Engineering an industrial strategy

A Position Statement provided by the Institution of Engineering and Technology
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The Secretary of State for Business, Innovation and Skills, Rt Hon Vince Cable MP, has set out the Coalition Government’s vision for an industrial strategy. The IET considers that it is timely to analyse the basis of industrial strategies to inform this debate. In this paper we have outlined four key pillars to form the basis of a successful national industrial strategy. These pillars have been developed with engineers, industry leaders and academics in the manufacturing sector and reflect their insights and experience of what a successful strategy should contain.

**Summary**

There are four key pillars which form the basis of a successful industrial strategy. These are:

- A comprehensive and defined strategic vision of the challenges the Government is seeking to resolve, along with a set of strategic objectives or themes which will help to develop solutions. A strategy should be developed before industrial policy decisions are taken.
- This strategic vision should be backed up by sound and accessible analysis, so that all actors can take decisions based on the facts.
- A long term approach should be taken, with milestones to serve as review points. At these points industry and government can assess next steps.
- The strategy should be embedded across all of government with clear accountability for review and delivery provided.

**Background**

An industrial strategy is an attempt by a government to define the framework it will use in the development of its industrial policy. The history of modern industrial strategy in the UK has been characterised by significant pendulum swings from an interventionist ‘picking winners’ approach in the 1970s which ended following uneconomical policy interventions, to a deregulation, ‘laissez-faire’ model in the 1980s and 1990s which saw a greater focus on faster returns on investment. The Labour governments during the period 1997-2010 made attempts at ‘industrial activism’ and the promotion of key sectors, along the lines of their ‘third-way’ ideology; however for much of the past 20 years, the language of industrial strategy and calls for active government intervention within the UK was confined to a few trade unions.

Industrial strategies are back on the political agenda, there are a number of reasons for this. The financial crisis of 2007/8 and the subsequent impact on the UK economy revealed that the economy had been too reliant on financial services and domestic consumption for economic growth. Rebalancing the economy by growing other sectors, including manufacturing, is seen as a necessary step to end this over reliance, and provide resilience to the economy. This can be achieved by spreading risk across sectors and regions where growth can be readily provided through increased net trade and investment.
Should governments intervene in the economy?

It is widely recognised that governments intervene in the economy in many ways,

“The Government shapes the British economy with its decisions every day. It makes many decisions about skills and universities, on research, on technologies, and on infrastructure. Through what it buys, and how it goes about buying it, the regulations that exist, the markets it oversees, and tax policy. All of these send messages to the economy.”

Rt Hon Vince Cable MP, September 2012

Creating a defined industrial strategy provides a coherent, comprehensive and tactical approach to some or all of this intervention. Such a tactical approach enables the Government to actively take measures to meet its high level societal, economic and other objectives, such as reducing carbon emissions, tackling the challenges of an aging population or addressing food security.

The four key pillars making up a successful industrial strategy

A defined vision with strategic objectives
An industrial strategy sets the direction or vision along with the tactical objectives for subsequent industrial policy decisions and which policy levers to use. In short, strategy defines the ‘what’ and ‘why’, policy defines the ‘how’.

While this distinction between strategy and policy may seem like a moot point, it is actually a crucial and important separation and one which is often conflated. When industrial policy decisions are made without a strategic underpinning, the risk of such policies failing is maximised. Such an approach also creates the conditions for overt and unjustified political intervention, where the ‘why’ and ‘what’ of a strategy gets decided by the short term aims. In such circumstances policy can fall victim to being decided on supporting, among other things, those who shout the loudest.

It is worth noting that policy intervention is also not just about redistributing money, but could be something as simple as more coordinated decision making by delivery agencies to allow industry to respond quickly to market opportunities.

Key definitions
■ The term industry can be defined by the categories used in the Office for National Statistics Index of Production, which measures the output of the production industries in the UK. These include (with percentage share of the September Index of Production): Mining and quarrying (15.4%); Manufacturing (67%) (with 14 sub-sectors broken down as a separate Index of Manufacturing); Electricity, gas and other energy generation (9.6%); Water supply and waste management (8%).

■ Industrial strategy sets out the government’s tactical objectives for the UK economy, outlining what objectives or challenges it will seek to address and why. There can be multiple objectives, however if this is the case these objectives should be aligned to avoid unintended consequences.

