisfaction (56%); and
- Enhance management capabilities (53%).

By way of capturing the impact made by the support on fostering operational impacts and outcomes, the PIT completes a one-to-one project completion form in conjunction with the client company. However, the Evaluation Team’s review of monitoring information (as detailed within the Balanced Scorecards) indicates that, in a number of cases, there is a lack of clarity in relation to nature of metrics that have been quantified and recorded (e.g. whether the number relates to increased turnover, cost savings etc.).

By way of assisting with the measurement of the Service’s impact, the Evaluation Team recommends that greater effort is placed on recording the operational impacts and outcomes that have been achieved at an individual business level. This will require the PIT to seek feedback from the business after a suitable period has passed to enable the business to realise any impacts and outcomes. By way of assisting with this exercise, consideration should be given by the PIT to establishing (where possible) quantified baselines in relation to key operational impact (e.g. levels of output cycle times, changeover times, delivery performance) and business outcome (e.g. turnover, costs) metrics. The nature of outcome metrics should be clearly articulated within all monitoring information to assist with future evaluations.

5.6 Achievement of Business Outcomes

5.6.1 Calculation of gross impacts

As noted in Section 1, measures of labour productivity focus on the value of output produced by workers (i.e. GVA/FTEs). Thus any change in those metrics that impact upon GVA (including business’ turnover and/or costs) and employment will have a tangible impact on the level of labour productivity. Table 5.5 provides a summary of the impact that the support had on each of these business outcomes.

Change in metric	Revenue/sales	Costs	Employment
Increased	43%	-	14%
Decreased	-	44%	-
Stayed the Same (but the support helped ensure that the turnover and/or employment did not decline and/or costs rise)	10%	8%	10%
Stayed the Same (the support had no impact)	47%	48%	76%

Salient points to note include:

- Circa two-fifths of businesses indicated that their sales had increased (43% - N=88) and/or costs decreased (44% - N=88) as a result of the support that was received;
- Almost one-fifth of businesses indicated that their employment had increased; and
- 10% of business suggested that whilst their turnover and/or employment had stayed the same the support had helped ensure that their turnover and/or employment did not decline.

A quantified summary of the impact of the support on each of these metrics is provided in the following subsections.

Revenue/Sales

Of the 36 businesses that had stated that they had increased their revenue, 26 of these had received one-to-one mentoring support⁵⁵. The remaining 10 businesses had attended a benchmarking/best practice networking event and/or had attended training; however these businesses were not able to quantify the impact that the support had had on their revenue/sales. For prudence, the Evaluation Team has therefore excluded these businesses from the analysis and has instead based that analysis solely on those businesses that have commenced and completed, at a minimum, a one-to-one engagement with the PIT⁵⁶.

Of the 26 businesses that had received one-to-one mentoring support and stated that they had derived an increase in revenue, 15 businesses stated that they were willing and able to quantify the impact on their annual revenue. These businesses suggested that their annual revenue had increased by c. £4.6m for, on average, a two year period. The total increase in revenue derived by these businesses was c. £8.9m since receiving support from the PIS.

⁵⁴ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey. Proportions relate to those businesses that were willing and able to provide a response in relations to any change in key outcome metrics.

⁵⁵ The majority of these businesses had also attended a benchmarking/best practice networking event and/or had attended training.

⁵⁶ Please note, at the request of Invest NI, the Evaluation was requested to solely focus on those businesses that had commenced and completed their respective one-to-one engagement during the period under review i.e. the 87 of the 137 businesses.

It should however be noted that this total is heavily skewed by two businesses that reported increasing their sales by £2m each⁵⁷ (i.e. £4m in total). For prudence, the Evaluation Team excluded these outliers during the grossing up analysis and subsequently re-included these to calculate the potential total increase in the revenue of the survey sample. This analysis suggests that PIS may have supported the 26 businesses to derive c £13m in increased revenue (Table 5.6).

Table 5.6: Increase in revenue in the survey sample of businesses receiving one-to-one mentoring support	
No. of businesses completing one-to-one support in the survey sample	43 ⁵⁸
No. of businesses increasing their turnover	26 (60%)
No. of businesses willing and able to quantify the increase in revenue	15
Annual increase in revenue (N=15)	£4,607,300
Total increase in revenue in businesses able to quantify the change (over an average of c. 2 years)	£8,912,100
Total increase in revenue excluding 2 outliers (i.e. N=13)	£4,912,100
Average increase in revenue excluding outliers (i.e. N=13)	£377,854
Total increase in the revenue within survey sample (excluding outliers N=24)	£9,068,496
Total increase in the revenue within survey sample (including outliers N=26)	£13,068,496⁵⁹

Based upon the feedback from businesses that were able to quantify the markets in which they had achieved the additional revenue from, Cogent's analysis suggests that c. £6.5m (or 50%) of the sales impacts was achieved in NI markets, c. £3.5m (or 27%) was achieved in GB markets and c. £3m (or 23%) was achieved in export markets (Table 5.7).

Table 5.7: Sales impact by market for survey sample		
	% of sales impact by market	Value of sales impact by market
NI Market	50%	£6,534,248
GB Market	27%	£3,528,494
Export markets (outside UK)	23%	£3,005,754
Total	100%	£13,068,496

The application of the same methodology to the total number of businesses that commenced and completed a one-to-one engagement (i.e. N=87) indicates that the **PIS may have supported businesses to derive c. £22.9m in increased revenue** (Table 5.8).

Table 5.8: Increase in revenue in the population of businesses receiving one-to-one mentoring support	
Total no. of businesses completing one-to-one support	87
Potential no. of businesses increasing their turnover	52 (60%)
Average increase in revenue excluding outliers	£377,854
Total increase in revenue within survey sample (excluding outliers N=50)	£18,892,700
Total increase in the revenue within survey sample (including outliers N=52)	£22,892,700

Table 5.9: Sales impact by market for survey sample		
	% of sales impact by market	Value of sales impact by market
NI Market	50%	£11,446,350
GB Market	27%	£6,181,029
Export markets (outside UK)	23%	£5,265,321
Total	100%	£22,892,700

⁵⁷ These businesses reported increasing their revenue by £1m per annum over a two year period (i.e. £2m each).

⁵⁸ Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

⁵⁹ Calculation involves excluding the two outliers and grossing the average increase in revenue for 24 businesses and the re-including the £4m for the two outliers.

Costs

Of the 37 businesses that had stated that they had decreased their costs, 24 of these had received one-to-one mentoring support⁶⁰. The remaining 13 businesses had attended a benchmarking/best practice networking event and/or had attended training; however these businesses were not able to quantify the impact that the support had had on their costs. For prudence, the Evaluation has again excluded these businesses from the analysis and has instead solely based the analysis on those businesses that have commenced and completed, at a minimum, a one-to-one engagement with the PIT.

Of the 24 businesses that had received one-to-one mentoring support and stated that they had reduced their costs, 16 businesses stated that they were willing and able to quantify the impact on their annual costs. These businesses suggested that their annual costs had decreased by c. £2.88m for, on average, a 2.1 year period. The total decrease in costs that had been derived by these businesses was c. £6.5m since receiving support from the PIS.

It should however be noted that this total is heavily skewed by two businesses that reported decreasing their costs by £3,826,400⁶¹. For prudence, the Evaluation Team excluded these outliers during the grossing up analysis and subsequently re-included these to calculate the potential total decrease in the costs of the survey sample. This analysis suggests that PIS may have supported the 24 businesses to derive c £8m in reduced costs (Table 5.10).

Table 5.10: Decrease in costs in the survey sample of businesses receiving one-to-one mentoring support	
No. of businesses completing one-to-one support in the survey sample	43 ⁶²
No. of businesses decreasing their costs	24 (56%)
No. of businesses willing and able to quantify the decrease in costs	16
Annual decrease in costs	£2,875,567
Total decrease in costs in businesses able to quantify the change	£6,496,800
Total decrease in costs excluding 2 outliers (i.e. N=14)	£2,670,400
Average decrease in costs excluding outliers (i.e. N=14)	£190,743
Total decrease in costs within survey sample (excluding outliers N=22)	£4,196,346
Total decrease in costs within survey sample (including outliers N=24)	£8,022,746

The application of the same methodology to the total number of businesses that commenced and completed a one-to-one engagement (i.e. N=87) indicates that the **PIS may have supported businesses to derive c. £12.8m in reduced costs** (Table 5.11).

Table 5.11: Decrease in costs in the population of businesses receiving one-to-one mentoring support	
Total no. of businesses completing one-to-one support	87
Potential no. of businesses decreasing their costs	49 (56%)
Average decrease in costs excluding outliers	£190,743
Total decrease in costs within survey sample (excluding outliers N=47)	£8,964,921
Total decrease in costs within survey sample (including outliers N=49)	£12,791,321

⁶⁰ The majority of these businesses had also attended a benchmarking/best practice networking event and/or had attended training.

⁶¹ One business had reduced its costs by c. £870k per annum over three years and the other business had reduced its costs by £613k per annum over a two year period.

⁶² Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

Employment

Of the 12 businesses that had stated that they had increased their employment, 9 of these had received one-to-one mentoring support⁶³. The remaining 3 businesses had attended a benchmarking/best practice networking event and/or had attended training; however these businesses were not able to quantify the impact that the support had had on their employment. For prudence, the Evaluation has again excluded these businesses from the analysis and has instead solely based the analysis on those businesses that have commenced and completed, at a minimum, a one-to-one engagement with the PIT.

The 9 businesses that had received one-to-one mentoring support and stated that they had increased their employment as a result of PIS support suggested that they had increased their employment by 44 FTE employees (or c. 5 employees per business) (Table 5.10). The feedback from businesses indicated that 34 of these jobs (77%) had salaries in excess of the current NI median (of £18,933).

Table 5.12: Decrease in costs in the survey sample of businesses receiving one-to-one mentoring support	
No. of businesses completing one-to-one support in the survey sample	43 ⁶⁴
No. of businesses increasing their employment	9 (21%)
No. of businesses willing and able to quantify the increase in employment	9
Total increase in FTE jobs	44
Number of jobs with salaries in excess of the NI median	34 (77%)
Average increase in FTE jobs	5

The application of grossing up analysis to the total number of businesses that commenced and completed a one-to-one engagement (i.e. N=87) indicates that **the PIS may have supported the creation of 90 FTE jobs** (Table 5.11). Potentially, 69 of these jobs had salaries in excess of the NI median.

