The socio-economic benefits of geospatial information and systems

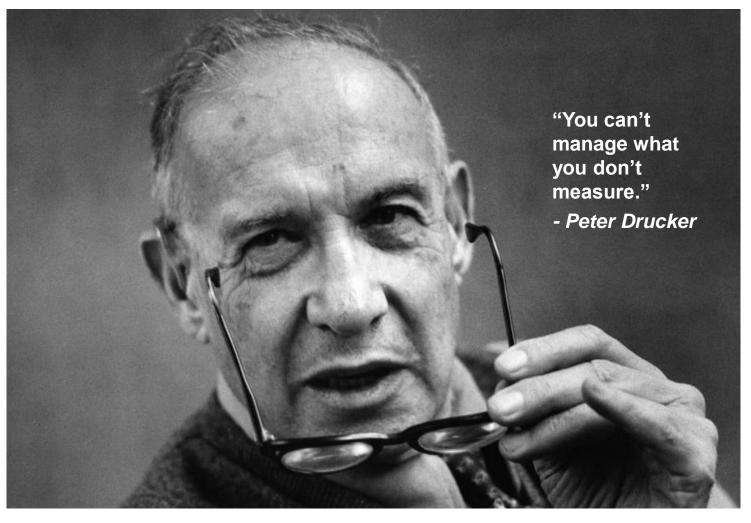
Andrew Coote
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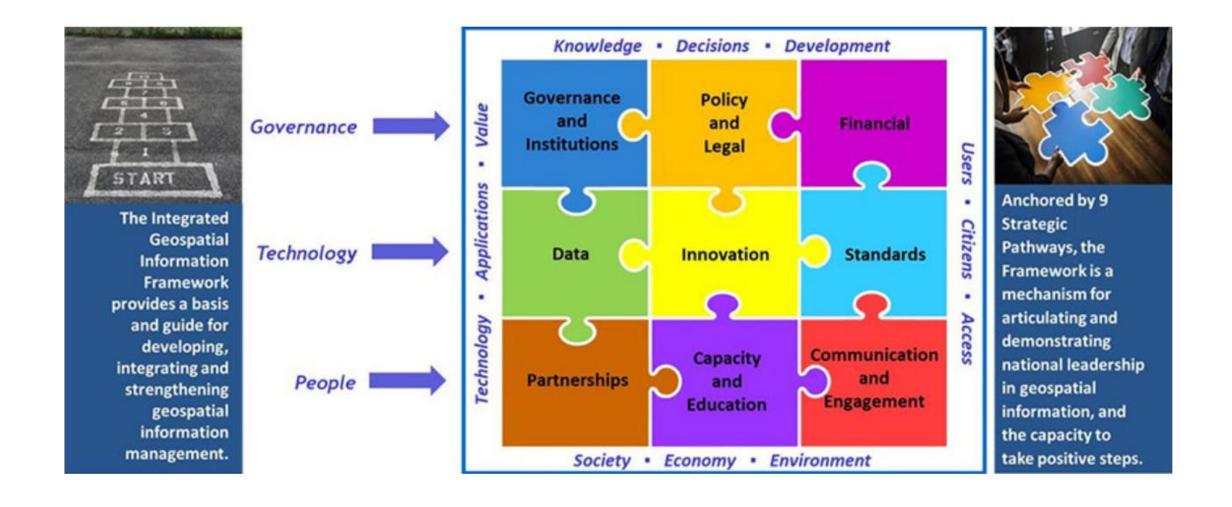
Why: Policy and Decision Making



