Towards a 'Valuation Framework' for Business Externalities

Corporations who are interested in moving ahead with the recommendations of the report "TEEB for Business" (TEEB, 2010) and discovering, measuring, valuing and disclosing their externalities will find today that, three years down the line, there is still no global consensus on either a valuation **framework** or on valuation **methodologies** to be used for this purpose.

A broad-based global coalition of institutions has recently been formed in 2012 ("TEEB for Business Coalition" ('Coalition') – see www.teebforbusiness.org) to pull together, broadcast, provide expert feedback for, and help support, replicate, and scale the 'best-of-breed' work that is being done nowadays by some leading corporations and researchers. It is hoped that this Coalition will soon be able to achieve broad consensus on and publish a valuation framework for business externalities.

This note is a contribution to the efforts of the Coalition from **GIST Advisory Pvt. Ltd**., (GIST Advisory) a consulting firm, and signatory to both the "Gaborone Declaration" (Gaborone, May 2012) and the "Natural Capital Declaration" (Rio, June 2012). We advise governments and corporations on how to discover, measure, report and manage their externalities. We at GIST Advisory believe in the urgency of the challenge on hand and the need for knowledge-sharing in this vital space of corporate transformation. We believe that the sooner we achieve broad consensus across significant business sectors on a **valuation framework**, the more focused and effective will be the research work on determining an appropriate family of **valuation methodologies**, and the faster the progress towards their adoption by corporations.

Towards this goal, our own approach to a valuation framework and related definitions are summarized below, and published on our website www.gistadvisory.com .

Background: "TEEB for Business" Framework for Natural Capital

A framework for businesses to recognize 'natural capital' and value biodiversity and ecosystem services ("BES") was laid out in the TEEB report "TEEB for Business"[1]. It comprised, on the one hand, evaluating business *risks* as well as *opportunities* and, on the other, evaluating business *impacts* on as well as *dependencies* on natural capital. These were the foundational steps of an overall seven-step approach[i] to natural capital management by business.

[1] "TEEB: The Economics of Ecosystems & Biodiversity Report for Business, 2010" (UNEP)

The proposed Valuation Framework in this note by GIST Advisory is a sub-set of that wider 'TEEB for Business' framework, and focuses on only the *impacts* of business, in particular, business externalities. Business *dependencies* are not included in this proposal, as its primary purpose is to measure, value and account for business *externalities*. However, it is important to note, from the perspective of business managers and owners, that dependencies may create material risks when access to an essential resource becomes uncertain or unreliable as a result of declining natural capital. This may be due to unsustainable use by a company itself or by other resource users, or due to changes associated with climate change, invasive species, changes in policy (e.g. designation of protected areas, consumer boycotts) and other such factors. Depending on natural capital does *not* always imply third-party external impacts (positive or negative) for the business, but it may be worthwhile for companies to understand their exposure to dependencies. It should be noted that dependence can also be the basis of business *opportunity*, e.g. helping other companies to reduce their dependence or de-risk it in some other way.

Definitions

Acknowledging the complexity of the domain we are engaged in, and recognizing that many terms can be used with somewhat different meanings and in different contexts, it is important to state our definitions of key terms used:-

1. **Business Externalities:** These are the third-party impacts of business. They can be both positive (e.g.: third-party impacts of technological innovation, supply chain greening, staff training, community building, CSR programs, including those restoring natural commons, etc.) and negative (e.g.: third-party impacts of GHG emissions, freshwater extraction[2], pollution, waste, land-use, etc.). For many more examples and in-depth treatment, see www.corp2020.com, or Ch.4. and Ch.5 of "Corporation 2020" (Island Press, 2012, by Pavan Sukhdev).
2. **Drivers, Outcomes & Impacts:** Business externalities can have many *drivers*[3] which can be environmental drivers (e.g.: GHG emissions - from energy used in manufacturing processes) or human & social drivers (staff training programs; CSR programs; etc.). Each driver could have one or more significant *outcomes* (e.g.: for GHG emissions, three main outcomes are climate change, ocean acidification, & coral reef losses). Each outcome could have material *impacts* on human well-being (respectively, the economic

[2] To the extent that freshwater extraction by a company deprives other users: such extraction is a "driver", water scarcity is an "outcome", pre-emption and the resultant loss of others' well-being is the "externality"

[3] GRI and others use the term "outputs" for "drivers"; we prefer "driver" as it is more commonly used, and is more commonly understood as that which *causes* an "impact"

& social costs of climate change; ocean fisheries decline; and reduced reef tourism & coastal protection due to reef losses). Just as a corporations' emissions are drivers of *negative* outcomes with measurable *cost* impacts on society, so also other activities of corporations (e.g.: staff training programs and CSR programs) can be drivers of *positive* outcomes, respectively, improved wages potential, and increased inclusion & social equity (through improved community livelihoods, healthcare, education, etc.) with measurable *benefits* to society. When such impacts are measured and valued as a decrease/ increase in various forms of capital (natural, physical, human, social), owned in different ways (private, community, public) then that is a valuation of the "externalities" of business.