Table 5.13: Increase in employment in the population receiving one-to-one mentoring support	
Total no. of businesses completing one-to-one support	87
Potential no. of businesses increasing their employment	18 (21%)
Average increase in FTE jobs	5
Total increase in employment	90
Number of jobs with salaries in excess of the NI median	69

Gross GVA impacts

By way of calculating the gross GVA impacts associated with the PIS, the Evaluation Team applied the current average NI sectoral GVA (of 29.7%⁶⁵) to the calculated increase in turnover and added the calculated decrease in costs that were potentially derived by businesses⁶⁶.

Table 5.14: Calculation of Gross GVA			
	Monetary Impact	Conversion ratio	Gross GVA
Increase in revenue	£22,892,700	29.7%	£6,799,132
Decrease in costs	£12,791,321	N/A	£12,791,321
Total	£35,684,021		£19,590,453

Based on the preceding findings, the Evaluation Team's analysis suggests that the support delivered by the PIS may have contributed £19.6m in gross GVA to the NI economy.

⁶³ The majority of these businesses had also attended a benchmarking/best practice networking event and/or had attended training.

⁶⁴ Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

⁶⁵ Source: Northern Ireland Annual Business Inquiry 2012 (December 2013).

⁶⁶ GVA can be calculated by summing business EBITDA (calculated by summing operating profit, depreciation and amortisation) and wages and salaries. The analysis assumes that a pound of cost saving is equivalent to a pound of GVA on the basis that it will typically provide a direct impact on a business' operating profits. The approach to calculating GVA impacts was agreed in conjunction with Invest NI.

Gross labour productivity impacts

The Evaluation Team’s analysis suggests that the PIS may have contributed to increasing productivity (GVA/FTEs), on average, by £5,533 per FTE.

Table 5.15: Gross Productivity impacts (N=23) ⁶⁷		
Increase in GVA	Total FTEs	Productivity
£8,614,332	1,557	£5,533

On the basis that businesses suggested that they had derived their respective turnover and costs benefits for, on average, c. 2 years suggests that the **average annual productivity impact was £2,767 per FTE**.

Other benefits derived

Positively, business indicated that they had derived a number of other benefits as a result of the support provided through the PIS, with the most frequently cited including:

- Increased workforce skills (84%) both by those that had directly received the support and through the subsequent transfer of knowledge between employees (66%); and/or
- Increased competitiveness (66%); and/or
- Increased sustainability (60%); and/or
- The safeguarding of jobs (37%). The feedback from businesses indicates that the support contributed to safeguarding, at a minimum, 330 FTE jobs.

Table 5.16: Other impacts derived by businesses in receipt of PIS support (N=82)	
Impact	% of businesses realising benefit ⁶⁸
Increased the skills of business’ workforce	84%
Transfer of knowledge between businesses or individuals	66%
Increased competitiveness	66%
Increased sustainability	60%
Other	49%
Impact on your business’ survival	46%
Safeguarding of jobs	37%

In addition, based upon the positive outcomes that had been achieved, almost half of businesses (46% - N=82) indicated that the support provided through the PIS had contributed to embedding a cultural shift towards continuous productivity improvement across their respective organisations.

“Following the attendance of training, I was able to relay the information to other staff members who fed this down to their teams”.

“Prior to receiving support, I think our company was a bit entrenched in its operational practices...there was a mind-set that ‘we’ve done well so far, so why do we need to change?’ However, those that were resistant to change have been won-over by the results that have been delivered and I think that they would be happier to make similar changes in future if they were required”.

“You can’t underestimate the challenge of trying to make change, especially with those that are set in their ways. This support has definitely helped and I hope that further changes that will be made as a result of the support will foster changes in mind-sets from senior through to operational levels.”

PIS Recipients of support

⁶⁷ Please note that the number of respondents reflects the number of businesses that were willing and able to provide both GVA and employment impacts. Feedback provided by those businesses that engaged in the telephone consultations or case study visits.

⁶⁸ Responses will not sum to 100% on the basis that businesses were able to select more than one response. Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

Anticipated impacts

In addition to the actual outturns achieved to date, businesses also provided an indication of the aggregate anticipated turnover, costs savings and employment impacts that they anticipate occurring over the next three years as a result of the PIS support (Table 5.17).

Table 5.17: Anticipated business outturn over the next three years (N=24)		
Turnover	Cost Savings	Employment
£20,434,100	£6,977,100	148

Consultation with businesses indicated that they anticipated the above impacts to be realised on the basis that they would continue to realise benefits as a result of the operational efficiencies that had been embedded within their respective organisations⁶⁹.

Whilst caution should be taken in terms of placing reliance on the above figures (given their speculative nature), any positive change in the above metrics will reflect positively on the return-on-investment and associated VFM provided by the Service during the period under review.

5.6.2 Calculation of Net Additional Impacts

Impact Additionality

The net impact of the PIS support (i.e. its additionality) on recipient businesses' sales, costs, employment or other outturns can only be measured after making allowances for what would have happened in the absence of the intervention. That is, the impact must allow for deadweight. 'Deadweight' refers to outcomes that would have occurred without the intervention.

Please note that given that most evaluations are undertaken some time after an activity is implemented, the Evaluation Team does not consider it appropriate to apply 'activity additionality' to impact measures. The reason being that, in the intervening period any variety of factors (and support interventions) may have had an impact on a business. Therefore, an impact additionality measure was used to ascertain the level of deadweight/additionality relating to business outturns.

The analysis of individual survey responses and application of the same 'participant self-assessment' methodology used to assess 'activity additionality', results in the following levels of 'impact deadweight and additionality'⁷⁰:

Table 5.18: Impact Additionality/deadweight⁷¹	
Deadweight	Additionality
41%	59%

The Evaluation Team notes that the level of 'impact additionality' (59%) is broadly the same as the level of 'activity additionality' (61%) suggesting that the Service has been of equal importance in encouraging businesses to undertake the productivity improvement activities as it has in supporting them to ultimately realise any business related outcomes.

Positively, as detailed in the Table 5.19, the Evaluation Team's benchmarking of the Service's level of 'impact additionality' with other similar interventions shows that the Programme is performing better than these. For example, the level of PIS impact additionality is 8.1 percentage points higher than for 'Promotion & development of science, R&D and innovation infrastructure' interventions across the

⁶⁹ A number of other businesses indicated that, at the time of surveying, they had only recently completed their one-to-one mentoring support in conjunction with the PIT and hence were only likely to realise benefits in the coming years.

⁷⁰ See Appendix VI for further details.

⁷¹ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

UK regions (where it is 50.9%). Similarly, the level of impact additionality is marginally higher than for all types of interventions and programme interventions.

Location	Nature of interventions	Mean Additionality	Mean Deadweight
UK Regional	All interventions	57.0%	43.0%
	Programme interventions only	56.2%	43.8%
	Promotion & development of innovation infrastructure interventions	50.9%	49.1%
NI	PIS	59%	41%

Displacement

The Evaluation Team has also considered the potential displacement that might be created by the impact of the PIS support. To assess this, we have again utilised a series of questions⁷³; the answers to which are assigned a ‘displacement factor’ in both the NI market and the broader UK market.

We have calculated displacement based on two factors:

1. The proportions of the businesses that participants compete with that are based in NI/GB, keeping in mind the markets which their company sells into; and
2. Whether, in the participants’ area of business, market conditions have improved over the period since receiving support.

On an overall level, the Evaluation Team’s analysis suggests that that the displacement factor at the NI level is 12.95%; whilst at the GB level it is 16.38%.

The application of the calculated levels of impact additionality and displacement to the previous gross business outcomes suggests that the PIS potentially directly:

- Contributed £10.1m in net additional GVA to the NI economy;
- Created 46 FTE jobs, 35 of which had salaries in excess of the private sector median;
- Safeguarded 195 FTE jobs; and
- Increased productivity by £1,421 per annum.

Metric	GVA	Employment created	Employment safeguarded	Productivity
Gross impact	£19,590,453	90	330	£2,767
Less deadweight (41%)	£8,032,086	37	135	£1,134
Less displacement (12.95%)	£1,496,809	7	N/A	£211
Net additional impact	£10,061,559	46	195	£1,421

⁷² Source: Research to Improve the Assessment of Additionality (BIS, 2009).

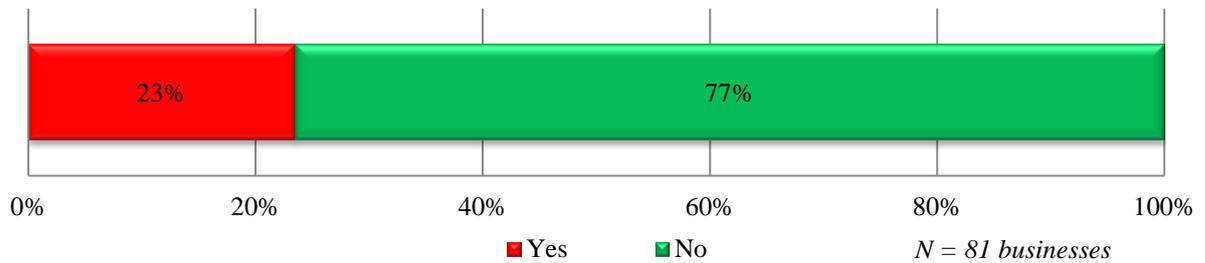
⁷³ Developed in conjunction with DETI’s Economists.

⁷⁴ Figures only relate to actual outcomes derived to date i.e. excludes outturns anticipated to be derived by businesses in the future.

5.8 Duplication

Just over three-quarters of businesses (77% - N=81) indicated that, in the absence of the PIS, they would not have been able to get the same or similar support elsewhere.

Figure 5.4: Availability of similar support elsewhere⁷⁵



Whilst the remaining businesses (23%) suggested that they would have been able to get similar support elsewhere, typically from an external business consultant, the majority of these businesses stressed that they would not have had the financial resources to employ such a consultant. The Evaluation Team's review of the broader marketplace, and discussions with Invest NI, support this assertion where the other providers of similar support reside within the private sector.

