REPORT: UNLOCKING VALUE THROUGH BEST PRACTICE IN SUSTAINABLE SUPPLY CHAIN REPORTING – U.S. INFORMATION COMMUNICATION TECHNOLOGY INDUSTRY

THE CLEAR LINKS REPORT 2011

MANAGING RISK

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1 DNV SUSTAINABILITY & INNOVATION

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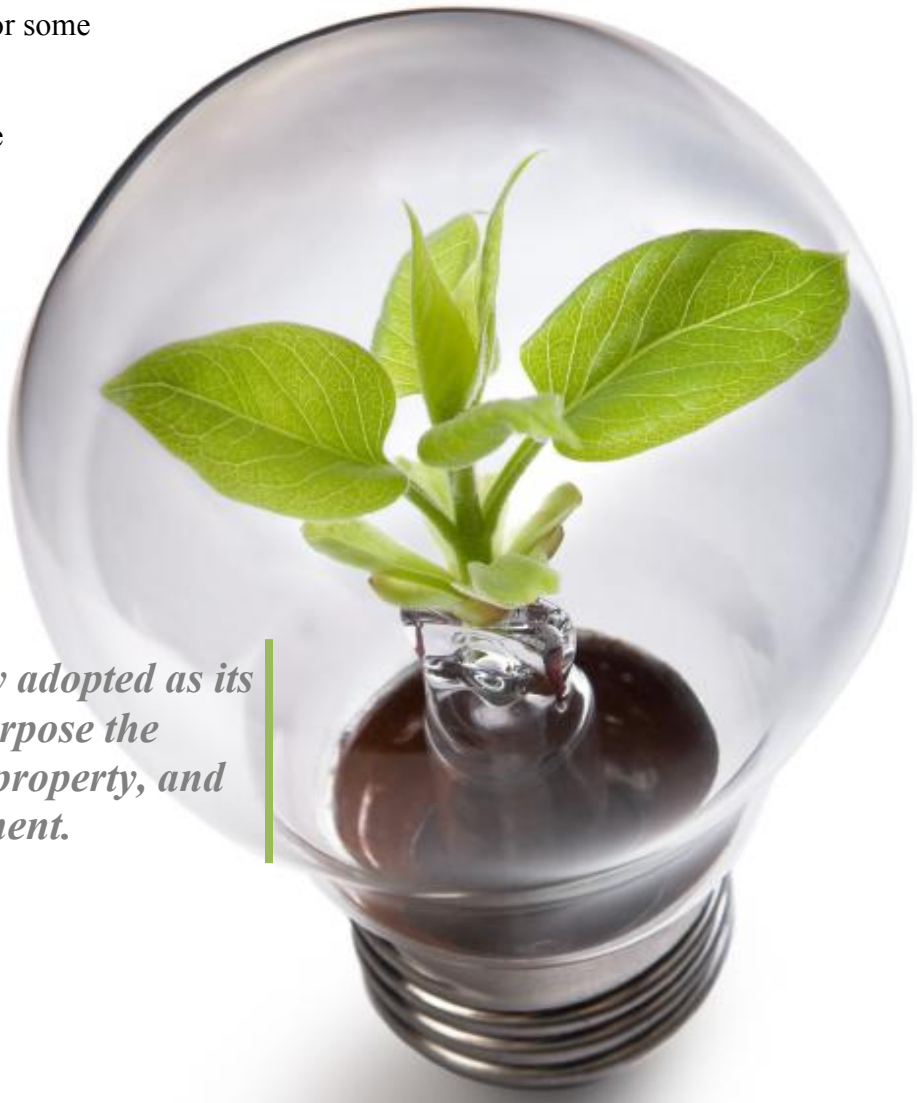
In 1974, DNV officially adopted as its organizational purpose the safeguarding of life, property, and the environment.

DNV is respected as an independent voice in the wider sustainability community, with insight into industry and stakeholder concerns and experience in delivering advice on corporate responsibility, climate change, supply chain management, and product sustainability for some of the world's leading companies. DNV encourages business practices that achieve stakeholder credibility, technical rigor, and enhanced shareholder value.

DNV comprises 300 offices in 100 countries with 9,000 employees. Our vision is to create a global impact for a safe and sustainable future.



