



The invisible drag on UK R&D

How corporate incentives within
the FTSE 350 inhibit innovation

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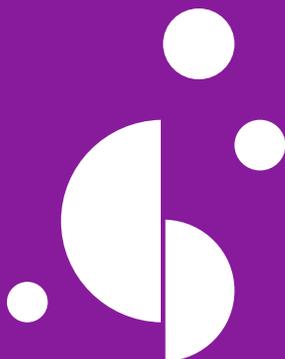
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Executive summary

Innovation is widely recognised to be one of the key drivers of economic growth and productivity. Shareholding institutions have asked companies to prioritise long-termism and innovation, including corporate research and development (R&D). The UK government spends billions of pounds subsidising business R&D.

One would therefore expect that the incentives given to company directors would, on balance, encourage innovation. This study shows that the opposite is the case. In an exhaustive analysis of the metrics used as performance conditions in incentive pay in the FTSE 350, it suggests that where innovation-related metrics are used, they invariably sit alongside, and are frequently outweighed by, short-term financial measures which can be enhanced by cutting innovation.

This does not mean that innovation is entirely overlooked. Almost all companies operate short-term incentive plans and whilst on the most generous interpretation a majority (65.4 per cent) of FTSE 350 firms do utilise a metric which might encourage innovation, 91.1 per cent use a metric which discourages innovation. Such disincentivising metrics also vastly outweigh the innovation-related metrics, with an average weighting of 38.8 per cent compared to 16.1 per cent. Further, only a minority (23.2 per cent) of FTSE 350 firms use an innovation-metric in long-term incentive plans, compared to 84.2 per cent using a metric which disincentivises innovation. Again, in almost all cases, innovation-related metrics have a lesser weighting than other performance conditions (an average of 49.5 per cent for negative and 33.4 per cent for positive).

This study also investigates whether, perhaps as a counter to these incentives, a committee of the board had been appointed with a specific remit to encourage innovation. It finds that this is very rarely the case. As a result, we argue that in order to drive greater corporate innovation:

- Company remuneration committees should ensure that remuneration packages are balanced in promoting appropriate innovation.
- Institutional investors and shareholders should not approve remuneration packages which clearly discourage innovation.
- The Financial Reporting Council (or its successor body) should explicitly include innovation within their considerations of regulatory frameworks for effective stewardship.
- The government, which spends billions annually on subsidising research should indicate its will and desire to see this bias against innovation removed from remuneration packages.

However, we recognise there are barriers to change. If this issue is to be resolved, investors and institutions need to champion the solution. With over £20 billion being spent on corporate R&D, and with government targets to increase that number, we hope that such champion(s) will emerge.

Foreword

Innovation in the UK

Innovation is widely recognised to be one of the key drivers of economic growth and productivity.¹ Unfortunately, despite its apparent profitability, UK firms appear to be neglecting long-term investment in innovation.

UK businesses' expenditure on research and development (R&D) is part of the puzzle. Whilst R&D is not the same as innovation, it is a substantial component, with UK businesses spending over £23 billion in 2017 – led by the pharma, IT, automotive and aerospace sectors.² This is certainly not small change, but in comparison with other developed nations, and even allowing for differences in sector, it remains woefully little as a share of the overall economy: Israel's business R&D spend, for instance, comprises 3.6 per cent of GDP; Germany 3 per cent, the US around 2 per cent – whilst the UK languishes at a little over 1 per cent.³

The government's current industrial strategy includes an aspiration to raise total UK R&D to 2.4 per cent – a level which is roughly equivalent to the rest of the OECD. Since business expenditure is the major component of this – significantly outweighing the R&D funded by government or universities – reaching this goal would require a very hefty increase in business R&D. If this is to be achieved, we therefore need to understand and overcome the factors which discourage firms from spending more on R&D.

Measuring innovation profitability

Given that the long-term average internal rate of return of corporate R&D has been estimated at around 10–15 per cent, and as high as 30 per cent in some studies, one might expect that firms would need no encouragement.⁴ However, one challenge for firms (and their investors) is that the return on investment for individual R&D projects is often difficult to measure, inherently uncertain, and may only accrue many years after the fact (the time to market for new therapeutic drugs, for instance, is often well over a decade).⁵

The upside may also be quite diffuse: there is clearly benefit in mining companies improving their geological techniques, say, though the specific benefit may be difficult to measure since it is spread over numerous projects. Other impact may be invisible: an airline innovating to reduce accidents, for example, may produce safer journeys but the economic value is again very difficult to measure.

Yet despite these difficulties, firms and their investors invariably say that they want to innovate. Therefore we would not expect that incentive packages proposed by firms, and approved by investors, would encourage directors to undertake actions which would give them a reward for cancelling profitable investments in innovation. Yet that is precisely what this paper finds.