5.9 Wider and Regional Benefits

Based on the feedback from businesses, the table below provides an overview of the contribution of the Service to delivering wider and regional benefits

Table 5.21: Contribution of the PIS to wider and regional benefits	
Wider benefits	
Knowledge transfers	<p>The analysis suggests that the PIS has supported the transfer of productivity improvement advice, knowledge and expertise both between:</p> <ul style="list-style-type: none"> Providers of the Service (i.e. the PIT and any external expertise) and employees that directly engaged with the Service; and Employees that directly engaged with the Service and those that did not. <p>Specific areas in which knowledge has been transferred to business include, but are not limited to the:</p> <ul style="list-style-type: none"> Methods on how to identify issues that are inhibiting productivity; The variety of productivity improvement tools and techniques that can be utilised to increase productivity; and Knowledge to ultimately integrate the productivity tools and techniques within the business.
Skills development	<p>Related to the previous point, the majority of businesses were in agreement that the support provided through the PIS had developed the skills on their workforce in the area of productivity improvement.</p>
Regional benefits	
Innovative nature of the project	<p>The PIS, by its very nature, is a Service that seeks to provide NI businesses with the capability to engage in process innovation that will result in resolution of operational inefficiencies and stimulate higher levels of productivity.</p>

⁷⁵ Feedback provided by those businesses that engaged in the telephone consultations, case study visits, or online survey.

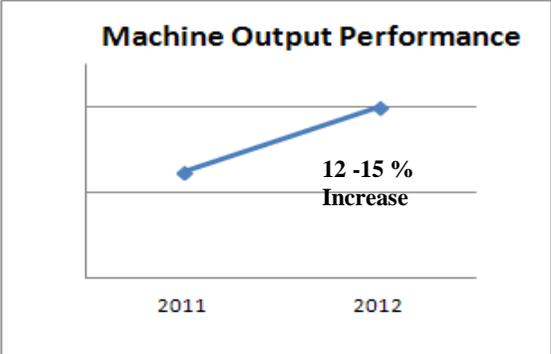
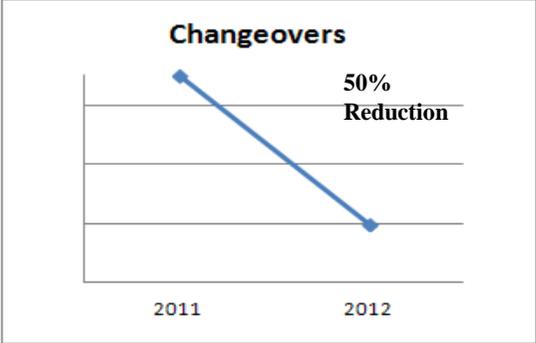
5.10 Case studies

By way of illustrating the impact made by the PIS, the Evaluation Team undertook a number of case study visits with businesses that had received, at a minimum, one-to-one mentoring support. Whilst individual case study information can be found in the tables overleaf and Appendix VII⁷⁶, the research indicates:

- The PIT provided a tailored suite of support to address the specific operational inefficiencies being faced by businesses. Key lean and supply chain tools and techniques utilised as part of the one-to-one mentoring engagements included Value Stream Maps, TPM, 7 Quality Tools, A3 etc.;
- Businesses were of the view that the support provided by the PIT was of a high standard and had enabled them to successfully embed the operational changes being recommended through the support;
- Businesses indicated that the productivity improvement activities that had been taken forward had resulted in key operational improvements including (but not limited to) increased output, reductions in waste, improved space utilisation and enhanced management capabilities;
- As a result of the aforementioned operational improvements, businesses reported realising a range of monetary and non-monetary outcomes including reduced costs, increased turnover, enhanced knowledge and skills etc.; and
- Importantly, businesses indicated that the support provided by the PIT had enabled them to develop and embed a culture of continuous improvement within the business from senior management level through to more operational levels.

⁷⁶ Please note that the business names have been removed to preserve their anonymity.

Case Study 1: Company A	
Company Overview	<p>Company A is one of the leading packaging producers in Europe with production plants in 16 countries, including the UK plant based in Northern Ireland. The company provides expertise in the development, design, production and decoration of polymer (plastic) food packaging. There is a keen focus on innovation and the company continually seeks to introduce new and bespoke package designs for productions using the latest sleeving and printing techniques.</p> <p>The operation within Northern Ireland currently employs c. 260 FTEs and has an annual turnover in excess of £35m. The company's direct competitors are based in Great Britain.</p>
Productivity Issues faced	<p>Prior to the Productivity Improvement Services support received, Company A faced the following productivity issues:</p> <ul style="list-style-type: none"> • Company A has a varied product range including many design options. Therefore machine changeovers are frequent and can be complex in nature. However, the company had never fully investigated the time required to undertake a simple/ complex machine changeover. As such, there was reportedly significant wastage in the process during set-up and changeover stages. This was impacting on the overall production capacity of the plant, resulting in Company A turning down order opportunities from within its Group and externally; • There was poor communication between management, shift leaders and operatives and within employees groups; • Management and shift leaders had a daily meeting set away from the shop floor which lasted over one hour per day which was considered to be inefficient; • Machines and processes were not standardised so resources were not readily transferable to fulfil changing orders; • There was excess wastage throughout the production process e.g. defects and damaged materials; • The company was paying for external storage space to hold excess levels of inventory; and • Product quality was variable with high numbers of complaints from customers.
Nature of support delivered	<p>Staff from Company A attended a number of benchmarking/ best practice events to learn the principles of lean manufacturing and continuous improvement (Beyond Operational Excellence, Hoshin Kanri, University of Kentucky, Lean Product Development, Continuous Improvement and Simulated Work Environments). They were very satisfied with these events and felt they offered good opportunities for learning and networking, although they acknowledged that there were limited opportunities to increase their understanding of sector-specific issues as they were the only company from their sector represented at the events.</p> <p>Employees attended a range of training including Lean Fundamentals Training, Total Productive Maintenance and Practical Problem Solving using A3. On-site/ in-house training was also provided to further embed Lean Fundamentals and SMED throughout the wider workforce (86 employees). The company reported high levels of satisfaction with all aspects of the training provided.</p> <p>Company A received one-to-one support from Invest NI through a Lean Engagement between August 2012 and January 2014. The company also received Supply Chain Management support, although it was noted that the vast majority (80%) of all supplies come from two suppliers, so this component of the support was not deemed to be as essential to the company. The productivity improvement tools which were implemented included:</p> <ul style="list-style-type: none"> • A full diagnostic review of parts, processes and people to identify the key productivity issues; • Implementation of 5S principles across the site;

Case Study 1: Company A													
	<ul style="list-style-type: none"> • Agreement and standardisation of KPIs/ metrics across divisions; • Standardisation of all machines; • Visual management tools including Andon and Kanban boards were implemented to make daily management meetings more efficient. Furthermore, the management meetings were moved to a glass room on the shop floor which enabled all staff to view the management tools and review progress and operational information. It is reported that the meetings are now only 15 minutes per day which has resulted in significant savings in management time; and • Implementation of a SMED project to reduce the set-up and changeover times. <p>On an overall basis, Company A reported that the one-to-one support provided through the PIS was ‘very effective’ in terms of addressing their business needs.</p> <p>The wider Group, of which Company A is one subsidiary, has recently adopted lean manufacturing tools and techniques within its overall Group strategy, therefore it was the view of the company that they would have undertaken some (between 1%-20%) of the productivity improvement activities in the absence of the Invest NI support and this would have happened 2-3 years later. As a result of the Invest NI support, the plant in NI is one of two leading plants across the Group for lean manufacturing and has been requested to share lessons learned with other locations (e.g. Czech Republic).</p>												
Impact of the support - Productivity outputs, outcomes and impacts	<p>Company A has been able to identify and resolve process inefficiencies through the development of new processes (e.g. visual management and the introduction of A3 problem solving) and the adaption/ improvement of existing processes (e.g. reduced wastage through the adaption of equipment and standardisation of machines). These productivity outputs have resulted in significant productivity outcomes to be achieved, including:</p> <ul style="list-style-type: none"> • A 50% reduction in changeover times. The company highlighted that its customers increasingly require bespoke products and therefore more changeovers are required. This significant reduction in changeover times is considered to be a key driver in the overall increased capacity of the business (between 12% and 15% increased production output per year) and resultant increases in turnover (£2m per year since 2011). These changes are shown in the following charts: <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Machine Output Performance</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Output Change</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td>Baseline</td> </tr> <tr> <td>2012</td> <td>12-15% Increase</td> </tr> </tbody> </table> </div> <div style="text-align: center;">  <p>Changeovers</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Changeover Level</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td>High</td> </tr> <tr> <td>2012</td> <td>50% Reduction</td> </tr> </tbody> </table> </div> </div>	Year	Output Change	2011	Baseline	2012	12-15% Increase	Year	Changeover Level	2011	High	2012	50% Reduction
Year	Output Change												
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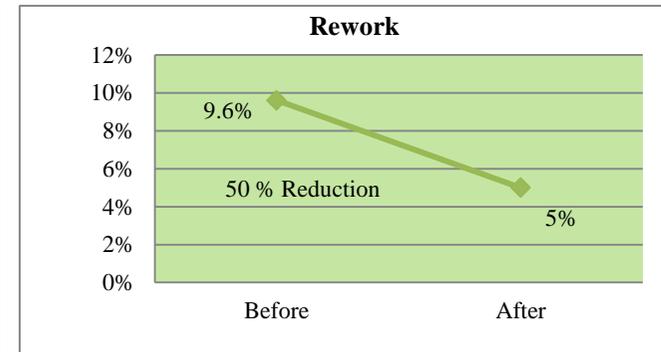
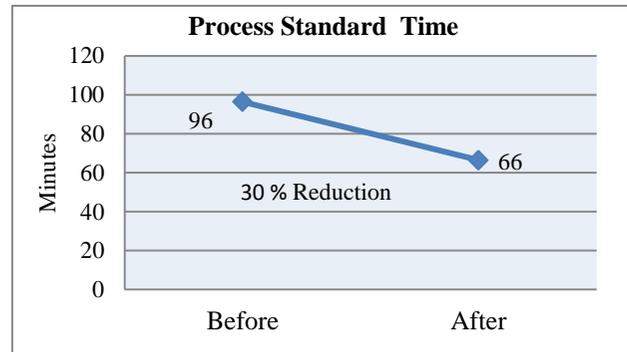
Case Study 1: Company A	
	<ul style="list-style-type: none"> • Reduction in the process time by 10%; • Improved product quality resulting in a 35% reduction in quality complaints from customers each year; • Waste levels reduced by 55% (from 9% to 4% of total production output). By way of example, Company A changed the end of the fork attached to the fork-lift truck which it uses to lift rolls of plastics throughout the plant to prevent tearing and damage. Now each roll of plastic produces significantly more products with less wastage; • A 25% reduction in inventory levels. The company has not yet reduced inventory to an extent that it does not require external storage, but this is an ongoing objective of continuous improvement; • A reduction in inventory turnover of 20% from 35 days to 28 days. The company now considers the inventory turnover to be in line with industry standards; • Improved human capital utilisation; • Enhanced utilisation of physical capital; • Enhanced management capabilities and improved employee engagement, morale and communication; • Improved skills of the workforce; • Transfer of knowledge within the Group; • Deferred capital expenditure; • Increased competitiveness through lower costs (thereby contributing to increased turnover as new business has been acquired, as well as contributing to the survival of the company as market conditions have become increasingly competitive on a global scale); and • Increased sustainability by reducing the number of kilowatt hours for each kilogram of plastic consumed from 2.6 in 2012 to 1.65 in 2014 (37% reduction). Whilst this was not a direct objective of the PIS, it is the view of Company A that the PIS support put structures in place which enabled them to address sustainability issues.
Impact of the support – Business Outcomes	<p>As a result of the productivity outputs, outcomes and impacts there have been significant financial outcomes for Company A. On average the company has increased its turnover by £2m per annum since 2011 (from c. £29 in 2011 to c. £35m in 2014). Whilst the company has confirmed that there have been positive impacts to the turnover across the period under consideration, it was unable to quantify the proportion of the increased turnover which is directly attributable to the productivity improvements/ lean processes rather than any other factors which impact on its turnover figures.</p> <p>Company A reported that costs have decreased into two separate areas as a result of the productivity improvement activities undertaken, discussed as follows:</p> <p>1. Savings in labour costs</p> <p>Company A monitors the contribution made by each employee to turnover, as an indication of labour efficiency. It is reported that the average contribution to turnover for each employee increased from £115,000 in 2011 to £128,000 in 2013. Based on turnover and employee levels across the period, Company A estimated that it achieved £1,800,000 in labour cost savings through the improvements in productivity of its employees, thereby resulting in greater overall profitability.</p>