3. **Valuation Framework** (i.e. "***what*** to measure & value, and ***why***?"): there is a need to create ONE global valuation framework, that reflects the asks of an international integrated reporting framework. This is to ensure that first-movers across various business sectors, as they discover and begin to measure their most material externalities, follow a methodical approach to discover and value their externalities and do not each invent their own valuation terminologies & classifications, or their own reporting frameworks. The purpose is to ensure consistency and comparability across companies, for people (e.g. investors) who seek to understand how much external risk/opportunity is at stake. It is worth noting that the trend towards a single world standard for financial accounting was for the same reason, though this process has spanned over a century of evolution, and is still evolving to address diverse schools of thought.
4. **Valuation Methodologies** (i.e. "***how*** to measure, ***how*** to value?"): once a common valuation framework is established, the next stage is providing appropriate guidance for valuations under differing geological, technological, social and economic conditions. It is expected that each sector or industry will lead the effort to create guidelines and standards for measuring and valuing its externalities, with technical support from the Coalition and others.
5. **Categories of Capital:** The four dimensions of the wealth ('capital') of third-parties (individuals, communities, or the public) most impacted by businesses are summarized in the table (below), together with a few examples of each. Community owned wealth is referred to as "club goods"[ii] in academic literature. Literature also recognizes a fifth class of capital (Intellectual Capital), which can also be privately-owned (e.g.: IP, patents, copyrights, brands, etc), community owned (e.g: traditional knowledge) or designated as a public good (e.g.: wikipedia, non-copyrighted technology). This proposed framework excludes 'intellectual capital', although that is a matter of choice. Our choice is based primarily on the underlying ethics of sustainability, and aligns reporting

priorities with a backdrop of sustainable development goals. It is also made to focus 'C-suite' minds on serious global problems (viz, nature's losses and the lives of the underprivileged) . The recently proposed IIRC <IR> framework recognizes *six* categories of capital, separating financial capital and manufactured capital. We prefer to combine these in the commonly used term "physical capital", because one is converted to the other in both directions frequently, and with relative ease compared to any other pair of capital categories.

Dimensions of Wealth

Capital Category and Ownership Class

Businesses impact *all* these categories of capital, owned in different ways, but generally measures & reports *only* shareholder wealth: i.e. impacts on private, physical capital

EXAMPLES	Physical Capital	Human Capital	Social Capital	Natural Capital
Private Ownership	- Factories - Buildings - Securities - Cash	- Health - Education - Job Skills		- Gardens - Fields - Forests
Community Ownership (club goods)	- Community Centres - Community Schools	- Traditional knowledge	- Community Norms and Customs	- Community Forests - Grazing Commons
Public Ownership (public goods)	- Roads - Bridges	- Public databases - Non-patent knowledge	- Law & Order - Taxation - Social Equity & Inclusion	- High Seas fisheries - National Parks/ Forests

Proposed Valuation Framework for Business Externalities

Business externalities can result in positive or negative impacts on third-parties. These impacts can be observed as third-party changes in one of four ***categories of capital*** (***natural, physical, human, social***) belonging to one of three ***classes of ownership*** (i.e. ***private ownership*** – such as job skills and health; ***community ownership*** – such as village schools, community groves, neighbourhood security systems, etc.; or ***public ownership*** – such as climate stability, national parks, law & order, etc.). Materiality (i.e. economic, environmental or social size and significance) is the main reason for including a particular impact, but materiality of particular drivers and impacts may differ significantly from sector to sector.

- **What to Value**: *Valuation of externalities is about measuring the economic value of changes in **any** of the four kinds of capital belonging to **any** of the three categories of*

third-parties as a result of the activities of a business. Valuation must focus on material externalities, determined as material in social and economic terms for the owners of the capital category being impacted. Furthermore, where a business undertakes activity to "offset" its negative externalities, the impacts of such "offsets" must also be valued and set off against the externality.