Source: https://www.thefamouspeople.com/profiles/peter-drucker-132.php



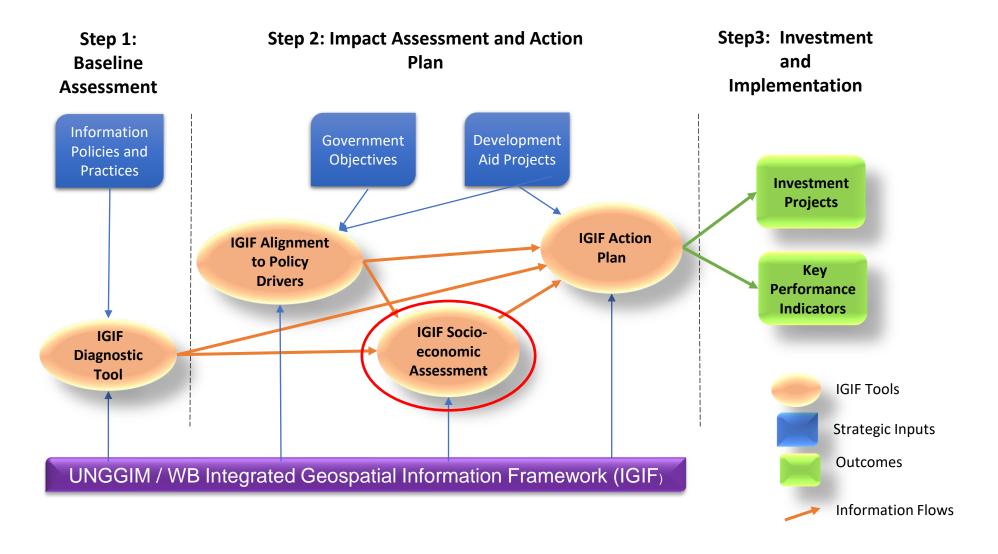
Integrated Geospatial Information Framework







How: World Bank IGIF Methodology







Six Step Approach

Step 1: Establish Scope and Priorities

Step 2: Develop Engagement Plan

Step 3: Collate Base Socio-Economic Evidence

Step 4: Analysis

- Identification of costs
- Identification of benefits
- Quantification of most significant benefits

Step 5: Construct Financial Model

Step 6: Report

Guideline available on application from World Bank team

- it is based on IGIF Finance Strategic Pathway: Appendix 3.7



GLOBAL CONSULTATION DRAFT: 19 June 2020

Strategic Pathway 3

Financial

This strategic pathway establishes the business model, develops financial partnerships, and identifies the investment needs and means of financing for delivering integrated geospatial information management, as well as recognizing the benefits realization milestones that will achieve and maintain momentum.

The objective is to achieve an understanding of the financial plans required to establish and maintain an integrated geospatial information management, as well as the longer-term investment program that enables government to respond to evolving societal, environmental and economic demands for geospatial data.

Summary

Financial governance, planning, management, and investment are required to achieve sustainable integrated geospatial information management. Investment will typically be realized when governments can see evidence that geospatial information will deliver social, environmental, and economic benefits nationally, and there is a corresponding and credible financial plan to realize these targeted benefits.

For most countries, investment in geospatial information management is framed in terms of a business case that provides justification for undertaking a program or project, includes an evaluation of the benefits, costs, and risks associated with different implementation options, and the rationale for the preferred solution. This business case answers the questions "why is this investment activity important?" and "what benefits does the country derive from its implementation?" The business case addresses the viability of the proposed investment and answers the question "what problem or challenge is solved with this investment?"

The preparation of a business case is only one aspect of financing integrated geospatial information management. Additionally, there is a need for a robust and sustainable business model built around strong realizable value propositions followed by a financial plan that describes how the business model is achieved. This business model typically is based on market development opportunities for geospatial information management, which in today's terms, is likely to focus increasingly on a range of location-based services rather than traditional data and map products.

Common to all financial arrangements are four key elements that are required to deliver integrated geospatial information management that can be strengthened, supported and sustained over the longer term.

Strategic Pathway 3: Financial

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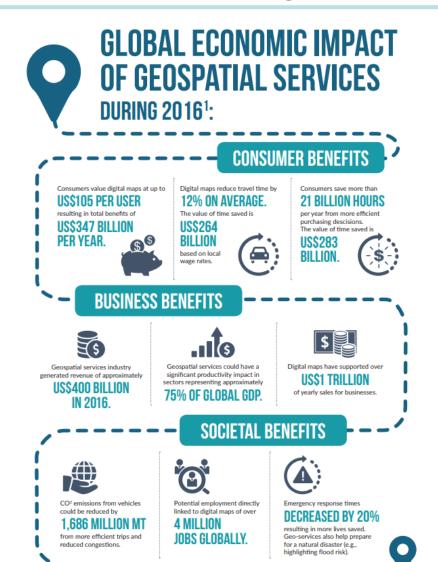
Use Case Inventory