Case Study 1: Company A	
	<p>2. Savings via transfer of business from a sub-contract supplier</p> <p>As previously noted, the productivity improvement activities (and in particular the SMED project to reduce set-up and changeover times) have resulted in greater production capacity within the Northern Ireland plant. This has enabled Company A to purchase semi-finished materials from a supplier within the wider Group and finish the production in-house, where it previously was purchasing finished packaging products and only completing the sleeving and printing in-house. As such, Company A can purchase the materials at a lower overall cost and achieve greater value-added on the completion of the process. The representatives from Company A estimated that there has been £800,000 of cost savings through the transfer of business from the supplier since 2011.</p> <p>In summary, Company A estimates that £2.6m of cost savings have been realised since 2011 as a result of the productivity improvement activities undertaken. The company reported that some of the overall benefits/ impacts (i.e. between 21% - 40%) would have been achieved by the company in the absence of the Invest NI support but that these impacts would have been achieved 2-3 years later. Company A is of the view that the cost savings achieved will continue over the next three years i.e. a further £2.6m of cost savings versus the position if the productivity improvement activities had not been undertaken.</p> <p>The company has increased its total number of FTEs by 42 from 219 FTEs prior to the PIS support to 261 FTEs now. This increase in employment has primarily been as a result of increased customer demand, rather than productivity improvements.</p>

Case Study 2: Company B	
Company Overview	Company B is a global manufacturer of carpet tiles for government, education providers, offices and hospitality businesses. Company B has over 60 plants worldwide including three in the UK (including one in Northern Ireland) and one in the Republic of Ireland. The Northern Ireland manufacturing plant has just under 200 FTEs and it competes on a global scale. Very few of its competitors are reported to be based in the UK.
Productivity Issues faced	<p>Prior to the Productivity Improvement Services received, Company B faced the following productivity issues:</p> <ul style="list-style-type: none"> • The workplace was not well-organised and structured; • There was poor communication between management, shift leaders and operatives and within employee groups; • Customer orders have become increasingly bespoke, which requires more changeovers (c. 50-60 per week). Set-up and changeover times were considered to be excessive which had a significant negative impact on overall production capacity; • There was considered to be excessive wastage throughout the production process through staff and machine inefficiencies; • Delays and blockages meant that only c. 50% of orders were delivered on-time and in-full which was impacting on repeat business potential; • Machines and processes were not standardised so resources were not readily transferable between processes; and • There are many long-standing staff within Company B, some of who were reportedly resistant to changes.
Nature of support	Staff from Company B attended Lean Fundamentals, Supply Chain Management and Practical Problem Solving using A3 training. On-site/ in-house training was also provided to the majority of both managerial and operative staff within Company B. The company was 'very satisfied' with the training delivered

<p>delivered</p>	<p>through the Invest NI PIS. Company B also received one-to-one support from Invest NI through a Lean Engagement between September 2011 and March 2012. The lean management tools utilised by the Invest NI team included the following:</p> <ul style="list-style-type: none"> • 6S principles (including safety) to improve the organisation of the workplace; • Value stream mapping/ systems thinking and process mapping to identify all the specific activities along the value stream and plan actions for process improvement; • Consideration of the eight wastes to eliminate waste from the production process; • Root cause analysis to identify the cause of the problems; • Supply chain management to encourage more tailored supplies, thereby reducing the process time within Company B; • Visual indicator boards to easily and clearly communicate messages within and between staff teams; • Video measurement; • Spaghetti diagrams; and • Standardisation of machines and processes. <p>On an overall basis, Company B reported that the one-to-one support provided through the PIS was ‘very effective’ in terms of addressing their business needs. It was the view of Company B that, in the absence of the Invest NI support, between 21% - 40% of the productivity improvement activities would have been undertaken between 7 and 12 months later.</p>
<p>Impact of the support – Productivity outputs & outcomes</p>	<p>Company B has been able to identify and resolve process inefficiencies through the development of new processes (e.g. visual management and root cause analysis) and the adaption/ improvement of existing processes (e.g. supply chain management). These operational improvements have resulted in significant productivity outcomes to be achieved, including:</p> <ul style="list-style-type: none"> • Reduction in simple changeover times by 130 minutes (65%) from 200 minutes to 70 minutes and a reduction in complex changeover times by 190 minutes (60%) from 320 minutes to 130 minutes, as shown in the following charts prepared by Company B: <div style="display: flex; justify-content: space-around;"> <div data-bbox="714 1043 1227 1428"> </div> <div data-bbox="1249 1043 1762 1428"> </div> </div>

- 30% reduction in overall standard process time and a 50% reduction in reworking time, as shown in the charts below prepared by Invest NI:



- A 10% increase in overall production outputs;
- Increased product quality and increased customer satisfaction as evidenced by a 10% drop in quality complaints;
- A reduction in waste resulting from defects, overproduction, waiting, transportation, inventory and over-processing;
- The percentage of orders which are delivered both on-time and in-full has increased from c. 50% to 98% following the productivity improvements as a result of identifying and addressing blockages and delays in the process;
- Enhanced utilisation of man-power and machines;
- Increased space and more effective space utilisation;
- Enhanced management capabilities;
- Improved employee engagement, morale and communication with employees;
- Safer working environment;
- Improved skills of the workforce including ability to undertake risk assessments;
- Safeguarding of jobs which were under threat. As the Northern Ireland plant struggled to compete globally there had been a gradual decline in staffing numbers, but these jobs have been retained as the company is more competitive. Company B was unable to quantify the number of staff who would have been made redundant in the absence of the productivity improvement activities;
- Transfer of knowledge with a USA plant as well as networking with businesses in NI to share lessons learning in productivity improvement;
- Increased competitiveness;
- Improved prospects for the survival of the business; and
- Increased sustainability.

Above and beyond the outputs and outcomes listed above, Company B has experienced a change in culture throughout the entire business through the Invest NI PIS support. Initially, there was reported to be significant resistance and cynicism among employees to changes being implemented, and particularly if additional work was required from staff. However, with time, both the managerial and operational staff valued the impartial advice and guidance given by the

	<p>Invest NI team, and particularly appreciated the industrial background of the Invest NI staff involved. As such, the employees began to trust the process and cooperate. Indeed, members of the staff have delivered presentations of their lessons learned to other plants within the Group and to Invest NI and a number of operational staff have volunteered to take on additional roles and responsibilities for health and safety and training. The consultees within Company B emphasised to the Evaluation Team that this is very much the start of a long journey for the company, but that they now have confidence that there is buy-in amongst the staff and there should be significant benefits in future.</p>
<p>Impact of the support – Business Outcomes</p>	<p>Company B reports that it has achieved total cost savings of between £100,000 and £200,000 as a result of the productivity improvement activities supported through the Invest NI PIS. As above, it is the view of Company B that the impact had only begun to be realised towards the end of the period under consideration and it anticipates that there will be £1m of cost savings over the next 3 years (i.e. £333,333 per annum) as a result of the productivity improvements implemented along with Invest NI.</p> <p>In the absence of Invest NI’s support, Company B proposes that it would have achieved between 1% and 20% of the impacts realised to date, and these would have been realised between 12 and 24 months later.</p>

5.11 Summary Conclusions

Based on the feedback from businesses in receipt of support, the following key conclusions can be drawn with regards to the impact made by the PIS during the period under review:

- The Service has stimulated process innovation amongst recipient businesses by enhancing (amongst other things) their:
 - Ability to identify the issues that were inhibiting their productivity;
 - Understanding of the productivity improvement tools and techniques that can be employed to improve their productivity; and
 - Ability and confidence to ultimately integrate the productivity tools and techniques within the business.
- Levels of activity (61%) and impact (59%) additionality should be viewed positively (especially when benchmarked against other programmes/interventions) indicating that the Service has played a strong role in encouraging business to undertake productivity improvement activities and subsequently realise benefit from the support;
- Market failure, typically in the form of asymmetric information, has played a strong role in preventing businesses from taking forward similar productivity improvement activities independent of support;
- The Evaluation Team's analysis suggests that that the displacement factor at the NI level is 12.95%; whilst at the GB level it is 16.38%;
- Positively, from a monetary perspective the analysis suggests that the PIS has:
 - Contributed £19.6m in gross or £10.1m in net additional GVA;
 - Supported the creation of 90 gross or 46 net additional FTE jobs;
 - Safeguarded 330 gross or 195 net additional jobs; and
 - Delivered £5,533 in gross or £2,842 in net additional productivity per FTE.
- The feedback from businesses also suggests that the support has assisted them to realise a number of non-monetary benefits including (but not limited to) increasing competitiveness and sustainability and embedding a cultural shift towards continuous productivity improvement across organisations.
- The majority of businesses suggests that they would not have been able to get similar support elsewhere; and
- The Service has contributed to providing the NI economy with a number of other wider (including knowledge transfers and skills development) and regional (including the innovative nature of the project) benefits.