Innovation and Incentives

This research, commissioned by Nesta from the independent stewardship support service Minerva Analytics, examines FTSE 350 companies – the largest 350 companies listed on the London Stock Exchange. It aims to understand the extent to which the design of directors' compensation may incentivise or disincentivise firms' investment in innovation, in aggregate.

It paints a disappointing picture: companies are more likely to use a metric which discourages innovation than encourages, and where an innovation-related incentive is adopted, only a minority are specifically long-term in nature. Instead, it finds that the overwhelming weight of incentives are geared towards financial performance, particularly short-term financial performance, which can be enhanced by cutting innovation. Moreover, there appears to be a significant lack of explicit board-level responsibility for innovation, in comparison with other corporate concerns such as sustainability.

The reasons for the choice of financial measures of performance are understandable, since these are relatively measurable and objective. But companies, investors and the government need to be cognisant of the fact that, unless countered, these metrics are likely to have unintended consequences which will dampen profitable innovation and long-term performance.

For the firms concerned, this report should prompt an internal examination of the real incentives or disincentives to innovate. For remuneration consultants, it presents a challenge: how to achieve some of the advantages of financial measures without encouraging short-termist management. For shareholders and fund managers, it should prompt a re-consideration of whether directors' interests are genuinely aligned with their own, or whether they are approving incentive packages that run contrary to their expressed wish to promote innovation.

Finally, though it is up to firms and their shareholders to decide on executive pay, the government currently spends billions of pounds of public money subsidising corporate research (including around £4 billion on R&D tax relief and about £1 billion for Patent Box⁶) and it is only right that we should ask whether this is being spent in the most effective way, if directors' incentives are pulling in the opposite direction.

Dr Christopher Haley

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Nesta

1

Introduction

Innovation is essential for long-term strategic growth. Focusing on short-term performance tends to be antithetical to an innovative mindset.

In purely practical terms, executives control how an organisation spends its money; they may choose to invest in innovation, or to direct the money elsewhere. In less tangible terms, executives must decide how to approach the market, both in its current state and in anticipation of future changes. Adapting to change may involve updating existing products and processes to meet new standards, or developing new products and processes to cater to new demands.

To drive innovation in an organisation, executives must be persuaded to invest the organisation's resources in productive innovation, and to direct the process of innovation; they must decide where they want to go, and how they want to get there. If directors' incentives matter, they should encourage that long-term process.

However, incentives must be applied carefully in order to promote the desired behaviour. Most obviously, innovation is not an end in itself: for a private company, it should be productive and profitable. But sometimes it will be years before it will be known whether an innovation has worked, and why it has worked. Indeed, it may be difficult to know the specific contribution which one innovation has made to subsequent outcomes.

However, in setting incentives, there may be a tendency to focus on 'objective' and shorter-term measures; for example company profitability. However focusing incentives on metrics like profitability may have adverse effects on a company's long-term growth,⁷ because directors may avoid making necessary short-term sacrifices which even profitable innovation may demand.^{8,9,10} The board may steer the company away from riskier investments in R&D if such risks would put their pay packets in jeopardy,¹¹ even though the riskier investments may be more rewarding.¹²

This paper looks at the FTSE 350 firms, examining their incentive packages and the performance measures they use. It also investigates whether they have nominated a committee to take board-level responsibility for innovation.

2

Method

The disclosure requirements for firms listed on the London Stock Exchange mean that companies are required to publish a substantial amount of information about themselves in the form of annual reports and other documents. In particular, they need to produce a substantial amount of information about the incentive packages applied to executive directors in remuneration reports. These in turn are voted upon by shareholders.

Nesta commissioned Minerva Analytics, the shareholder research group, to use these data, together with those from its database (containing information from previous company reports, analyst calls and so on), to analyse the metrics which were being used to incentivise executive directors. The sample covered all of the FTSE 350 as of late 2017. The analysis included:

1. A 'keyword search' of corporate reports (including annual reports, AGM circulars and non-AGM circulars, RNS announcements), to discover whether companies acknowledged the importance of innovation.
2. An analysis of board committees to see if the commitment to innovation was reflected in these governance structures.
3. An analysis of the quantitative financial measures used in incentive systems (based primarily on the annual remuneration report which forms part of annual report and accounts).
4. An analysis of the other, often qualitative, performance metrics used in determining remuneration.

In using word searches, we attempted to capture everything which would be defined as innovation within the *Oslo Manual*, the OECD guidelines on measuring innovation.¹³ Thus, we included measures related directly to innovation, such as R&D pipelines, as well as more tangential measures, such as discussion of sustainability practices or attempts to streamline company processes. The methodology for classifying incentives as encouraging or discouraging innovation is discussed more fully in the Appendix. We have aimed to be generous in our classification, so as to include a wide variety of activities which could feasibly be considered as innovation.

3

Findings

3.1 Innovation is mentioned regularly in annual reports

Many FTSE 350 firms discussed innovation in their annual reports, typically mentioning the importance of remaining competitive by creating new products or services. However, the level of detail disclosed varied across sectors: in particular, pharmaceutical firms typically went into great detail regarding their innovation processes and any new products produced. This suggests that companies are aware of the importance of innovation, or at least of shareholder interest in the subject.