> ***In 1974, DNV officially adopted as its organizational purpose the safeguarding of life, property, and the environment.***

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2 GLOSSARY

B2C…….....	Business to Consumer
CSR…….....	Corporate Social Responsibility
DNV……	Det Norske Veritas
DRC……	Democratic Republic of the Congo
EICC……..	Electronic Industry Citizenship Coalition
ESG…….	Environmental, Social and Governance
GeSI……	Global e-Sustainability Initiative
GHG……	Greenhouse Gas
GRI…….	Global Reporting Initiative
ICT……..	Information and Communication Technology
ILO……..	International Labor Organization
NGO……	Non-Governmental Organizations
OECD…….	Organization for Economic Co-Operation and Development
R&D……	Research and Development
RoHS……..	Restriction of Hazardous Substances
SEC…….	Securities and Exchange Commission
U.S……..	United States
UN……..	United Nations
WEEE…….	Waste Electrical and Electronic Equipment

3 EXECUTIVE SUMMARY

The intent and spirit of this white paper is to encourage increased transparency throughout the U.S. Information and Communications Technology (ICT) industry while identifying examples of best-in-class sustainability reporting practices as they relate to supply chains.

According to the Global Reporting Initiative, voluntary sustainability reporting has been on the rise globally. Among U.S. companies, reporting increased 22 percent between 2009 and 2010. Stakeholder demand for greater transparency on the environmental, social, and governance factors impacting companies and their suppliers has spurred this growth in corporate disclosure.

Among many stakeholders, there is a growing expectation that globalized companies are accountable for the sustainability performance of their suppliers. As a result, the sustainability performance of a firm's supply chain can become a downside risk with its associated operational challenges. Sustainability reporting is considered by some to be critical in managing these stakeholder expectations, but it can also serve as a valuable tool in identifying and managing risks and opportunities while driving and monitoring sustainability performance indicators along the supply chain.

Timely, accurate, and verifiable communication on sustainable supply chain management can contribute to enhanced reputation and should, as a minimum, sustain shareholder value.

The U.S. ICT industry has been considered a leader in innovation and design. The academic, research, and financial resources available to the industry along with a supportive political climate is driving the industry's rapid growth. ICT companies, however, have recently come under additional scrutiny with newer regional and global regulations requiring stricter compliance along the supply chain.

Although the headquarters of ICT companies have traditionally been in developed countries, production has shifted to low-cost economies, creating a complex supply chain that, by its nature, restrains the flow of influence. Ensuring compliance, let alone promoting voluntary initiatives, throughout the supply chain will demand innovative strategies that build partnerships and drive continuous improvement.

There are numerous sustainability criteria that many ICT companies already manage along their supply chain. Within the scope of this white paper, these issues are categorized into the broad performance dimensions of environmental, social and emerging issues, specifically conflict minerals.

3.1 Sustainability Risks in the Supply Chain

In an effort to lower costs, ICT companies have moved the low-skill production and assembly stages to countries where enforcement of labor standards is relatively weaker. Their suppliers in these countries often seek out the cheapest labor and avoid associated compliance costs. This can be at the cost of internationally accepted standards which address labor policies covering basic health and safety, wages, benefits and working hours as developed by organizations such as the United Nations International Labor Organization and ratified as international conventions. Non-conformance with these conventions poses considerable reputational risks to the focal (core or "parent") companies as buyers and brand owners.