6. ACHIEVEMENT OF OBJECTIVES

6.1 Introduction

Section 6 examines the progress made towards the SMART objectives that were established for the Service.

6.2 Overview and progress towards PIS targets

During the period under review, the PIT used a Balanced Scorecard approach to managing and reviewing its performance by setting annual targets and tracking performance against these targets. The scorecard lists targets in four areas:

- Finance;
- Customer;
- Process; and
- Learning & Growth.

During consultation Invest NI indicated that the main target established for the PIS related to the anticipation that the Service would deliver £10m GVA for the period of the Corporate Plan (i.e. £2.5m per year)⁷⁷. Therefore, on a pro rata basis, it was anticipated that the activity supported through the Service would deliver c. £6.5m in GVA during the period under review.

However, the Evaluation Team understands that a decision was undertaken to increase the Year 3 (2013/14) target to £3.5m on the basis of the positive outcomes that had been derived during the initial two years. As such, the revised target for the period under review was c. £7.5m (Table 6.1).

Year	Initial anticipated impact	Revised anticipated impact
2011-12 (7 months)	£1,458,333	£1,458,333
2012-13	£2,500,000	£2,500,000
2013-14	£2,500,000	£3,500,000
Total	£6,458,333	£7,458,333

During discussions with Invest NI on the progress of the Service towards this target, uncertainty arose as to whether:

- ‘GVA’ related to gross value added (in the true economic sense) or the monetary value that had been provided to businesses in the form of, for example, increased turnover and/or reduced costs as a result of the Service. Consultation with the PIT and the Evaluation Team’s review of monitoring information suggests that, at an operational level, the target appears to have been interpreted in relation to the monetary value that had been provided to businesses;
- The figure related to the gross or net additional impact of the Service (i.e. taking deadweight and displacement into account); and
- The annual impact related to activity that had solely been delivered during that year or whether it included the outcomes from activity delivered in previous years.

Notwithstanding this uncertainty, the Evaluation Team’s analysis indicates that the activity supported during the period under review has contributed £10.1m in net additional GVA to the NI economy, and hence the **Service has exceeded the target** under each of these interpretations.

⁷⁷ The target was documented within the ‘Finance’ area of the scorecards.

Appendix VIII provides a high level overview of the progress that was made towards the internal Balanced Scorecard targets that were established by the PIT to monitor its effectiveness during the period under review⁷⁸. Whilst outside the remit of this Evaluation, the Evaluation Team's review of these targets suggests that:

- The PIT took appropriate action to refocus its internal performance targets across the period under review. Notwithstanding this, the Evaluation Team recommends that any future Economic Appraisal focuses upon establishing a more appropriate mix of SMART activity, output and outcome targets which are more intrinsically focused and linked with the overarching aims and anticipated outcomes of the Service. The outcomes of this evaluation should be used to inform all future target setting; and
- A number of activity targets (primarily relating to the number of RDS' being raised, the development of new Service materials and attendance by business at event/training) were not achieved during the period under review. However, as noted previously the main outcome targets that were established for the Service were achieved.

⁷⁸ All information informing the progress towards these targets was provided by Invest NI.

7. BENCHMARKING

7.1 Introduction

As part of the research process, the Evaluation Team has benchmarked the support provided through the Invest NI PIS against similar programmes delivered by Scottish Enterprise (i.e. the Scottish Manufacturing Advisory Service and Lean Management Thinking) and Enterprise Ireland (i.e. the Company Health Check and the Lean Business Offer). This section provides a summary of the Invest NI PIS with the benchmark programmes, with a detailed description of each programme⁷⁹ attached as Appendix IX.

Table 7.1: Benchmarking Analysis					
Category	Invest NI	Scottish Enterprise (SE)		Enterprise Ireland (EI)	
	Productivity Improvement Service (PIS)	Lean Management Thinking (LMT)	Scottish Manufacturing Advisory Service (SMAS)	Company Health Check (CHC)	Lean Business Offer
Established	2009	2000	2006	2008	2008
Support Available	<ul style="list-style-type: none"> Visit, contact and advice Diagnostics and action planning Awareness, networking and training One-to-one mentoring support Information/ signposting It should be noted that the Skills and Strategy Division of Invest NI offers the Business Health Check which is comparable with the CHC. 	<ul style="list-style-type: none"> One-to-many classroom-based workshops including lean management theory, time for one-to-one support and sharing of best practice. 	<ul style="list-style-type: none"> Enquiry support Business improvement manufacturing review (diagnostic and action plan) Manufacturing improvement project (one-to-one mentoring support) Best practice activities and visit programme 	A CHC measures a company's performance on qualitative and quantitative measures compared to the competition to identify priority areas for improvement.	<ul style="list-style-type: none"> LeanStart: Short-term (up to 7 days) one-to-one lean project focused on value-adding. LeanPlus: Medium-term (3-6 months) one-to-one lean project focused on performance improvement. LeanTransform: Long-term large-scale, extensive and holistic company transformation programme carried out by external consultancy team.
Eligibility	The PIS is available to all Invest NI clients regardless of size ⁸⁰ and sector.	All Scottish companies with 20 or more staff. Whilst manufacturing companies are not excluded, they should be referred to the SMAS in the first instance.	All <u>manufacturing</u> companies throughout Scotland (both SE client companies and the wider business base), as well as both SMEs and large enterprises ⁸¹ .	Enterprise Ireland clients including manufacturing and eligible internationally traded services companies.	EI clients/ potential clients who have been trading for at least 5 years engaged in manufacturing or eligible internationally traded services. LeanStart is aimed at SMEs and LeanTransform is aimed at large enterprises.
Participation Costs/ Grant Available	Free of charge	£1,500 (plus VAT) for SMEs and £2,000 (plus VAT) for large enterprises for the programme.	An annual Manufacturing Review is free. SMAS practitioners are charged at	Free-of-charge	<ul style="list-style-type: none"> LeanStart: Maximum of 7 days of consultancy support at

⁷⁹ Along with secondary benchmarks for the BIS Manufacturing Advisory Service (MAS) in England and the Manufacturing Extension Partnership (MEP) in the USA.

⁸⁰ Albeit there is a particular emphasis on providing support to small and medium size enterprises (SMEs).

⁸¹ Albeit more than 80% of Manufacturing Improvement Projects should be completed with SMEs.

Table 7.1: Benchmarking Analysis

Category	Invest NI	Scottish Enterprise (SE)		Enterprise Ireland (EI)	
	Productivity Improvement Service (PIS)	Lean Management Thinking (LMT)	Scottish Manufacturing Advisory Service (SMAS)	Company Health Check (CHC)	Lean Business Offer
		regardless of how many employees attend.	£600 p/d for one-to-one support with up to 50% subsidised for SMEs. Large enterprises are not subsidised.		€900 p/d with max of €5,000 (80%) funded by EI. <ul style="list-style-type: none"> • LeanPlus: Maximum of 50% of consultancy costs up to €35,000 (i.e. €70,000 project) based on up to 20 days at €900 p/d, 20 days at €700 p/d and any other days at €600 p/d. • LeanTransform: Maximum of 50% of consultancy fees (at rates as per LeanPlus) and up to €1,000 per week of employee training costs. No maximum level but typically 22 days of support.
Duration of one-to-one support	Typically between 5 and 10 days of general guidance for the one-to-one mentoring projects although several projects have extended beyond 10 days.	6 half-day sessions over a 6 month period.	8-10 days over a 6 month period.	One-day of support including a half-day of one-to-one with the company.	
Staffing Resource	The PIS is delivered by between 6 and 7 FTEs per year (see Appendix X). The Invest NI Business Health Check is delivered by 1 FTE.	1 FTE to manage the LMT Programme and a framework for 3 rd party consultants to deliver LMT services.	30 FTEs (22 SMAS practitioners and 8 admin staff) and a framework for 3 rd party contractors (7 FTEs)	2 FTEs to manage the CHC Programme and undertake the benchmarking reviews.	2 FTEs within EI to manage/oversee LeanStart and LeanPlus and 2 FTEs to manage/ oversee LeanTransform. EI has a dedicated database of specialist external consultants who are responsible for supporting implementation of Lean projects.
Levels of activity	Across the Sept 2011 to March 2014 period the following activity occurred: <ul style="list-style-type: none"> • 341 RDS • 224 visits to 211 unique businesses • Advice provided to 93 businesses • 47 diagnostic plans • 24 benchmarking events delivered to 665 employees from 231 unique businesses • 105 training sessions with 1,739 employees from 213 businesses • 137 businesses commenced one-to-one mentoring 	Generally two programmes are facilitated each year with approximately 4 companies participating in each.	Estimated annual activity of: <ul style="list-style-type: none"> • 840 enquiries • 350 Manufacturing Reviews • 200 Manufacturing Improvement Projects • 40 Best Practice Events 	15 in-company benchmarks (including both quantitative and qualitative measures) and a further 150 financial benchmarks (using quantitative data only) are undertaken per annum.	640 Lean Projects since 2009

