BIG INNOVATION CENTRE

INTANGIBLE GOLD

CALL FOR ACTION

Productivity and Auditing in the 21st Century

There is a new economy of fast, knowledge based capitalism. Investment in intangibles ranging from computerised information and business processes to copyrights and digitally enabled networks is running at twice the rate of investment in the tangibles of machines and factories. Intangibles are the INTANGIBLE GOLD of our times, driving business performance, the organization of work and competitiveness. Yet, our reported productivity and business performance measures are at best not embracing this new economy, at worst they are close to crisis. Productivity measures used by national income accounting focus on quantities produced; physical measures such as machinery, buildings and hours worked. The dimensions of quality, sustainability and service generated by intangibles are not captured even though they are vital to successful company investment and government policy alike. Productivity measures are outdated, fitting better to the post-war industrial economy than today's knowledge based digital economy.

Thus today, energy services are meant to improve sustainability - but productivity is measured by how much energy is physically sold. So while energy providers invest in high-tech, supplier-networks and manu-services that help consumers save energy, productivity is still measured by the quantity of energy delivered. Energy firms want to help consumers economise on their bills, but the more successful they are the slower the growth in sales of electricity and gas and thus the slower productivity growth as conventionally measured. Similarly for financial services. Productivity measures should not be grounded in the number or size of transactions (loans and cash accounts), but how well the banks manage people's finances or that of the economy. Productivity, in short, needs rethinking.

Energy, health, transport, finance and retail are five major sectors where consumers are expecting improved quality and sustainability as opposed to more quantity. Most contemporary value added work is the deployment of intellectual capital in production, services and manu-services: here people do not produce more "stuff", but increase its quality. Because of the lack of integration of the new 21st century features into standard productivity and performance measures, government cannot properly plan its budget, infrastructure investment, tax levels, public expenditure for research,

education, skills and social issues, or even decide on which sectors and technologies around which to develop support strategies. Business leaders cannot set sound strategies for their investment and performance efficiency challenges. It is an universal problem:

Figure 1: Productivity sector challenges where intangible assets play a key role

Sector Challenges	Energy	IT services	Health & Social Care	Transport	Asset Management & IP Markets	Retail
High Level Themes and Challenges	Delivering new nuclear capacity	Expanding markets through outsourcing	Delivering NHS Five Year Plan (£ 22 bn productivity savings)	Meeting demand growth	To classify and identify and value intangible assets	Delivering smarter customer experience across multiple fulfilment channels.
Growth in demand	Replace-ment of coal and fossil fuels by low carbon	Globalisation and 'new technology' grow demand	UK population 64m grows to 75m by 2030	London population grows from 8 to 10 million by 2030	Increasing total stock and trade of intangible assets as core value drives of growth.	Sluggish growth since 2008. Consumer spending "on things" has peaked
Change in Service Mix	Smart consumer services and energy storage	Move from in-house to cloud and software as service	Aging population significantly increases costs	Increase in cycling, walking, buses, and train. Decrease in private cars.	Shift from tangible asset services to servicing intangible investments (IP, data analytics)	From out of town stores to online and mall
Management of Risk	Nuclear power high complexity and risk	High ICT implementa-tion failure	Not aligning organizational design to fit service delivery needs	Capital investment too ring-fenced.	Immature markets for intangible assets.	Speed and quality of execution for the change in service mix: product category, fulfilment channel and customer segment.
New Technology e.g. Robotics, Automation, AI, 5G	Digitalisation, Robotics, Automation, Artificial Intelligence, Virtual Reality, and 5G focus on high value problems in addressing key challenges, increase speed of production/delivery, lift quality and lower costs. Focus is on supply chain optimization alongside more customer value.					
Employee Voice and Value	New ways of working, smarter ways of working, and prospects of joblessness					
Productivity goal	Selling less at lower price	Increasing quality at lower price	In search of best practice across 200 Trusts	Getting people to work and school on time in a sustainable way	To categorise, value and trade intangible assets	Coping with the rising minimum wage.
Intangible asset measurement issue	There are many overall measures of goodwill, but none of the measures can measure specific forms of intangible assets (e.g. the value and value added of patents, copyright, know-how, ICT systems, technology, data, economic competencies, etc.)					
Productivity measurement challenge	Measurement of intangible economy productivity, in which we need to with national income accounting but modernize it to get into account intangible assets					