■ Industrial policy sets out the measures or policy levers which will be used to guide the economy toward the stated strategic objective(s). This would include areas such as tax and skills policy, procurement practices or research and innovation funding priorities.

An industrial strategy must set out, in simple terms, the high level tactical objectives that it is seeking to achieve. Generating economic growth is an outcome from a strategy not a strategy in itself. The process of identifying these strategic objectives should not sit solely with Ministers and civil servants in Whitehall, but should involve active engagement with all sections of industry.

Strategic objectives often involve trade-offs between competing priorities; where there are potential conflicts between different objectives, these should be acknowledged and the reasons for prioritising one objective above another should be provided. Equally, an industrial strategy must detail key performance indicators against which policy should be measured.

Case study: How industrial policy links to achieving strategic industrial objectives
Germany’s industrial strategy has an innovation component where strategic ‘direction is determined by the benefit of new technologies for humankind’ in five areas that represent ‘challenges of global dimensions’. These areas are health and nutrition, climate and energy, mobility, communication and safety. By making this their strategic focus from the outset; key technologies and sectors are supported on the basis that it will help to meet the requirement gaps identified as part of the strategy. Alongside this, horizontal policy measures in areas such as tax, skills and procurement are geared toward supporting this strategy.

In the development of tactical objectives it can be tempting to point to other countries and suggest copying what looks like a working model. A UK industrial strategy must be developed based on our needs as a country. While we can learn lessons from other countries the overall social/cultural, economic and industrial structures in these countries are rigid ones which are not capable of wholesale transfer to the UK.

The core components of this pillar are:
■ An industrial strategy that sets the direction or vision along with the tactical objectives for subsequent industrial policy decisions. Industrial policy decisions should be taken based on a strategic underpinning.
■ The industrial strategy must detail key performance
Once a clear strategic vision has been identified, objectives A UK industrial strategy must be developed based on the social, cultural, economic and industrial structures of the UK, not simply by copying the strategy of other countries.

**Sound and accessible analysis to back up the vision**

Once a clear vision has been identified, this should be supported by well researched evidence into how this will be filtered through to particular industrial sectors and to identify the innovation, supply chain and technology readiness levels which will support the overall strategy.

A sectoral approach is required in order to both formulate an effective strategy and to ensure that eventual policy measures will work for real companies once implemented. For this support to be meaningful, it should first identify the challenges for growth and development in each sector. This should be achieved by bringing together Ministers from across government and a representative mix of organisations from the relevant sector, to develop a clear picture of the challenges, capabilities and growth prospects of that sector.

When developing the innovation component of an industrial strategy often the focus is put on the development of innovative products. A narrow focus on only innovative products is a risky path to follow as it ignores the comparative trade advantage at all stages of the value chain. This is crucial when assessing capabilities of sectors and technologies. Product, process and service innovation should all be factored in.

**Case Study: Pro-Enterprise Panel Singapore – engagement with industry at the highest levels of government**

The Pro-Enterprise Panel (PEP) is a public-private partnership set up in 2000 to help businesses overcome rules and regulations that might hinder them. The PEP is chaired by the Head of Civil Service with mainly business leaders as members, and supported by a network of senior public officers.

The PEP focuses on real problems that businesses face and seeks to provide effective and practical solutions in a timely manner. Every suggestion is taken seriously, whether it is on out-dated rules, tedious processes, or onerous requirements. The PEP also facilitates access to funding streams including the First Mover Framework, which gives entrepreneurs with innovative business ideas that maximise the use of public assets a head start.

Regardless of how effective the analytical tools used are, a strategy developed in Whitehall without active participation from industry is unlikely to fully capture the needs of industry. Without understanding these needs, industrial strategy objectives are left open to failing at the hurdle of implementation. How government engages with industry is important. All organisations included in a sector should have an opportunity to contribute.

In addition to this, the analysis used to develop an industrial strategy should be written in accessible language. An industrial strategy should be clear, concise and use language that resonates with industry. Language is important because successful delivery of any strategy relies on all partners understanding the overall vision and the route which will be pursued to achieve that vision.