Table 7.1: Benchmarking Analysis

Category	Invest NI	Scottish Enterprise (SE)		Enterprise Ireland (EI)	
	Productivity Improvement Service (PIS)	Lean Management Thinking (LMT)	Scottish Manufacturing Advisory Service (SMAS)	Company Health Check (CHC)	Lean Business Offer
	engagements and 87 businesses completed				
Programme cost	£1.1m	£150,000 from Scottish Enterprise per annum for 1 FTE salary and external consultancy costs.	£2.2m from Scottish Enterprise per annum with £500k of income from companies resulting in a net cost of £1.7m	Costs relate to the salaries for the two FTEs and subscriptions for the benchmarking tools. EI was unable to provide an estimate of these costs.	€17.8m of EI funding since 2009 (71% LeanStart, 20% LeanPlus and 9% LeanTransform) and €44.6m of company costs.
Impacts/ Outcomes	<ul style="list-style-type: none"> Levels of activity (61%) and impacts (59%) additionality; Displacement of 12.95% at the NI level and 16.38% at the GB level; £19.6m in gross or £10.1m in net additional GVA; Supported the creation of 90 gross or 46 net additional FTE jobs; Safeguarded 330 gross or 195 net additional jobs; and Delivered £5,533 in gross or £2,842 in net additional productivity per FTE; GVA return on investment of £1: £9.34 (full economic cost of £1,076,798 to net additional GVA of £10,061,559). 	The most recent evaluation did not include any efficiency or economic impacts which were directly attributable to participation on the LMT.	<ul style="list-style-type: none"> The most recent evaluation⁸² reported that there were £102m of productivity impacts between 2007 and 2009 and £20.6m of productivity impacts in 2009/10 as a result of the SMAS. The net present value GVA at 2011/12 (Year 4) was calculated to be £19.7m and was projected to increase to £53.1m by 2017/18 (Year 10). Based on the cumulative discounted net impact, the evaluation estimated that the Return on Investment by Year 4 was 4.3:1 and would rise to 10.2:1 by Year 10. 	EI considers the CHC and Lean Business Offer to be an integrated approach, whereby the CHC is the “diagnosis” and the Lean project is the “medicine”. As such, EI only measures the CHC on activity measures (i.e. number of benchmarks per annum) and monitors and assesses the impacts and outcomes of the Lean Business Offer.	<p>An evaluation of the Lean Business Offer was recently completed in draft but not yet published. The following impacts were stated through discussion with EI but cannot be verified by the evaluation team:</p> <ul style="list-style-type: none"> 77% of businesses had improved productivity as a result of their Lean project; LeanStart projects resulted in cost savings of €66,000 and LeanPlus projects resulted in cost savings of €167,000; 7,629 people were trained in Lean principles during and following the project; On average, companies had 20% greater productivity, 40% higher revenues and 11% greater employment versus companies in similar sectors/ of a similar size which had not implemented Lean principles; and In total it was estimated that there was a €662m increase in productivity across all participating businesses since 2009 as a result of the Lean Business Offer.

⁸² Ekos (2012) ‘Strategic Evaluation of SE Efficiency Support (including the Scottish Manufacturing Advisory Service: Final Report for Scottish Enterprise’

Salient points to note from the benchmarking analysis include:

- Caution should be applied in drawing comparison between the PIS and the benchmark offerings, as none of the other regions considered are directly comparable in the nature of their offering. For instance, non-manufacturing companies are not eligible for the Scottish Enterprise SMAS and can only access the LMT, whereas all Invest NI client companies are eligible for PIS support. Otherwise, the types of support offered through the SMAS (i.e. enquiries, diagnostics, one-to-one supports and best practice events) are quite similar to those offered through the PIS;
- Enterprise Ireland has separated the CHC diagnostic offering from the Lean Business mentoring support offering whereas the PIS and the SMAS offer both diagnostic and project implementation support. However, it should be noted that Invest NI's Skills and Strategy Division offers the Business Health Check which is comparable with the CHC. The Business Health Check is available in several formats and is managed by 1 FTE. Whilst the PIT does not manage the Business Health Check Programme, they are directly involved in supporting the service;
- The Lean Business Offer includes LeanTransform initiative which supports long-term transformation projects which are outside the scope of the PIS;
- Participant businesses are required to contribute towards the one-to-one support provided through the SMAS (50% for SMEs and full consultancy cost for large enterprises) and the Lean Business Offer (20% for LeanStart and 50% for LeanPlus and LeanTransform);
- The duration of the PIS one-to-one mentoring support (i.e. 5-10 days⁸³) is in line with the duration offered for SMAS projects (typically 8-10 days) and the LeanStart initiative (up to 7 days).
- Both benchmark regions use internal staff and 3rd party specialists to deliver their productivity improvement offer. In the case of Enterprise Ireland, all one-to-one projects are delivered by external contractors which allowed Enterprise Ireland to upscale activity. Furthermore, the database of consultants provides companies with a breadth of specialists to choose from depending on the nature of the project/ sector involved. A similar model has been used in previous Invest NI programmes;
- Scottish Enterprise employs 30 FTEs associated with the SMAS including 22 FTEs who are responsible for supporting the implementation of 75% of one-to-one projects. Third party consultants are used in more specialised projects (equating to a further 7 FTEs). Scottish Enterprise report that this structure provides sufficient capacity and flexibility to deliver 200 projects per year (as well as enquiries, diagnostics and events) and upskills staff in specialist areas.
- Scottish Enterprise provides c. £2.2m towards the SMAS per annum and receives c. £500k in company income resulting in an annual net cost of c. £1.7m. Enterprise Ireland reported that it invested €17.8m in the Lean Business Offer between 2009 and 2013; and
- The most recent SMAS evaluation⁸⁴ estimated that by Year 4, the net present value GVA was £19.7m which was projected to increase to £53.1m by year 10. The evaluation also estimated that the Return on Investment by Year 4 was 4.3:1 and would rise to 10.2:1 by Year 10. However, these figures should be considered with caution as the impacts which were monitored and measured by SMAS changed during the period under review and the low level of calculated additionality.

⁸³ Albeit this duration is for general guidance and several projects have extended beyond 10 days.

⁸⁴ Ekos (2012) 'Strategic Evaluation of SE Efficiency Support (including the Scottish Manufacturing Advisory Service: Final Report for Scottish Enterprise'

7.2 Summary Conclusions

In summary, the Invest NI PIS provides a similar offer (in terms of content, levels of support and duration of projects) as the SMAS in Scotland and the LeanStart initiative in the Republic of Ireland but provides support to a wider range of businesses (including those of any size and any sector).

Based on the levels of activity achieved by the benchmark programmes, there appears to be potential for Invest NI to consider charging companies a contribution towards one-to-one mentoring support to reduce the overall costs to Invest NI, whilst maintaining free events, training and diagnostics. Invest NI could potentially consider increasing employee numbers and/or appointing third-party consultants in order to increase the scale of activity possible under the PIS, in line with the benchmark regions.

Whilst it is the Evaluation Team's view that it is difficult to draw direct comparisons with the benchmarks in terms of impacts and outcomes, it is clear that productivity improvement support initiatives are effective in achieving cost savings and enhancing the competitiveness of participating businesses and should be continued to be supported in the future.

8. PROGRAMME FINANCE

8.1 Introduction

Section 8 examines the costs associated with administering the PIS during the period under review. In doing so, the Section also examines the return-on-investment and value-for money (VFM) that has been delivered by the Service to date.

8.2 Proposed versus Actual Costs

The Evaluation Team's review of the original business case for the Demand Stimulation/Innovation programme, and other associated business cases approved by Invest NI during the period under review, established the PIT salary costs that were anticipated to be incurred. However, this documentation did not establish other costs that would be incurred in relation to support provided by Invest NI's Corporate Communications and Marketing Unit (CCMU) and other delivery costs e.g. payments made to external delivery organisations, event costs etc. The absence of this information precludes the Evaluation Team from making a comparison of the actual and anticipated costs during the period under review. The Evaluation Team recommends that the Economic Appraisal for any future phase of the PIS appropriately establishes the full economic costs anticipated with the delivery of the Service over the defined period.

Based upon monitoring information provided by Invest NI, the actual **full economic cost of delivering the PIS during the period under review was c. £1.1m**. £892k (or (83%) of these costs were in the form of staff costs (primarily associated with the PIT) and the remainder (c. £185k or 17%) related to other delivery costs. Appendix X provides a more detailed disaggregation of the Service's costs.

Table 8.1: Full Economic Costs of delivering the PIS (Sept 2011 – March 2014)				
	Sep 2011- March 2012	April 2012 - March 2013	April 2013- March 2014	Total
Staff Costs				
Skills and Strategy Solutions	£130,989	£383,357	£366,441	£880,787
Corporate Communications and Marketing Unit (CCMU)	£2,466	£4,282	£4,412	£11,160
Sub total	£133,455	£387,639	£370,853	£891,947
Other delivery costs	£28,661	£60,211	£95,978	£184,851
Sub total	£162,116	£447,850	£466,831	£1,076,798

Please note that Table 8.1 excludes time spent by PIT members on wider Invest NI and PIT corporate responsibilities (i.e. non-core delivery activities such as assessing Local Economic Development (LED) and INTERREG applications, undertaking Business Health Checks and caseworks/appraisals etc.).

8.3 GVA Return-on-investment

Given the level of net additional GVA (i.e. £10,061,559) that has been provided by the Service and the full economic cost of delivering the support (i.e. £1,076,798), then **the GVA return on investment is £1:£9.34⁸⁵**.

⁸⁵ Return-on-investment is based on actual outcomes derived to date i.e. excludes outturns anticipated to be derived by businesses in the future.

It is the Appraisal Team’s view that this return-on-investment level should be viewed positively on the basis that:

- The analysis is based upon the monetary benefits that were derived from businesses that had commenced and completed a one-to-one mentoring engagement (N=87) during the period under review. However, the Evaluation Team notes that:
 - A number of businesses had only recently completed their one-to-one engagements and hence sufficient time had not passed for them to fully embed the productivity improvement changes and/or realise monetary impacts;
 - A number of businesses that had only attended a benchmarking/best practice event and/or training indicated that they had derived monetary benefits from the support they received. However, for prudence, these businesses were excluded from the grossing-up analysis on the basis that they were not able to quantify the extent of these impacts on their businesses;
 - A further 50 businesses that commenced one-to-one mentoring support during the period under review were continuing to receive support at the Evaluation and hence were excluded from the analysis.

As such, the full monetary impact of the support that was delivered by Service during the period under review may be higher and hence provide a higher return-on investment.

- Anecdotal feedback provided during the benchmarking research suggested that Scottish Enterprise’s SMAS, which delivers similar support to Scottish businesses, presently achieves a return-on-investment of c. £1:£8 in net additional GVA⁸⁶; and

We also note that business anticipate receiving substantial monetary benefits in the next three years as a result of the support that was provided through the PIS.

8.4 Cost Effectiveness

Other indicators of cost effectiveness include:

- Cost per business supported (N=459) is £2,346.

8.5 Value-for-Money

Based on the preceding analysis, it is the Evaluation Team’s view that the **PIS delivered value-for-money during the period under review**. More specifically, this view is based on each of the following inter-related factors.