3.2 Board-level innovation committees are rare

However, despite this acknowledgement of its importance, we found limited evidence that board structures had identified innovation as an area requiring particular oversight which would warrant disclosure.

On average, FTSE 350 boards have four committees.¹⁴ The UK Corporate Governance Code recommends boards establish audit, nomination, and remuneration committees. Companies in the financial sector should additionally have a risk committee (the risk and audit committees are often combined). If a committee is established, it should have a publicly available term of reference setting out what role the committee fulfils. The most common board committee types were:

1. **Audit committee:** 99.7 per cent of FTSE 350 boards have a committee with audit responsibility.
2. **Nomination committee:** 97.4 per cent of FTSE 350 boards have a committee with nomination responsibility.
3. **Remuneration committee:** 90.9 per cent of FTSE 350 boards have a committee with remuneration responsibility.
4. **Risk committee:** 32.6 per cent of FTSE 350 boards have a committee with risk responsibility, 41.1 per cent of such committees are combined with audit responsibility.
5. **Sustainability related:** 25.1 per cent of FTSE 350 boards have a committee with a sustainability related responsibility, the specific sustainability responsibility varies e.g. health and safety, CSR, environment, community development etc.
6. **Executive committee:** 23.4 per cent of FTSE 350 boards have an executive committee, other companies may have a below board-level executive committee.

None of the FTSE 350 firms had a specific innovation committee, although there are some firms which have committees that were (potentially) connected to this function:

5.2%

Investment

Eighteen companies had an investment committee

1.4%

Science

Five companies had a science committee, two of them combined science with technology. Four of the five companies with a science committee were in the pharmaceuticals sector, with Rolls-Royce being the exception.

1.4%

Corporate transaction

Five companies had a committee to oversee transactions such as acquisitions, mergers, and disposals.

1.2%

Technology

Four companies had a technology committee: Shire and Rolls-Royce combined technology with science whilst easyJet's technology committee focused specifically on IT.

0.6%

Operations

Two companies had an operations committee; BT Group and Kaz Minerals.

0.6%

Projects

Two companies – Antofagasta and Intu Properties each have a committee to monitor projects to ensure that investment decisions submitted to the board have been thoroughly tested.

0.6%

Strategy

Two companies had a committee to specifically monitor strategy. TUI AG and Pets at Home Group.

0.6%

Other strategy related

BT has committees to monitor the integration of EE and a quality of access board to monitor the undertakings offered by BT to Ofcom. TUI has a committee to monitor the merger of TUI AG and TUI Travel plc.

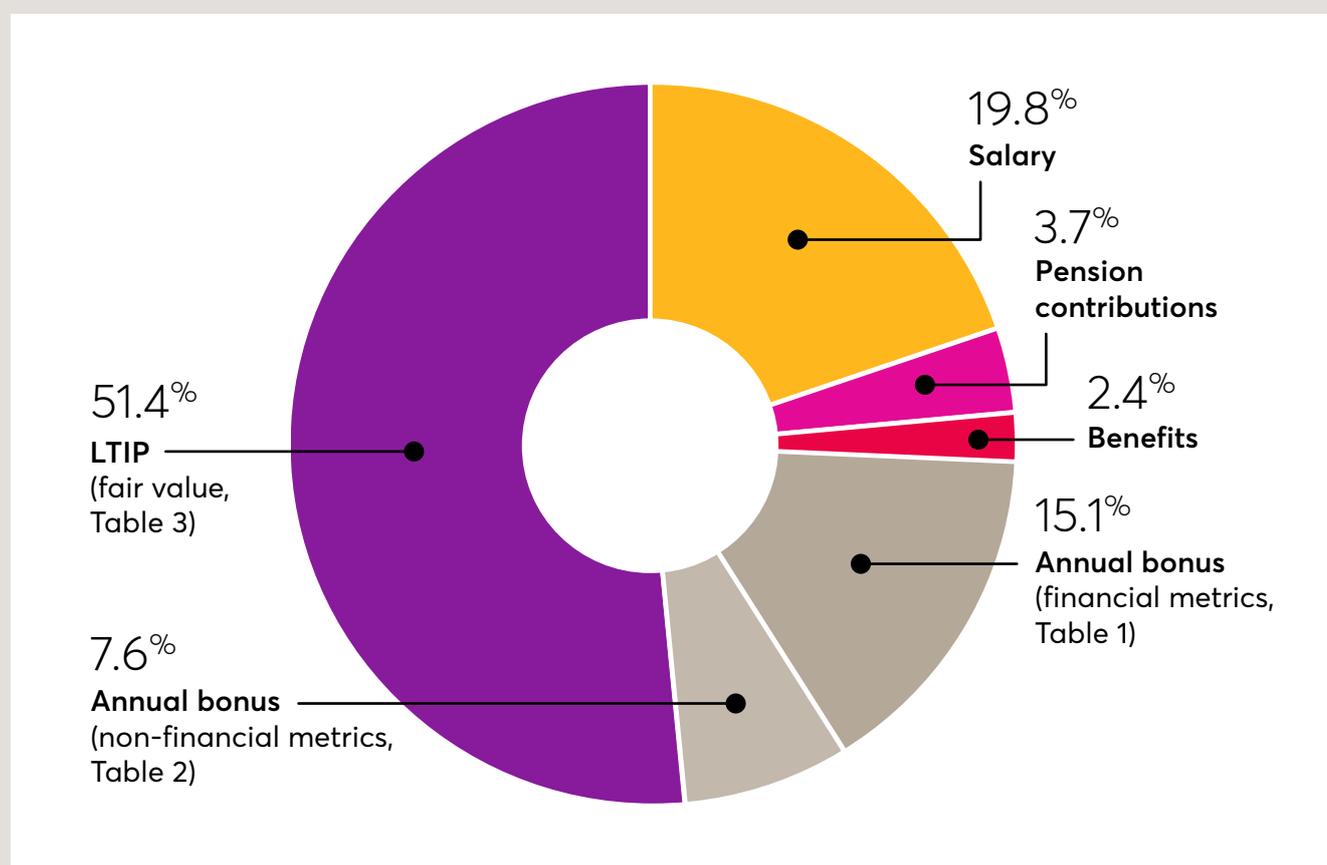
3.3 Performance-related pay dominates incentives