- Geospatial Alignment to Policy Drivers (GAPD) identifies use cases
 - Lists a subset use cases across 14 different sectors
 - These are chosen for being generally applicability and offer significant "value add" from NSDI strengthening.
 - Each use case includes one or more examples of quantified benefits
- The prioritization of entries is designed to identify where investigation effort is best focused
 - High value add
 - High potential for successful engagement with relevant stakeholders





Existing Geo-economic Studies



Source: https://www.alphabeta.com/wp-content/uploads/2017/09/GeoSpatial-Report_Sept-2017.pdf





Interviews: Qualitative Benefits

- The Scenario
 - Explain (in broad terms) the features of the target NSDI, for example:
 - Improved data sharing
 - Higher quality data
 - Better educated workforce
 - Set out the period of implementation and operation (5years)
- Explore potential key use cases for stakeholder
 - These should have been identified in advance
 - Ask them to describe where the most significant benefits might be realised (small savings on large volume processes or big savings on lower volume processes)
- Enquire if there are other social / political benefits
 - Although these might not be quantifiable, they may well help strengthen the strategic component of your business case



Interviews: Quantified Benefits

- Identify parts of the qualitative benefit "story" that might be expressed financially, examples include:
 - Productivity improvements (savings of staff effort and/or time, increased crop yields)
 - Reductions in costs (equipment, fuel, sub-contractors, office space)
 - Quicker Response (reduced property, crop and livestock damage)
 - Health and Safety improvements (e.g. reduced deaths or injuries)
 - Growth in revenues (improved tax collection, product sales)
 - Conformance (avoiding fines from failure to meet regulatory requirements
 - Increased Asset values (land and property, increased life time by preventative maintenance)
 - Lower cost of capital (access to lower interest rates and quicker loan repayment)
- Closing the engagement
 - keep open the option of follow-up

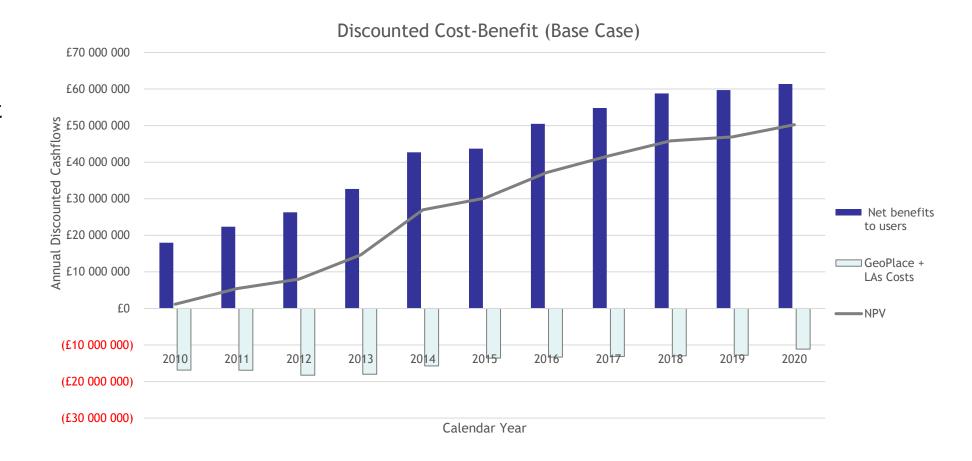


Constructing the Financial Model

Adopt standard conventions and processes from Accounting and Economics

Addressing Example:

- Benefits to Cost Ratio 4:1
- Net Present
 Value £50m
 (US\$69m) over
 10 years



Source: RoI Street Addresses (UK) https://www.geoplace.co.uk/case-studies/geoplace-identifies-4-1-roi





Key Takeaways



A standards-based, repeatable approach to assessing the Socio-economic impacts of geospatial is now available.



The best business cases combine qualitative and quantitative (financial) benefits.



There is a growing body of evidence of proven quantified benefits for different use cases across many economic sectors



The World Bank methodology is focused on providing outputs suitable for presentation for local and international funding