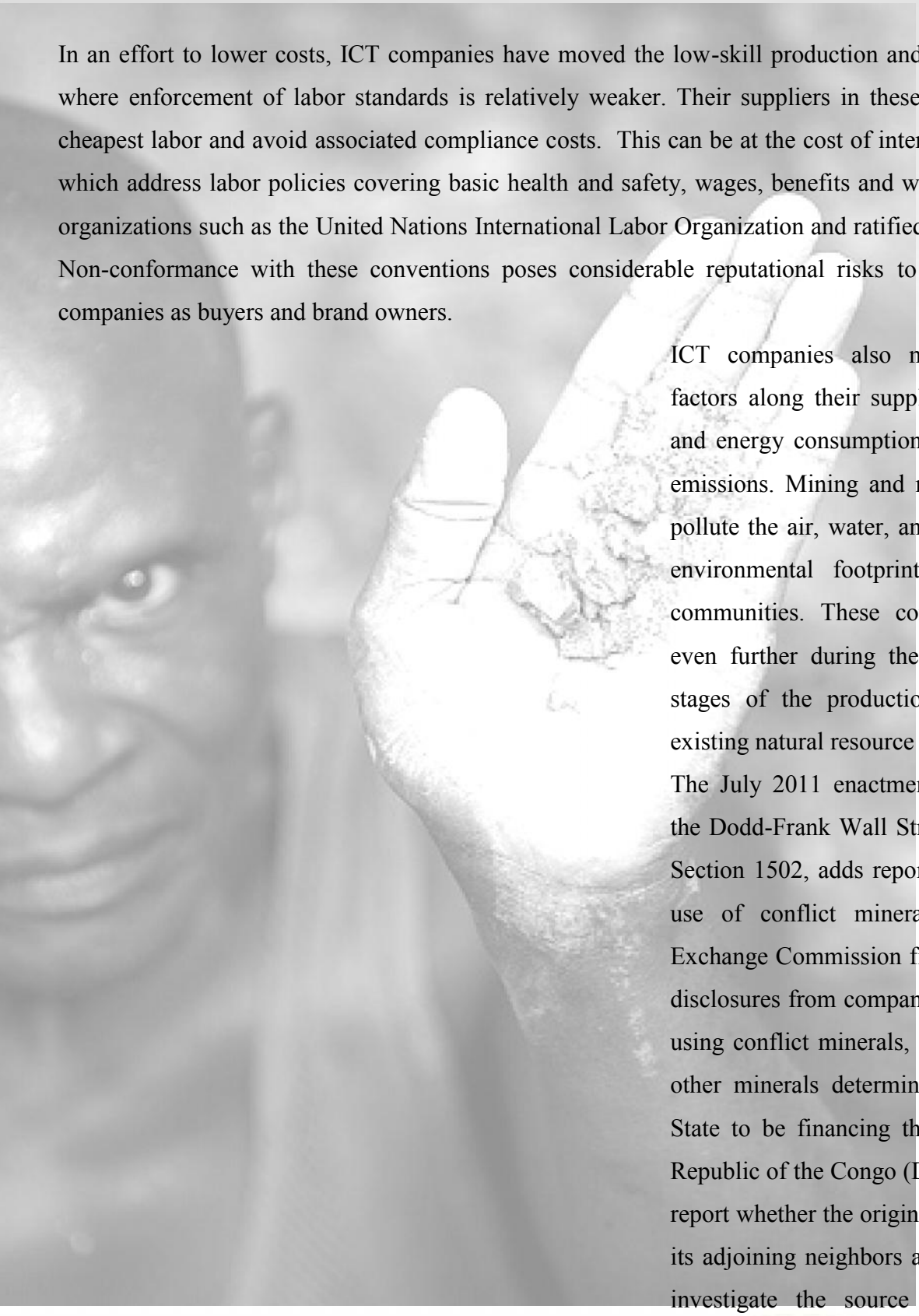


Photo: Julien Harneis

ICT companies also manage many environmental factors along their supply chain, ranging from water and energy consumption to the management of toxic emissions. Mining and manufacturing operations can pollute the air, water, and soil and thus, leave a large environmental footprint on ecosystems and local communities. These communities can be impacted even further during the energy and water intensive stages of the production process if there are pre-existing natural resource constraints.

The July 2011 enactment and imminent adoption of the Dodd-Frank Wall Street Reform Act, in particular Section 1502, adds reporting requirements around the use of conflict minerals for U.S. Securities and Exchange Commission filings. This provision requires disclosures from companies that manufacture products using conflict minerals, coltan, tin, tungsten gold and other minerals determined by the U.S. Secretary of State to be financing the conflict in the Democratic Republic of the Congo (DRC). Companies will have to report whether the origin of any of these is the DRC or its adjoining neighbors and disclose measures used to investigate the source and confirm the chain of custody of the materials.

3.2 Methodology

This report evaluates 26 companies who were selected because they have voluntarily chosen to follow the Global Reporting Initiative (GRI) Framework, submitted their reports to GRI for the years 2009, 2010 or 2011 and are based in the U.S. 14 of the companies are members of the Electronics Industry Citizenship Coalition. These companies were solely assessed on the material publicly available through their corporate communication channels. Stakeholder perceptions on the companies' reporting strategies and on the companies' performance managing the sustainability issues impacting suppliers were not considered. The 26 companies were rated on their reporting performance within the three performance dimensions (Social, Environmental and Emerging Issues—Conflict Minerals) in five management strategies:

1. **Management Approach**
2. **Risk** Management
3. **Monitoring**
4. **Performance Reporting**
5. **Engagement**