Executive directors' remuneration is typically comprised of four elements:

1. A base salary
2. Pension and benefits
3. An annual bonus and
4. A long-term incentive plan (LTIP).

It is through the latter two payments that particular incentives are set. The importance of these two elements has increased significantly over the past two decades: on average (mean) across the FTSE 350, they now make up around 75 per cent of executives' total remuneration.¹⁵

Figure 1: Overview of mean FTSE 350 executive remuneration



Source: Minerva

It is therefore of increasing importance to understand whether the measures used to calculate bonuses and LTIPs are likely to encourage or discourage innovation. Our assumption is that most innovation expenditure is charged to the profit and loss account. However, the benefit it creates may take some time to realise.

In the following sections we discuss first the construction of annual bonus plans, and secondly the construction of LTIPs.

3.3.1 Annual bonuses: are heavily skewed to measures which discourage innovation

Annual bonuses are typically based both on financial and non-financial targets, with the former dominating.

Financial targets

An analysis of the metrics used as performance conditions under the annual bonus shows that financial-based targets were used by 283 firms (which, if one excludes companies without incentive pay plans, such as investment trusts without executive directors, means that 96.9 per cent of companies used financial-based targets).

Profit based targets were the most common, with 58.6 per cent of companies with an annual bonus using such a metric, typically either profit before tax or operating profit. Cash flow targets were used at 24.3 per cent of companies. Revenue, which may be enhanced by innovation, was used at 18.5 per cent of companies. Profitability ratios were also used at 18.8 per cent of companies; these include return on equity, return on capital employed and return on invested capital.

The table below summarises the findings. Measures which in our view are likely to act primarily against innovation are marked in **red** ●, whilst those in favour are marked in **blue** ●. Neutral or unknown effects are marked in **black** ●. Our rationale for this is explained in the appendix:

Table 1: Annual bonus financial performance conditions

Performance condition	Occurrence	Average weighting (where used)	Effect (see appendix)
● Profit	58.6%	48.7%	-
● Cash flow	24.3%	21.8%	-
● Profitability ratios	18.8%	28.1%	-
● Revenue	18.5%	26.6%	+
● Other	15.1%	23.0%	neutral
● EPS	14.4%	42.4%	-
● EBITDA	13.7%	47.9%	-
● Balance sheet	8.6%	26.8%	neutral
● Costs	6.5%	12.7%	neutral
● Cash	4.5%	17.2%	-
● Margin	4.1%	19.3%	-
● KPIs	3.4%	14.5%	neutral
● Investments	1.4%	14.2%	+
● TSR	1.4%	35.0%	neutral
● Capital	1.0%	16.3%	neutral
● Capital adequacy	1.0%	16.3%	neutral
● Capital expenditure	1.0%	8.7%	neutral
● Economic profit	0.3%	100% ¹⁶	neutral
● Total assets	0.3%	- ¹⁷	neutral

'Occurrence' shows the frequency or proportion of companies with an annual bonus plan which used that type of performance condition. 'Average weighting' shows the average weighting of a performance condition where used.

In our classifications we have aimed to err on being generous in classifying measures as pro-innovation. For example, we have classified 'costs', as neutral, since for five companies these included synergy-related savings and integration which may have had an innovation element; 'KPIs' included strategy-related conditions at seven companies; 'other' included the value of new business at one company and Strategic Initiatives at one company; 'revenue' explicitly included net revenue from innovation at one company.