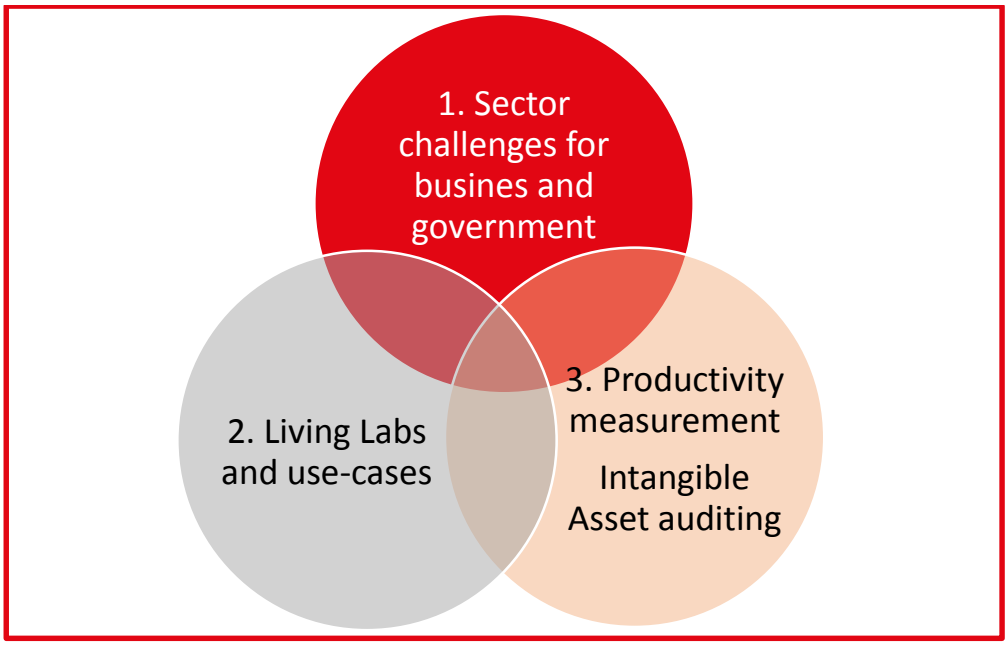
The situation is not helped by companies inadequately reporting on their most dynamic drivers, namely their intangible assets – what they are, what difference they make, and what they are worth. Instead they report systematically on the more easily identified tangible assets which are capitalised on balance sheets in traditional accounting methodologies. But IP reporting is needed for a range of business situations, even beyond the need for managing new technology enabled work processes, productivity statistics, or for monitoring corporate intangible capital performance. This includes the need to assess the collateral of IP for a loan or equity deal; the commercial prospects for early stage R&D; prioritizing research; technology transfer negotiations; IP co-ventures, valuation when publicly listing on the stock market, or even the degree to which IP is commercially tradable.

Intangible asset reporting and valuation are now also central to a range of business situations for SMEs just as they always have been for large publicly listed companies. Intellectual capital is encapsulated in the companies' innovative capability, strategic networks, product and service competitiveness, strategic positioning, financial strength and risk.

The aim of the INTANGIBLE GOLD Taskforce is three fold:

- SECTOR PRODUCTIVITY CHALLENGES: to consider the heart of the **productivity challenges** where intangibles play a key role in key sectors. We initially aim to focus on construction, energy, digital platforms / automation, health and transport *(see Figure 1 above)*
- INTANGIBLE ASSET AUDITING: to design an **'operational measurement standard' and tool for intangible asset reporting**, which is able to classify, measure and value IP; and which is recognized by companies, government and financial institutions.
- LIVING LABS: to solve the productivity puzzle in a practical way through **use-cases in Living Labs - where we prototype, test and assess** alternative forms of productivity and performance measurement

Figure 2: Task force focus



WORKPLAN

Two year work plan: 1 July 2016 to 1 of July 2018

1 July 2016 – 31 December 2016:

Output

- A proto-type 'operational measurement standard' and tool for productivity measurements and IP reporting/valuation
- **An interim report on productivity measurement and intangible asset reporting**
- 2 TASKFORCE meetings (see figure below)
- Living Lab meetings will be held on an ad-hoc basis
- 6 project board meetings

1 January 2017 – 1 July 2017:

Output

- Testing the proto-type 'operational measurement standard' and tool for productivity measurements and IP reporting/valuation
- **A state-of-the report on productivity measurement and intangible asset reporting + report launch**
- 2 TASKFORCE meetings (see figure below)
- Living Lab meetings will be held on an ad-hoc basis
- 6 project board meetings

Figure 3: Round tables (more to be added)