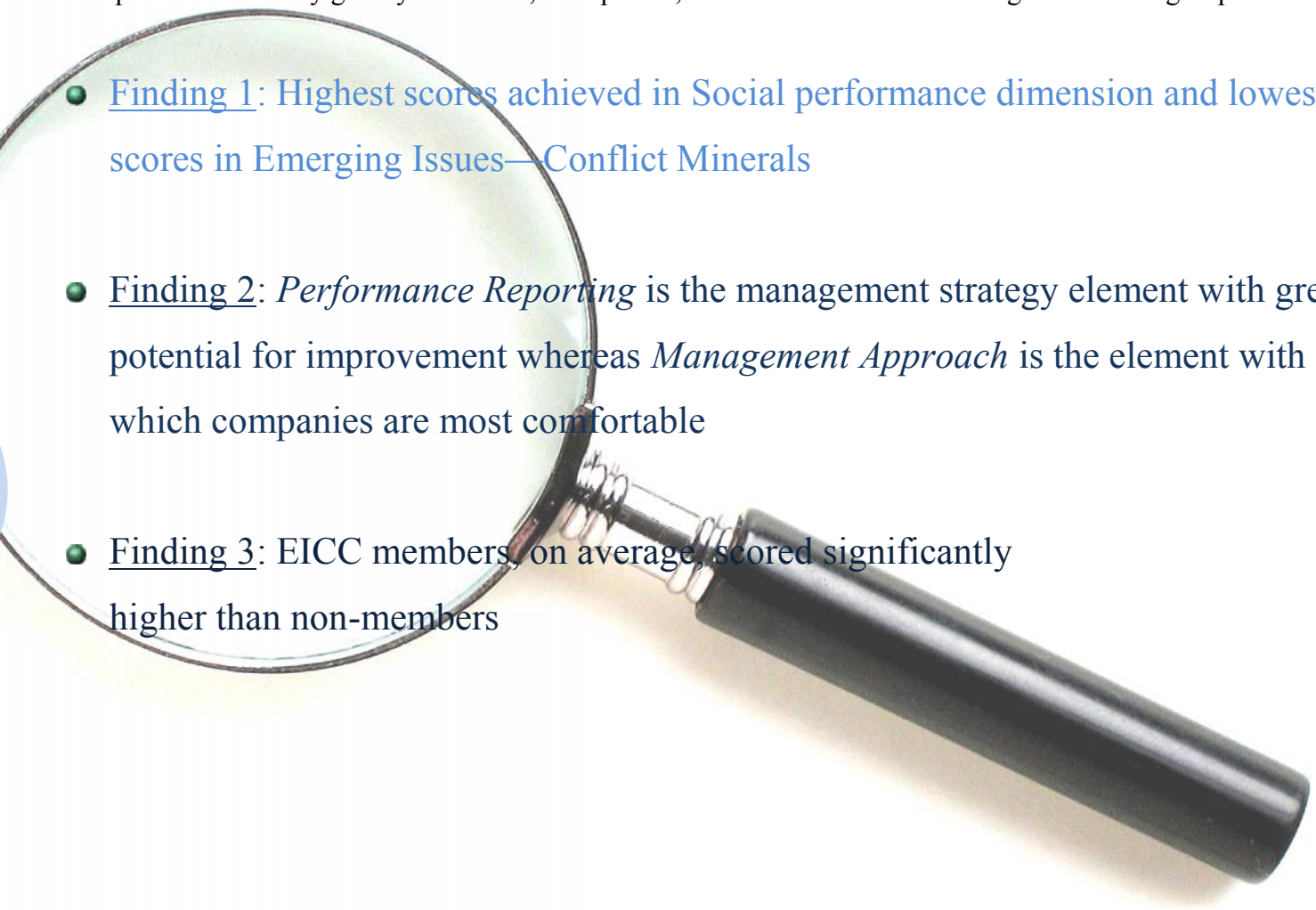
Companies were assigned a score between 1 and 6 (with a high score of 6) for each management strategy with the potential to achieve up to 30 points in each performance dimension. A maximum overall score of 90 was possible.

4 RESULTS

In overall scoring, 12 companies received low scores (under 30), 10 companies received a mid-level score (31-60) and 4 companies received high scores (above 61). The average score achieved by the companies in this report was 39.1 (mid-level).

HP (score 76 points), Apple (score 73 points), Intel (score 71 points), and Motorola (score 63 points) were the top four overall performers. Beyond these four, several companies were awarded the highest score for their disclosure within a specific management strategy (e.g. *Monitoring* in the Environmental performance dimension).