However, despite this generous interpretation, our view is that the overwhelming majority of the financial targets might be expected to discourage investment in innovation, if the aim were to maximise them within an annual timeframe.

Non-financial targets

We note that many companies also use non-financial targets in calculating annual bonuses, which, depending on how they are applied, could better encourage innovatory investment. So what targets were used?

Most (85.9 per cent) companies include strategic or personal targets in their annual bonuses. These targets may include performance in various areas such as customers, employee engagement, health and safety, environment, and progress on specific projects and are typically a qualitative assessment by the remuneration committee. A total of 52.7 per cent of companies use personal targets and 33.2 per cent use strategic targets.

Specific customer targets were seen at 14.4 per cent of companies whilst health and safety metrics were present at 12.0 per cent. Sector specific bonus metrics have also been identified, in the oil and gas and mining sectors there is usually a bonus metric relating to production and/or reserves. Safety targets are also prevalent in these sectors.

It is difficult to ascertain the degree to which innovation relates to these bonus conditions. It is plausible, for instance, that it plays a significant role in the identification of oilfield reserves, or in helping firms achieve sustainability targets. However, even if they do, the weight of these metrics is small, relative to the financial measures.

In this study, we have tried to be generous in allocating measures as being ones which promote innovation. In this case we have classified all personal metrics as neutral, and all non-personal metrics as promoting innovation.

Table 2: Annual bonus non-financial performance conditions

Performance condition	Occurrence	Average weighting (where used)	Effect (see appendix)
● Personal	52.7%	22.7%	neutral
● Strategy	33.2%	15.6%	+
● Customer	14.4%	14.2%	+
● Other	13.7%	16.4%	+
● Health and safety	12.0%	9.5%	+
● Employee	4.1%	8.3%	+
● Production	3.1%	20.0%	+
● Sustainability	1.0%	10.8%	+
● Environmental	0.7%	3.5%	+
● Reserves	0.3%	12.5%	+

Based on the above, if we take the product of the occurrence of a metric and its average weighting, we would reach the following simplified conclusions about annual bonuses:

- Financial conditions account for around two-thirds of all annual bonuses.
- Fifty-three per cent of the annual bonus (or around 80 per cent of that determined by financial metrics) will tend to discourage innovation.
- Seventeen per cent will tend to encourage innovation (mostly, the non-personal non-financial metrics).
- **Thus the measures used to determine annual bonuses are heavily weighted towards those which discourage innovation in a ratio of about 3:1.**

(Clearly, this is a simplified analysis which discusses only the relative weight of metrics, not the total value of the collective FTSE 350 bonus pool; calculating the latter would require the total value of the bonuses across all firms. Note also that the product of occurrence and weighting across Tables 1 and 2 sums to a little under 100 per cent, due to the fact that some weightings were not disclosed).

3.3.2 Long-term incentivisation plans (LTIPs) are similarly skewed to measures which discourage innovation

The section above looked at annual bonuses. One might hope that innovation is better represented in long-term incentive plans. In reviewing such plans we note that LTIP performance periods are typically three years in length, and hence may not be so 'long-term' when judged against the timescale of many R&D projects.

As table 3 shows, the most common performance metric used in calculating an LTIP is Total Shareholder Return (TSR), which is used by 73.2 per cent of companies. This might be considered appropriately to reflect innovation, since early innovation may be recognised by the market and reflected in share price (as arguably is the case for 'tech giants' such as Amazon and Google). However, ironically, in the later years, executives may be encouraged to cut spending on innovation to boost profits, or spend it on share buy-backs, in order to enhance TSR, especially if cuts can be made without the shareholders' knowledge. We therefore consider TSR as 'neutral'.

Many of the other metrics used to determine LTIP payments are clearly short-term. Just over 60 per cent of companies use earnings per share (EPS), whilst 32.0 per cent companies include profitability ratios such as Return on Capital Employed (ROCE) and Return on Earnings (ROE). Cash flow metrics are also commonly used in LTIPs, with the majority being free cash flow.

Financial measures are more dominant in LTIPs than in annual bonuses. Some of these financial measures contained specifically innovation-related metrics: one company used a cost performance condition which we classified as innovation-related; one used revenue performance conditions that we classified as innovation-related (revenue of new product sales). Amongst non-financial criteria, strategy-related metrics are the most popular but used at only 13.2 per cent of the companies.

However, even on a generous classification, we consider that a little over half (56 per cent) of the collective LTIP performance metrics (measured by the combination of occurrence and weighting) are likely to discourage innovation whilst only a very small proportion of the collective LTIP metrics (a little less than 10 per cent¹⁸) might be deemed clearly to encourage it. Using these generous assumptions and our previous methodology we would reach the following simplified conclusion:

- **The measures used to determine long-term incentive plans are heavily weighted towards those which discourage innovation, in a ratio of about 6:1.**

The table below details the occurrence of metrics used in LTIPs along with the average weighting used for each. (NB: again, the products of occurrence and weighting do not sum to exactly 100 per cent. This is due to the complexity of schemes and the varying quality of corporate disclosures, including the use of performance underpins and modifiers which affect LTIP vesting outcomes.)