Table 8.2: Summary of Value for Money	
VFM Indicator	Conclusion
Strategic Fit	<p>In-line with the strategic imperative of NI Government, the Evaluation Team’s analysis indicates that the PIS has positively contributed to supporting NI businesses to</p> <ul style="list-style-type: none"> • Address barriers to business growth; • Increase innovation in its widest sense including encouraging businesses to transform creative thinking into new and improved processes (i.e. engage in process innovation); • Embed a culture of change in approach and behaviours within NI businesses and their leaders; and • Increase business’ understanding of innovation and facilitate the exchange and exploitation of knowledge by supporting businesses with high growth and export potential to apply the use of Productivity Improvement Tools and Techniques in order

⁸⁶ We do however note that Scottish Enterprise adopts a different methodology for calculating the level of net additional GVA and associated return-on-investment.

Table 8.2: Summary of Value for Money

Table 8.2: Summary of Value for Money							
VFM Indicator	Conclusion						
	<p>to leverage competitive advantage from the innovation process.</p> <p>In doing so, the Evaluation Team concludes that the Service has appropriately “<i>stimulated action and interventions to increase productivity and competitiveness, and enable local companies to grasp opportunities.</i>”</p>						
Need & Market Failure	<p>The research suggests that there was a clearly defined need for Invest NI to provide support to NI businesses to engage in process innovation activities to address their operational inefficiencies and stimulate their productivity and growth. Specifically:</p> <ul style="list-style-type: none"> • At the time of approval, there was a need for Government to provide support to encourage greater levels of innovation in order to facilitate business growth and reduce the productivity gap with other UK regions; • A number of market failure (including asymmetric information and co-ordination failures) and non-market failure factors (e.g. constraints relating to capacity and throughput, businesses utilising inefficient and ineffective equipment etc.) were preventing businesses from implementing measures to address operating inefficiencies and improve productivity independent of receiving support; <p>Based upon the research findings the Evaluation Team concludes that there is sufficient evidence to indicate that there is a continued need for Invest NI to provide support to NI businesses through the PIS.</p>						
Additionality	<p>Levels of activity (61%) and impact (59%) additionality should be viewed positively (especially when benchmarked against other programmes/interventions) indicating that the Service has played a strong role in encouraging business to undertake productivity improvement activities and subsequently realise benefit from the support.</p>						
Duplication and complementarity	<p>The Evaluation Team concludes that the risk of the PIS duplicating other support was minimal. This is supported by the feedback from recipients of support; the majority of whom suggested that, in the absence of the PIS, they would not have been able to get similar support elsewhere.</p>						
Economy Efficiency and Effectiveness	<table border="1"> <thead> <tr> <th>Indicator</th> <th>Evaluation Team’s Commentary</th> </tr> </thead> <tbody> <tr> <td>Economy measures are concerned with showing that the appropriate inputs (i.e. the resources used in carrying out the project) have been obtained at least cost</td> <td> <p>As noted in Section 1, internal business cases identified the majority of project inputs that perceived to be required at the time of approval. Corporate recruitment processes were utilised to identify and subsequently recruit the appropriate levels of resources that were perceived to be required at that time.</p> <p>As such, it is the Evaluation Team’s view that Invest NI made appropriate efforts to ensure that project inputs were obtained at least cost to the NI economy.</p> <p>The preceding analysis clearly indicates that the support that was delivered by the PIT was of a high standard and has supported businesses to realise significant monetary and non-monetary benefits.</p> </td> </tr> <tr> <td>Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs</td> <td> <p>As noted previously, the PIT established an engagement process model which supported it to both identify the needs of businesses and subsequently deliver tailored solutions to address these needs.</p> <p>Based upon the significant number of businesses supported (albeit at differing levels of intensity), the high</p> </td> </tr> </tbody> </table>	Indicator	Evaluation Team’s Commentary	Economy measures are concerned with showing that the appropriate inputs (i.e. the resources used in carrying out the project) have been obtained at least cost	<p>As noted in Section 1, internal business cases identified the majority of project inputs that perceived to be required at the time of approval. Corporate recruitment processes were utilised to identify and subsequently recruit the appropriate levels of resources that were perceived to be required at that time.</p> <p>As such, it is the Evaluation Team’s view that Invest NI made appropriate efforts to ensure that project inputs were obtained at least cost to the NI economy.</p> <p>The preceding analysis clearly indicates that the support that was delivered by the PIT was of a high standard and has supported businesses to realise significant monetary and non-monetary benefits.</p>	Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs	<p>As noted previously, the PIT established an engagement process model which supported it to both identify the needs of businesses and subsequently deliver tailored solutions to address these needs.</p> <p>Based upon the significant number of businesses supported (albeit at differing levels of intensity), the high</p>
	Indicator	Evaluation Team’s Commentary					
Economy measures are concerned with showing that the appropriate inputs (i.e. the resources used in carrying out the project) have been obtained at least cost	<p>As noted in Section 1, internal business cases identified the majority of project inputs that perceived to be required at the time of approval. Corporate recruitment processes were utilised to identify and subsequently recruit the appropriate levels of resources that were perceived to be required at that time.</p> <p>As such, it is the Evaluation Team’s view that Invest NI made appropriate efforts to ensure that project inputs were obtained at least cost to the NI economy.</p> <p>The preceding analysis clearly indicates that the support that was delivered by the PIT was of a high standard and has supported businesses to realise significant monetary and non-monetary benefits.</p>						
Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs	<p>As noted previously, the PIT established an engagement process model which supported it to both identify the needs of businesses and subsequently deliver tailored solutions to address these needs.</p> <p>Based upon the significant number of businesses supported (albeit at differing levels of intensity), the high</p>						

Table 8.2: Summary of Value for Money

VFM Indicator	Conclusion	
		levels of satisfaction with the support and the substantial economic impact made by the Service, we consider that Invest NI has achieved the maximum output from a given set of inputs.
	Effectiveness measures are concerned with showing the extent to which aims, objectives and targets of the project are being achieved	As detailed previously, the main SMART objective that was established for the Service was achieved. Whilst more limited progress was made to other internal targets established by the PIT, we conclude on balance that the effectiveness measure of VFM was achieved.
Cost effectiveness	<p>Anticipated cost effectiveness indicators were not provided within the Business Cases for the PIS.</p> <p>Given the level of net additional GVA (i.e. £10,061,559) that has been provided by the Service and the full economic cost of delivering the support (i.e. £1,076,798), then the GVA return on investment is £1:£9.34. The cost per business supported (N=459) was £2,346. Given the intensity of support that was typically provided to businesses through the Service, coupled with the benchmarking findings which indicate that the return-on-investment is broadly comparable with similar programmes elsewhere, we would conclude that the resulting cost effectiveness indicators are reasonable.</p> <p>It is the Appraisal Team's view that this return-on-investment level should be viewed positively.</p>	
Economic Efficiency test results	<p>Positively, from a monetary perspective the analysis suggests that the PIS has:</p> <ul style="list-style-type: none"> • Contributed £19.6m in gross or £10.1m in net additional GVA; • Supported the creation of 90 gross or 46 net additional FTE jobs; • Safeguarded 330 gross or 195 net additional jobs; and • Delivered £2,767 in gross or £1,421 in net additional annual productivity per FTE. <p>The feedback from businesses suggests that the support has assisted them to realise a number of non-monetary benefits including (but not limited to) increasing competitiveness and sustainability and embedding a cultural shift towards continuous productivity improvement across organisations.</p> <p>The Service also has contributed to providing the NI economy with a number of other wider (including knowledge transfers and skills development) and regional (including the innovative nature of the project) benefits.</p>	

9. CONCLUSIONS & RECOMMENDATIONS

9.1 Introduction

The section presents the Evaluation Team's key conclusions and recommendations arising from the evaluation process.

9.2 Conclusions

9.2.1 *Strategic Context and Rationale (TOR Points 32b-32d)*

At the time of approval, there was a need for Government to provide support to encourage greater levels of innovation in order to facilitate business growth and reduce the productivity gap with other UK regions. Research suggested that a number of market failures (including asymmetric information and co-ordination failures) and non-market failure factors (e.g. constraints relating to capacity and throughput, businesses utilising inefficient and ineffective equipment etc.) were preventing businesses from implementing measures to address operational inefficiencies and improve productivity independent of receiving support.

Reflecting this market need, the NI Government (including DETI and Invest NI) placed a strong emphasis on the need for support to be provided to encourage businesses to:

- Address barriers to business growth;
- Increase innovation in its widest sense including encouraging businesses to transform creative thinking into new and improved processes (i.e. engage in process innovation);
- Embed a culture of change in approach and behaviours within NI businesses and their leaders; and
- Increase business' understanding of innovation and facilitate the exchange and exploitation of knowledge by supporting businesses with high growth and export potential to apply the use of Productivity Improvement Tools and Techniques in order to leverage competitive advantage from the innovation process

It is the Evaluation Team's view that there was, and continues to be, clear alignment between the aims and objectives of the PIS and the strategic imperatives of the NI Government (including with DETI and Invest NI's Corporate Plans).

Indeed, based upon the outcomes derived by recipients of support, the Evaluation team concludes that the PIS made a positive contribution to realising these strategic imperatives.

9.2.2 *Operation and Delivery (TOR Points 32e-32h)*

The PIS is based around the delivery of tailored one-to-one and/or one-to-many support to assist businesses to introduce 'Lean Thinking' and effective supply-chain management approaches in order to enhance their operational efficiency and productivity. The Service was managed and delivered internally within Invest NI (by the PIT) who drew upon external expertise, as and when required.

A total of 459 unique businesses received support through the PIS during the period under review. The intensity of the support that was ultimately delivered was tailored to business' specific needs. For example, the analysis suggests that:

- The PIT visited and provided advice to 211 NI businesses on 224 separate occasions;
- 47 businesses received a productivity diagnostic plan;
- There were 665 employee attendances from 231 unique businesses at the benchmarking / best practice networking events;
- There were 1,739 employee attendances from 213 unique businesses at 105 training sessions during the period under review; and
- 137 businesses commenced one-to-one mentoring engagement during the period, the majority of which sought to assist them to implement lean thinking and principles within their business. Just under two-thirds of businesses (64% - N=138) have completed their one-to-one mentoring engagements with the PIT, with the remainder of businesses (36% - N=138) continuing to receive support within their respective areas.