TASKFORCE MEETINGS	Date
Intangible Gold: Productivity in the 21st century: Participants from a variety of stakeholder including EDF, CISCO, Visa Europe, Oxford University, HM Treasury, Bank of England, BIS and ONS.	2.12.2015
Intangible productivity and intangible auditing: Expression of interest and sign up meeting	23 May: 8:30-10:30
The productivity mirage in the 21st century	11 July: 8:30-10:30
LIVING LABS 1.0: This is how we do it! (Productivity and Intangible Asset audit updates)	11 Oct: 8:30-10:30
Doing better with less: The effectiveness of our innovative property, computerised information, robots and people	7 Dec: 8:30-10:30
LIVING LABS 1.0: This is how we do it! (Productivity and Intangible Asset audit updates)	Spring 2017

1 July 2017 to 1 July 2018

Output:

- Work continues and more sectors involved: Focus shifts *from proto-typing to improving* productivity measurements and Intangible Asset auditing
- Delivering to business and national accounting a **final 'operational measurement standard' and tool for productivity measurements and IP reporting/valuation**
- **Final report + report launch**.

CAPABILITIES: Initial taskforce participants

Big Innovation Centre

- Birgitte Andersen – Big Innovation Centre (confirmed)
- David Stroll – Big Innovation & One Sigma (confirmed)
- Will Hutton – Big Innovation Centre (confirmed)
- Tony Clayton – Big Innovation Centre and Imperial College (confirmed)
- Brian Wagenbach will support operations, events and communications around the Intangible Gold project (confirmed)

Academics

- Ruth Yeoman – University of Oxford (confirmed)

Government

- Richard Hayes – Office of National Statistics (confirmed)
- Sandra Batten – Bank of England (confirmed)
- Agnes Estibals – Department of Business, Innovation and Skills (confirmed)
- Chiara Criscuolo – OECD (confirmed)
- David Legg – Innovate UK (confirmed)
- Felicity Hannon – HM Treasury (confirmed)
- Pippa Hall – Intellectual Property Office (confirmed)
- Marva Corley – International Labour Organization, UN (confirmed)

Companies:

We are currently recruiting companies to participate in Intangible Gold and the Living Labs. EDF at Hinkley Point and energy services will form part alongside other BIC member organizations. In addition CISCO, EY, Siemens, TFL, an NHS group, IT providers, retail companies have signalled their potential commitment.

Figure 4: Governing structure

TASKFORCE		
Thought leadership group	Living labs	Project board
Confirmed: Big Innovation Centre Bank of England Dep. of Business Innovation and Skills HM Treasury Innovate UK Intellectual Property office International Labour Office OECD Office of national Statistics University of Oxford	EDF Hinkley Point and energy services. BIC member organizations. Potential commitment from CISCO, EY, Siemens, TFL, an NHS group, IT providers, retail companies.	Confirmed: Birgitte Andersen (BIC) Sandra Batten (BoE) Richard Hayes (ONS) Will Hutton (BIC) David Stroll (BIC) Ruth Yeoman (University of Oxford)

As investments which centre on hard-to-value intangibles continue to grow at a rapid rate, it is crucial to assess how prepared our businesses and overall economy are to embrace these shifts. In what ways are companies being equipped to engage with intellectual property, automation, artificial intelligence and the wider technology revolution? Specifically, the Taskforce will focus on the practical enablers, such as the way in which we manage and report on performance and productivity in the era of intellectual capitalism. Cross-learnings, living labs, experiences and thought leadership from business alongside government will make invaluable input to everyone's common challenges. Join to ensure that you are at the forefront of the intangible transformation.

Contribution to the project for participants

Full members of the Big Innovation Centre steering group are deemed to already have made their financial contribution, but otherwise the proposed price for participation over the two year project is £40k (or £20 per year).

PROF. BIRGITTE ANDERSEN
CEO & CoCreator, BIC
Mobile +44 (0)7944783648
email:
b.andersen@biginnovationcentre.com

WILL HUTTON
Chair, BIC
mobile: 07788 564710
email:
will.hutton@hertford.ox.ac.uk

DAVID STROLL
CoCreator: Intangible Gold, BIC
mobile: 07802 151200
email:
d.stroll@biginnovationcentre.com

BIG INNOVATION CENTRE

Ergon House, Horseferry Road, London SW1P 2AL
Telephone +44 (0)20 3713 4036 | Mobile +44 (0)7944783648
Web www.biginnovationcentre.com | Twitter @BigInnovCentre | Twitter @BirgitteBIC

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