Table 3: LTIP performance conditions

Metric	Occurrence	Average weighting (where used)	Effect (see appendix)
● TSR	73.2%	44.4%	neutral
● EPS	60.7%	54.6%	-
● Profitability ratios	32.0%	45.2%	-
● Strategy	13.2%	46.3%	+
● Cash flow	12.1%	40.2%	-
● Revenue	8.5%	28.2%	+
● Balance sheet	7.4%	50.1%	neutral
● Profit	6.6%	47.3%	-
● EBITDA	3.7%	44.3%	-
● Customer	2.9%	12.6%	+
● Other financial metric	2.6%	66.1%	neutral
● Capital	2.2%	57.2%	neutral
● Personal	2.2%	33.1%	neutral
● Economic profit	1.5%	29.2%	neutral
● Costs	1.5%	16.3%	neutral
● Cash	1.1%	29.4%	-
● Investments	1.1%	33.3%	+
● Share price	1.1%	75.0%	neutral
● Production	1.1%	26.3%	+
● Employee	1.1%	6.7%	+
● Margin	0.7%	27.8%	-
● KPIs	0.7%	16.3%	neutral
● Total assets	0.4%	25.0%	neutral
● Capital adequacy	0.4%	25.0%	neutral
● Market cap	0.4%	100.0% ¹⁹	neutral
● Health and safety	0.4%	5.0%	+

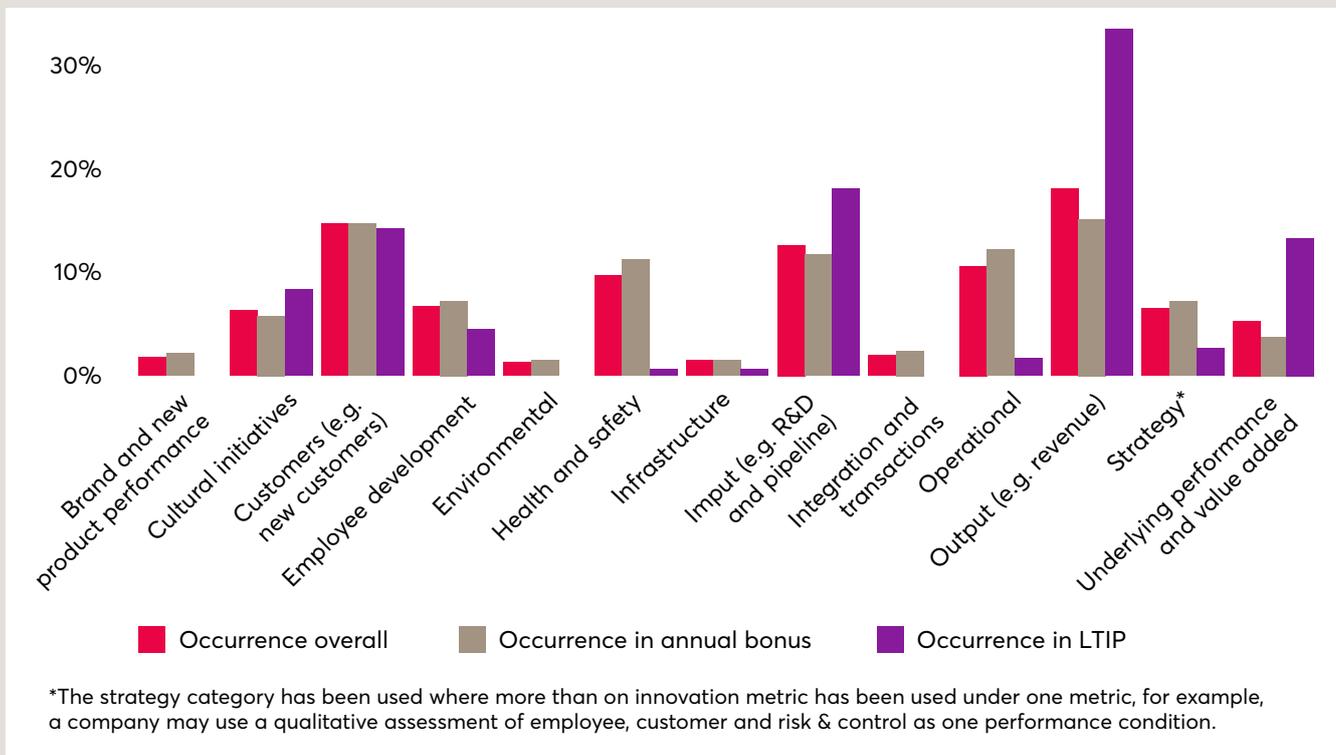
3.3.3 Mismatch between incentives and organisational aims

Given the desire of shareholding institutions to promote long-term investment, and the professed aim of many firms to create long-term value, it seems paradoxical that we have ended up with short-termist measures of performance. One reason might be the lack of objective measures with which to assess innovation – which is often diffuse and exceptionally difficult to evaluate, even for those close to the innovation concerned. By contrast, financial metrics such as profit and cash flow are consistent, audited and comparable over time and between companies.