Clear language also helps in an international context. A clearly defined industrial strategy sends signals to other countries about where the UK is heading, what will be done to get there and therefore give opportunities for foreign investors to get involved, international partnerships to be developed and provide clearer signals on export and import opportunities.

**The core components of this pillar are:**

- Once a clear strategic vision has been identified, objectives should be developed by using well researched evidence.
- A sectoral approach is required in order to both formulate the strategy and to ensure that the eventual policy measures will work for real companies once implemented.
- An industrial strategy should be clear and concise, and use language that resonates with industry. Clear language also helps to provide international clarity.

**A long term approach with defined milestones**

An industrial strategy must focus on the long term. In practice this means that an industrial strategy must consider the current economic and social climate, while looking beyond the immediate problems to consider the issues, products, technologies and challenges of the future.

The four to five year election cycles can make long term strategic planning difficult. Foresight research into new technology growth areas can help to alleviate these planning difficulties by providing evidence on the long term. Even if an industrial strategy considers challenges 10-15 years into the future, industry leaders will always question whether future governments will be prepared to accept the programme established by this government, or if new governments will be tempted to start from scratch. We recognise that achieving a political consensus can be difficult and there are very few mechanisms in UK politics which promote genuine cross-party engagement in strategic issues.

There is a growing recognition among political parties that on some key long term issues, such as funding for adult social care and pension reform, political parties have to come together and agree a way forward. Industrial strategy should be seen in this context and parties should commit to working together in the national interest. A recognition that a strategic vision is at the very least needed would be a good starting point for political parties to agree.
Industrial strategy – recent statements

“We need what I call a modern industrial strategy. Creating an ambitious, co-ordinated and muscular approach to government which allows them to flourish.”
David Cameron, Prime Minister, November 2012

“Changing the way that we generate our wealth requires a strategic approach to long term challenges in the business environment, and a very different relationship between governments and markets.”
Chuka Umunna, Shadow Secretary of State for Business Innovation and Skills, November 2012

“I sense however that there is still something important missing - a compelling vision of where the country is heading beyond sorting out the fiscal mess; and a clear and confident message about how we will earn our living in future.”
Vince Cable, Secretary of State for Business Innovation and Skills, February 2012

“We must not be crippled by a fear that any industrial strategy cannot possibly work because it must mean repeating the mistakes of the 1960s and 1970s.”
David Willetts, Minister of State for Universities and Science, May 2012

Strategic consensus is a must have. While some industrial policies can change with the electoral cycle, a strategy built on broad political consensus will help to ensure that the long term direction of travel remains constant. The aim should be to seek consensus down to the level of agreeing most of the strategic objectives, why these objectives are important and the data and analysis to back up this choice. Milestones should be put in place to serve as review points where different political parties can make their views known on the direction of travel and whether a change needs to be made.

The core components of this pillar are:

- An industrial strategy must focus on the long term to consider the issues, products, technologies and challenges of the future which need to be addressed.
- There is a growing recognition among political parties that on some key long-term issues, parties have to come together and agree a way forward. The industrial strategy should be seen in that context.
- The aim should be to seek consensus down to the level of agreeing most of the strategic objectives, why these objectives are important and the data and analysis to back up these choices. With disagreement expected on policy decisions to implement that strategy and disagreement once key milestones have been reached.

Coordination and accountability across government

An industrial strategy cannot be the responsibility of just one government department. A cross government strategy is needed which incorporates the key policy development and delivery agencies and all government departments.

Achieving this policy coordination and commitment is difficult. It is unlikely to happen in the normal course of policy development and therefore requires leadership and accountability at the highest government levels. Without government departments being directed to engage in the development of an industrial strategy and being accountable for its delivery, there is a risk that in practice the industrial strategy will be seen as belonging to one government department.

A key test for an industrial strategy is the extent to which government departments are accountable for the successful delivery of the strategy and the mechanisms put in place to subsequently ensure effective industrial policy co-ordination. Predicting the future is difficult and clear accountability helps to balance this. While an industrial strategy must have a long term element, the best industrial strategies recognise this difficulty and have mechanisms built in to ensure any long term predictions or assumptions in the strategy are continuously reviewed and validated, and where these are not living up to expectations, are revised.