It is Invest NI's view, and shared by the Evaluation Team, that a level of latent demand presently exists for PIS support. This assertion is based on the fact that:

- Despite the broadly equal split in Invest NI's client base between manufacturing and service-based businesses, monitoring information provided by Invest NI indicates that circa four-fifths of the RDS' raised were for businesses from the manufacturing sector. It is Invest NI's view, and shared by the Evaluation Team based on its discussions with a number of CEs and businesses that did not engage with Service, that this is likely to reflect the fact that there continues to be a misconception (both amongst a number of CEs and within the NI business base) that productivity improvement tools and techniques are more overtly focused on supporting manufacturing rather than service-based businesses.
- It is the PIT's view that, while progress has been made in working with businesses from a more diverse range of sectors, further work is required to support businesses such as those operating in the ICT, financial/transactional services, and legal sectors. In addition to the misconception that may exist amongst these businesses with regards to the applicability of lean concepts to non-manufacturing sectors, consultation with Invest NI indicates that there may be additional issues relating to the perceived credibility and technical ability of the PIT to provide support to these sectors;
- Latent demand is likely to exist within Invest NI's manufacturing client base which the PIT has thus far not been able to address (e.g. due to the availability of resource, a perceived view amongst some businesses that they do not require support and/or do not feel that the Service can provide the support that they require). The Evaluation Team's consultation with a number of manufacturing businesses, that had not received support through the Service, provides weight to this view with a number of businesses expressing strong interest in receiving support from the Service moving forward;
- Whilst noting that considerable work has been undertaken to provide productivity support in the area of supply-chain management, it is Invest NI's view that additional work could be undertaken in this area. It was noted that the Wrightbus supply-chain intervention model could potentially be rolled out to a number of strategically important NI businesses;
- Consultation with the PIT indicates that the majority of effort has been placed on the delivery of support to businesses facing operational instability or stability. However, it is Invest NI's view that additional work is required to support businesses operating at the managed improvement stage which are seeking to implement strategic change management practices and more formally embed a culture of continuous improvement; and
- Moving forward it is the PIT's view that additional work should be undertaken to address the needs of high growth businesses.

It will be essential that a holistic Corporate-wide strategy is developed to address this demand (assuming that appropriate levels of resourcing are made available). We have identified a number of recommendations for Invest NI's consideration in this regard.

Based upon the feedback from businesses, we consider that the Service was, in general, managed and delivered in a proactive and efficient manner by Invest NI, with the Service's content, structure and delivery model being appropriately developed on reflection of evolving client need. This has, in the Evaluation Team's view, contributed to support being channelled in an effective and efficient manner to address the needs of NI businesses.

The feedback from businesses in receipt of PIS support during the period under review also suggests that (amongst other things):

- The content, structure and duration of support is, on the whole, appropriate to meet the needs of businesses;
- The PIT, and any supporting external expertise, transferred relevant knowledge and advice in a timely manner; and
- Recipients of one-to-one mentoring support welcomed the tailored nature of support that was provided and the range of practical productivity improvement tools that were adopted by the PIT.

Reflecting the quality of the support received and subsequent impact that it made on recipients of support, the vast majority of businesses suggested that the support was effective in meeting their needs and this was reflected in (amongst other things) the high proportion of businesses that had taken forward the process innovation activities based on the advice provided by the PIT.

Given the levels of demand for the PIS, business' high levels of satisfaction with the support and the positive contribution of the Service to the NI economy, the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate.

Based upon monitoring information provided by Invest NI, the actual full economic cost of delivering the PIS during the period under review was c. £1.1m. £892k (or (83%) of these costs were in the form of staff costs (primarily associated with the PIT) and the remainder (c. £185k or 17%) related to other delivery costs.

9.2.3 *Performance and Impact (TOR Points 32i-32m)*

Based on the feedback from businesses in receipt of support, the following key conclusions can be drawn with regards to the monetary and non-monetary economic impact made by the PIS during the period under review:

- The Service has stimulated process innovation amongst recipient businesses by enhancing (amongst other things) their:
 - Ability to identify the issues that were inhibiting their productivity;
 - Understanding of the productivity improvement tools and techniques that can be employed to improve their productivity; and
 - Ability and confidence to ultimately integrate the productivity tools and techniques within the business.
- Levels of activity (61%) and impact (59%) additionality should be viewed positively (especially when benchmarked against other programmes/interventions) indicating that the Service has played a strong role in encouraging business to undertake productivity improvement activities and subsequently realise benefit from the support;
- Market failure, typically in the form of asymmetric information, has played a strong role in preventing businesses from taking forward similar productivity improvement activities independent of support;

- The Evaluation Team’s analysis suggests that that the displacement factor at the NI level is 12.95%; whilst at the GB level it is 16.38%;
- Positively, from a monetary perspective the analysis suggests that the PIS has:
 - Contributed £19.6m in gross or £10.1m in net additional GVA;
 - Supported the creation of 90 gross or 46 net additional FTE jobs;
 - Safeguarded 330 gross or 195 net additional jobs; and
 - Delivered £5,533 in gross or £2,842 in net additional productivity per FTE.
- The feedback from businesses also suggests that the support has assisted them to realise a number of non-monetary benefits including (but not limited to) increasing competitiveness and sustainability and embedding a cultural shift towards continuous productivity improvement across organisations.
- The majority of businesses suggests that they would not have been able to get similar support elsewhere; and
- The Service has contributed to providing the NI economy with a number of other wider (including knowledge transfers and skills development) and regional (including the innovative nature of the project) benefits.

9.2.4 *Return-on-Investment and VFM*

Given the level of net additional GVA (i.e. £10,061,559) that has been provided by the Service and the full economic cost of delivering the support (i.e. £1,076,798⁸⁷), then the GVA return on investment is £1:£9.34⁸⁸.

It is the Evaluation Team’s view, based upon all available evidence, that the PIS delivered VFM in respect of the costs incurred, during the period under review.

9.2.5 *Equality Considerations (TOR Points 32r)*

The Evaluation Team has identified no negative equality impacts, and considers the Service to be accessible to all Section 75 groupings and people with disabilities.

⁸⁷ Please note that this cost excludes time spent by PIT members on wider Invest NI and PIT corporate responsibilities (i.e. non-core delivery activities such as assessing Local Economic Development (LED) and INTERREG applications, undertaking Business Health Checks and caseworks/appraisals etc.).

⁸⁸ Return-on-investment is based on actual outcomes derived to date i.e. excludes outturns anticipated to be derived by businesses in the future.

9.4 Recommendations

1. Given the reported positive impacts that the PIS has had on businesses and the wider NI economy, and evidence of continued need for support, Invest NI should continue to provide support through its PIS. In doing so all appropriate approvals should be sought in a timely manner to ensure the continuity in the provision of support to NI's business base.
2. Invest NI should develop a holistic strategy to addressing the latent demand that is likely to exist for the Service. It is the Evaluation Team's view that such a Strategy should include (at a minimum) consideration of:
 - a) Undertaking additional internal and external awareness raising activities. These activities should place focus on clearly articulating (amongst other things) the:
 - Nature of activity that the Service seeks to support (and importantly the activity that it will not support);
 - Nature and levels of support that is available to businesses; and
 - The wider range of sectors that productivity improvement tools and techniques can potentially be embedded.
 - b) Utilising external expertise to support the PIT in building credibility and sector-specific knowledge/expertise in those non-manufacturing sectors that the Service has had more limited impact e.g. ICT, transactional services etc. This may involve the external expertise leading initial business engagements with the PIT providing a supporting role until such times when it has built a suitable level of credibility and sector-specific knowledge to facilitate these engagements alone.
 - c) Linked to Recommendation 2b, by way of fostering demand and buy-in for the Service within these sectors, Invest NI should seek leverage from its considerable industry linkages e.g. with ICT businesses through the various collaborative networks that have been established as part of the Collaborative Network Programme (CNP) and Momentum (the NI ICT Federation). Invest NI should ensure that suitable marketing/promotional materials (e.g. case studies) are created from these engagements and distributed to other businesses operating within these sectors
 - d) Providing additional resources e.g. through an expansion in the number of PIAs and/or the wider use of external expertise to support the PIT (as and when required);
 - e) Reviewing the appropriateness of the range of interventions that are available to support businesses to implement longer-term strategic cultural and change management practices and more formally embed a culture of continuous improvement; and
 - f) How best to integrate the wider range of Invest NI supports/interventions to address businesses' productivity improvement needs. Consideration should also be given to including a formal meeting between the PIT, the business recipient and their CE to identify any further support required by the business.
3. In line with NIGEAE guidance, Invest NI should ensure that appropriate consideration is given to identifying the full-economic costs of delivering any future phase of the Service. The Appraisal should also focus upon establishing a more appropriate mix of SMART activity, output and outcome targets which are more intrinsically focused and linked with the overarching aims and anticipated outcomes of the Service. The outcomes of this evaluation should be used to inform all future target setting.

4. Invest NI should undertake a review of its procedures for monitoring the activity delivered by Service. Ultimately, monitoring information should be collated and retained on a central database that clearly identifies (at an individual business level) the:
 - Activity that was delivered (including who the support was delivered to, when it was delivered, the number of one-to-one mentoring projects completed and the number of days support provided to each business); and
 - The impacts and outcomes that were achieved. This will require monitoring to be completed on a consistent basis and the nature of impact/outcome metrics to be clearly defined.

All information monitored should be, at a minimum, intrinsically linked to the SMART objectives that are established for the Service.

5. Linked to Recommendation 4, and by way of assisting post programme evaluation, consideration should be given to establishing (where possible) quantified baselines in relation to key operational impact (e.g. levels of output cycle times, changeover times, delivery performance) and business outcome (e.g. turnover, costs) metrics.
6. Whilst the Evaluation Team is not aware of Invest NI's corporate policies on the storage of corporate information or its practices in terms of storing information, we recommend that all Service-related information is saved and filed appropriately in a central repository on Invest NI's server. This should include all pertinent programme information including Economic Appraisals (where completed), casework papers, approval documentation and all programme monitoring information.
7. Consideration should be given to businesses being required to make a financial contribution to the receipt of one-to-one mentoring support. The benefits of such a system should be carefully weighed up against the potential impact on levels of demand and the costs associated with administering the system.
8. Consideration should be given to establishing a networking forum whereby businesses in receipt of support can share good practice.