However it is still possible to include innovation within incentive structures. Within the broad ‘innovation positive’ categories we identified in Tables 1 to 3 above, we found some specific references to innovation. For example, several of the LTIP components which we classified as ‘strategy’ in Table 3 included references to a future pipeline of new products. Many of the ‘employee’ related components in Tables 2 and 3 referred to the skills, learning and development of employees, the better to enable innovative behaviour and enhance employee wellbeing. Others included targets for the implementation of cultural initiatives, including leadership, engagement, or diversity programmes. Some also referred to the integration of acquired or merged companies, focusing again on establishing a company culture – hopefully conducive to innovation. Finally, some incentive plans refer to updating the company’s growth or innovation strategy, suggesting an awareness of the need for a level of organisational agility. So it is possible to include innovation measures in incentivising directors.

The chart below illustrates our re-categorisation of the ‘innovation positive’ metrics identified above, to give a clearer idea of the type of innovation which is being incentivised.

Figure 2: Re-categorisation of ‘innovation-positive’ metrics (as a proportion of overall innovation positive measures)



We recognise that these measures have a degree of subjectivity, which may be a perceived weakness. However, this need not always be the case. Some companies do have absolute targets in their incentive plans, notably revenue from innovation and resource investment in R&D (in the form of R&D expenditure, the use of facilities, or the number of persons involved). These targets are present in both short-term and long-term incentive plans, though are notably used less frequently than qualitative targets.

Indeed we would note that the incentive problem arises partly because most innovation spend cannot be capitalised. There are good reasons for this. However, we wonder whether there might be an opportunity to do so in the calculation of incentive targets, or to find another set of accounting measures which do not penalise innovation.

Finally, many companies include product or system focused targets in their incentive plans, concentrating on a mixture of new and existing initiatives. Targets focusing on existing initiatives may require the optimisation of existing strategies or systems, often reducing associated costs; some may focus on environmental or health and safety improvements, streamlining or replacing elements of company processes to enhance their sustainability. Some refer to migration from old IT systems to new, usually in response to increased cybersecurity risk. Targets directed toward new initiatives usually refer to pipeline progress of project delivery, to create new products of more value for consumers.

Nevertheless, we would acknowledge the diversity and qualitative nature of innovation metrics may well be a barrier to their adoption. It might therefore make sense for companies and their consultants to share good practice in setting metrics for innovation, so that they can more readily be adopted.

There is also an opportunity to increase transparency. Given the qualitative nature of many non-financial targets, it is often not clear how much a given metric is designed to drive innovation. Whilst a remuneration committee may name an innovation-related metric as one of those taken into consideration in their assessment of personal and/or strategic objectives, the weighting of the individual innovation metric and what or how it was assessed is often not provided. It would be a healthy discipline if every remuneration committee were to draw up a 'balance sheet' of the measures it uses to incentivise executives noting those which encourage and detract from innovation, and ensuring that they are in balance.

4

Conclusions

Innovation is promoted by company shareholders and stakeholders alike. However, based on the data above, corporate incentives at FTSE 350 companies currently discourage innovation. This seems to be contrary to the will of those whom company directors are supposed to serve.

The benefits from correcting this could be very large indeed. Studies over many years have shown that innovation typically has a positive effect on firm growth. By removing or amending improper metrics, we believe that innovation and long-term growth will be promoted.

It is also striking to note the apparent disconnect which exists between company reports – which invariably discuss the importance of innovation – and the reality, which is that executives are not incentivised to do so. Nor is there much evidence of committee structures on boards which might act as a counter to these incentives. Committees show a clear lack of direct responsibility for innovation-related functions at the board-level for many of the companies examined.

So this report is a call for action. For the firms themselves, we hope that it prompts a rethink of whether individual and organisational incentives are truly aligned in pursuit of innovation and long-term value creation. The majority of UK public companies will put forward new remuneration policies to the shareholder vote (as required by the Enterprise and Regulatory Reform Bill 2013) in 2020, and we hope that the next set of these policies will aim for closer alignment than we believe is the case at present. In the meantime we would recommend:

Company remuneration committees should ensure that remuneration packages are balanced in promoting appropriate innovation, and be explicit in declaring that they have done so.