Industrial strategy – options to provide accountability and oversight

- **Parliamentary Committee** – A Parliamentary Select Committee could be established along the lines of the Liaison Committee which among other things hears evidence from the Prime Minister on matters of public policy.
- **Cabinet Committee** – A Cabinet Committee could be established to ensure effective coordination across government at the ministerial level, reporting to the Cabinet on the progress of achieving.
- **Sole ministerial responsibility** – A Minister could be given sole responsibility for ensuring the implementation of an industrial strategy. Such a demarcation may however undermine the ‘cross-government’ approach that is required.
- **A separate Economic Ministry** – Economic policy falls under the responsibility of both the Treasury and the Department for Business Innovation and Skills. In other countries a clear divide exists not just in terms of structure but between the roles and responsibilities of a Finance Ministry and an Economic Ministry to avoid fiscal decisions dominating over others.
- **Cabinet Office** – In the US the Office of Management and Budget is a part of the Executive Office of the President, with the role of ‘implementation and enforcement’. It is tasked with budget development and execution; evaluating management and performance; coordinating and
providing an economic assessment of Federal regulation; legislative coordination, issuing Executive Orders and Presidential Memoranda.

The core components of this pillar are:
- An industrial strategy cannot be the responsibility of just one government department.
- Achieving policy coordination and commitment requires leadership and accountability at the highest government levels.
- Predicting the future is difficult and clear accountability can help to mitigate this risk by ensuring such predictions are continuously reviewed and validated.

Managing risks in delivering an industrial strategy

The reluctance to develop and enact an active industrial strategy over the past 30 years can be attributed in part to past industrial strategy failures. However, when faced with the risk of failure we should seek to devise ways to minimise that risk, not avoid setting strategic objectives in their entirety. As with all strategies, careful monitoring is required to ensure objectives are being met. Policy decisions in the past have tended to ignore the need to develop an overarching strategy which subsequently gives rise to political decisions based on short term objectives.

The process of setting industrial strategic objectives is by nature unlikely to have been attempted before. This non-repeatability and limited past experience is often an inhibitor as it presents an unquantifiable risk.

Case Study: Ministry of Economy, Trade and Industry (METI)

Japan

The Japanese Ministry of Economy, Trade and Industry has jurisdiction over broad policy areas including Japan’s industrial, trade policies, energy security and control of arms and exports. METI also has an important role in scrutinising proposed legislation to assess the likely impact of this legislation on business.

Where proposals conflict with the interests of Business, METI can require departments to amend the legislation. This scrutiny role provides an important space to consider the unintended consequences of proposed policies on business, and a chance to make amendments to these policies before they are enacted and implemented.

Vigilance should be directed toward monitoring and validating success metrics, learning from past mistakes to inform future policy interventions (in particular watching for unintended consequences) and setting up effective mechanisms to ensure ‘client-politics’ or rent-seeking behaviour is minimised.

As with any strategy it is important to be clear up front about the unintended consequences which can arise. A UK based manufacturing plant may not directly relate to the tax take that will benefit UK domiciled citizens, process innovation could lead to a decline in jobs in manufacturing plants as it has done over the last few decades. These downsides can however be countered by upsides in other areas. Through developing expertise in chosen technologies or sectors, UK firms can invest in companies based overseas to capitalise on the comparative trade advantage available at a different stage of the value chain, thus providing a return on investment and an export market.

Conclusion

The need for an industrial strategy is back on the political agenda. This is a good thing. Governments, whatever their hue, make decisions on intervening in the economy, it is sensible for these interventions to be based on a coherent strategy.

This strategy is least likely to fall victim to failure where:
1. There is a comprehensive and defined strategic vision of what it is the Government is seeking to solve along with a set of tactical objectives which will help to develop a solution. A strategy should be developed in advance of industrial policy decisions being taken.
2. The strategy is backed up by sound and accessible analysis, so that all actors can take decisions based on facts.
3. A long term approach is taken, with natural progress milestones to serve as review points. At these points industry and government can assess next steps.
4. The strategy is embedded across all of government and clear accountability for review and delivery is provided.

Industrial strategies are risky; by definition the challenges it is seeking to address will be new and therefore require new approaches to address them. Risks should be managed and not merely avoided.

End notes

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