- **Why to Value:** *Valuation informs and improves business decision-making along the value-chains that generate externalities, by assisting business managers in designing appropriate responses. It enables business responses to their externalities to be prioritized, appropriate, effective and efficient in reducing or offsetting negative externalities and increasing positive externalities. Valuation similarly also informs a range of stakeholders, from investors to civil society, supporting their interests to seek such business responses, to reduce risk to the business in the long term, and reduce negative impacts to society in the short and long term.*

It is important for business sectors, by a process of examination and elimination, to determine which third-party impacts deserve their closer attention, measurement, disclosure and management on the basis of *materiality*.

In evaluating third-party impacts across these categories of capital, we find that there are ***eleven major drivers of externalities*** arising from typical business activities, which most commonly generate the most significant third-party impacts.

Of these eleven outputs/drivers, six of them are "environmental drivers" (viz., GHG emissions; freshwater extraction; waste generation; land-use change; air pollution; land & water pollution). Five of these six environmental drivers were first used in PUMA's 2010 "E P&L" (Environmental Profit & Loss), a measurement and valuation of environmental externalities published by the company in November 2011, in collaboration with Trucost plc. & PwC. It should be noted that the actual 'impacts' referred to in "E P&L" not only account for natural capital externalities – but also for the cost to society of these impacts (e.g.: the human health impacts of air pollution and solid waste disposal).

Two corporate drivers in the space of employee human capital are **employee training programs** and **employee health and safety** (**EHS) standards** which, if managed well and to scale, can lead to large positive human capital externalities (see example in Chapter 5, "Corporation 2020"[iii], describing the work of GIST Advisory to estimate the human capital externalities of Infosys).

Three corporate drivers that create potentially large social capital externalities - positive and negative – such as impacts on institutional and social architecture, employment opportunity, social inclusion, etc. - are primarily due to **CSR programs**, **business models**, and **company**

policies. (See **Natura** example in Chapter 5, "Corporation 2020" for an example of a business model that generates positive social capital externalities). It should be noted that companies do account for ('internalize') the *costs* of CSR programs, but there has been limited effort to measure or report the positive externalities or *benefits* – positive impacts on third-party social, human, or natural capital – precisely because these are 'externalities'. Sometimes, CSR program benefits may be targeted as 'offsets' to known negative externalities, which is why measuring and reporting the one ought to be accompanied by measuring and reporting the other in order to derive a net positive or negative impact.

It should also be noted that the eleven drivers are selected based on the area of business activity that generates them and the materiality of impacts they create.

Classification ambiguities might arise due to confusions between what is a *driver*, *outcome*, or *impact*, and such ambiguities should be addressed consciously, with context and assumptions disclosed. For example, "waste generation" is an *environmental* driver, even though its real impact is on human health, i.e. *human capital*. And even within the *environmental driver* category, the waste management process might be such (e.g.: incinerating plastic waste) that the driver could be classified either as "solid waste generation" or as "air pollution", so a decision needs to be made – a 'framework' choice, as it were - on a standard classification so that comparability and consistency across industries and companies is ensured.

An agreed Valuation Framework would ensure that *one* approach is followed by everyone, using *one* agreed set of definitions of terms (such as "drivers", "outcomes", "impacts" and "capitals") allowing results to be compared across business sectors, and within business sectors across corporations. This is our common ask of investors, analysts, CSO's, corporate management themselves as well as their regulators.

Pavan Sukhdev

(CEO & Founder – GIST Advisory, www.gistadvisory.com)

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[i] "TEEB for Business & Enterprise", UNEP, 2009, described a widely applicable seven-step approach for business to recognize, respond to, value and integrate natural capital in its decision making. Of these, the first two steps were

to recognize *impacts and dependencies,* and to understand *risks and opportunities.* The remaining steps were about concrete actions & responses from business. These seven steps are summarized as follows:-
1.Identify impacts and dependencies on biodiversity and ecosystem services (BES)
2.Assess the business risks and opportunities associated with these impacts and dependencies
3.Develop BES information systems, set targets, measure and value performance, report results
4.Avoid, minimize and mitigate BES risks, using in-kind compensation ('offsets') where appropriate
5.Grasp emerging BES business opportunities, e.g. cost-efficiencies, new products and new markets
6.Integrate BES actions with wider Corporate Social Responsibility
7.Engage with business peers and other stakeholders to improve BES guidance and policy

[ii] For example, see Cornes, Richard and Sandler, Todd, [1986] 1996, "The Theory of Externalities, Public Goods, and Club Goods", 2nd ed. Cambridge University Press.

[iii] "Corporation 2020: Transforming Business for Tomorrow's World", Island Press, 2012, by Pavan Sukhdev