For shareholders and fund managers, we suggest that this report offers insight into how better to encourage real long-term value creation. We would like shareholders and fund managers, through voting and other engagement, to encourage companies to be innovative in their thinking in executive pay design, and to demonstrate that they have a balanced incentive package. If companies are unwilling to do so, shareholders should not approve the remuneration package. We therefore recommend:

Institutional investors and shareholders should encourage companies to be explicit in considering innovation, and should not approve remuneration packages which clearly discourage innovation.

In addition, if government is to reach its ambition of 2.4 per cent GDP being spent on R&D, it will need to ensure that innovation incentives and public subsidies for business are as effective as possible. We note that there is positive evidence for the effectiveness of R&D tax credits.²⁰ However it may be possible for no additional cost to encourage greater innovation, if company directors are not incentivised to cut it. We would therefore suggest that:

The government encourage companies and their shareholders to address this issue. Meantime they might require that firms declare that they have taken this issue into account, as described above, when applying for public subsidies for R&D.

Finally, we suggest that:

The Financial Conduct Authority and Financial Reporting Council (or its successor body, the Audit, Reporting and Governance Authority) should explicitly consider innovation within their considerations of regulatory frameworks for effective stewardship.²¹

Appendix:

Effect of common metrics

In theory, executive remuneration packages should be designed to encourage directors to run their company in the interests of all the shareholders. Indeed, provided they have paid due regard to the effect of their actions on other stakeholders, it is their duty to run the company in this way.

However, measuring performance is more difficult. Even if one allows that the share price is a proper reflection of shareholders' welfare, it may be many years, or even decades, before it is possible to tell whether a decision has been a good one. Over such a period of time it is difficult to motivate a chief executive, whose tenure may on average be four to five years, and whose decisions cannot be isolated from future events. Therefore remuneration packages are usually based on measures that can be measured over shorter time periods.

The problem is that certain short-term measures can be enhanced by cutting innovation spend. Others will tend to promote innovation. So for example, if an executive is rewarded for a successful pipeline of new products, one might conclude that that will enhance innovation. In our analysis we have tried to separate out those measures into three different categories: those which will tend to promote innovation, those which will encourage cutting of innovation, and those which might be regarded as neutral.

We have been aimed to be generous in our categorisation, and assumed that any metric to do with strategy, customers, employees, health and safety, production, sustainability or environmental should be deemed an 'innovation promoter'. This assumption may have weighed our results to make it seem as though incentive packages are more geared towards innovation.

As regards financial performance, we have categorised revenue and investment as metrics which will promote innovation.

We know, however, that there are metrics that can be enhanced by cutting innovation spending. These are typically measures of cash and profitability measured over a single year. Innovation spending will often take years to bear fruit, so by cutting it, short-term profits can be enhanced, albeit by sacrificing long-term value. Indeed, we know from McKinsey and other studies cited above that executives will cut innovation expenditure, even when they judge it will make a high return, if that is what is required to make short-term earnings forecasts.^{8,9} We have also included some other measures as likely to detract from (even profitable) innovation. These include: annual profit, cash flow, profitability ratios, earnings per share (EPS), earnings before interest tax depreciation and amortization (EBITDA), cash and margin.

Finally there are those measures which may be deemed neutral. Again, in categorizing these we believe we have, on balance, tended to classify as neutral those measures which might be regarded by some as discouraging innovation spend. For example, in efficient markets, total shareholder return (TSR) should, over the long-term, be neutral in encouraging innovation. But in any year, shareholders will not know whether innovation has been cut, and will use profit numbers to determine share prices, thus making it an innovation detractor. We have categorized it, and related measures such as share price and market capitalisation, as neutral.

(Whilst there is some evidence that markets do take R&D into account in share price^{22, 23, 24} – even if this varies with time, sector and other factors^{25, 26} – share price can again be boosted by various other means, such as share buy-backs, and hence it is not, in our view, a positive innovation driver.)

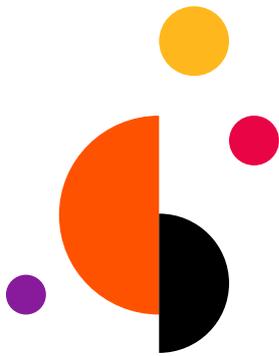
We have similarly characterized other financial measures such as balance sheet measures, costs, key performance indicators, capital, capital adequacy, capital expenditure (since we do not know what aspect of it is triggered), economic profit, total assets, and other financial metrics as neutral.

With regard to non-financial metrics, we have categorized many of them as promoting innovation, (see above). However, we regard most personal objectives as neutral. It is possible that some personal objectives may promote innovation; however, given that all our other categorizations have erred towards classifying metrics as pro-innovation we believe this treatment of personal objectives to be balanced.

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16. Economic Profit was used as the sole performance metric at PayPoint plc.
17. At the one company (Assura plc) where total assets metric was used, weightings between each metric were not disclosed.
18. If the conditions performance conditions were mutually exclusive and completely exhaustive - i.e. every element of every bonus scheme were reflected in (only) one of the rows - then the products of conditions occurrence and weighting would sum to 100 per cent.
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