Prior to undertaking the research, DNV recognized that the content and quality of the sustainability reporting of the companies would vary greatly. However, as expected, some common themes emerged from this group:



- Finding 1: Highest scores achieved in Social performance dimension and lowest scores in Emerging Issues—Conflict Minerals

- Finding 2: *Performance Reporting* is the management strategy element with greatest potential for improvement whereas *Management Approach* is the element with which companies are most comfortable

- Finding 3: EICC members, on average, scored significantly higher than non-members

The companies included in this report should be acknowledged for their disclosure efforts. The findings in this report suggest, however, that there is still room for improvement in reporting practices, even among the top performers. Out of the findings, we have developed 5 recommendations intended to support U.S. ICT companies in their drive for accurate and trustworthy communications around their supply chain impacts.

Recommendation 1: Develop an integrated approach to all three performance dimensions

Recommendation 2: Establish, measure and report on qualitative and quantitative performance indicators based on risk and opportunity mapping

Recommendation 3: Increase supplier engagement

Recommendation 4: Build internal capacity to manage conflict minerals

Recommendation 5: Improve ease of access to information related to sustainability reporting

Since the voluntary sustainability reporting of a company should reflect its unique set of challenges and opportunities, it is difficult to prescribe a solution that would be uniformly applicable. These recommendations are not intended to provide "a one-size-fits-all solution" to improve the disclosure performance of ICT companies. Rather, these can be viewed as guidelines which all companies can benefit from as they assess their own reporting practices.

5 INTRODUCTION

Investors increasingly focus on non-financial criteria and their associated risks in mid- to long-term investments as a component of their overall fiduciary duties. Furthermore, consumers, regulators and non-governmental organizations (NGOs) are demanding greater transparency on environmental, social and governance (ESG) factors impacting companies and their supply chains.

In today's global economy, it is more likely that a single corporation has a complex production chain spanning diverse geographic locations as opposed to having direct control over the raw material extraction, manufacturing operations and/or distribution channels for its products[1]. Moreover, the expectation that corporate globalized companies are accountable for the sustainability performance of their supply chain is expanding into consumer's purchasing requirements. The social impact of the supply chains has become a downside risk in operations, and consumers are not likely to tolerate violations, let alone pay a premium for compliance. On the other hand, positive environmental performance of products is still perceived as an added value to consumers.

> ***"In the present climate of opinion, with its widespread aversion to 'capitalism', 'profits', the 'soulless corporation' and so on, [corporate social responsibility] is one way for a corporation to generate goodwill as a by-product of expenditures that are entirely justified in its own self-interest."***
>
> - Milton Friedman, 1970

Other dimensions which have been on the stakeholder agenda for many years, such as the emerging issue of conflict minerals, drive legislators and regulators to enact policies that add another level of urgency and increase transparency in corporate reporting.

At the end of the day, whether referred to as corporate social responsibility (CSR) or ESG, not only is there a demand for greater transparency, there is also the expectation that the information companies disclose is accurate, true and ultimately verifiable.

[1] Business for Social Responsibility, *Perspectives on Information Management in Sustainable Supply Chains*, August 2007

Companies are now faced with the dilemma of a credibility deficit, in particular as it relates to their up- and downstream suppliers due to the limited influence, control, and traditional perceptions of responsibility boundaries.

We have prepared this report with the intention of recognizing the value that transparency adds to all stakeholders (no less the companies that practice transparency), but we also seek to identify reporting practices that are credible and innovative.

While some of the companies reviewed in this report are current or former clients, this paper and supporting methodology was carried out by DNV staff who have not been actively involved in the projects covered herein. The findings of this paper are a result of our qualitative assessment and professional judgment in identifying leading practices. Prior to publication, this paper was not peer reviewed or previewed externally.

5.1 Reporting in the Technology Industry

Companies across all industries increasingly manage and report on the sustainability risks and opportunities which arise throughout their direct and supply chain operations. However, the ways in which these issues manifest themselves is unique to each industry (and more so, each company). The determination of which sustainability issues are material[2] to a particular company is based on such factors as the geographic location of suppliers, raw material required for the product, the intensity of the production process, and the degree to which operations impact stakeholders. As a result, each company's sustainability reporting strategy should reflect the unique set of issues material to its operations.

The Information and Communication Technology (ICT) industry, through the prevalence of its products and services, has revolutionized the way people live, work and play. It is a comparatively young industry that has previously been portrayed as one with a highly-skilled workforce and a clean-working environment[3].

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[2] The definition of materiality is a financial auditing term that is increasingly employed for the purposes of non-financial corporate reporting. According to AccountAbility (a standard setter for sustainability reporting), "an issue or concern is material if it can influence, decisions, actions, or behaviors of stakeholders or the organization." http://www.accountabilty.org

[3] Irene Schipper and Esther de Haan, *CSR issues in the ICT hardware manufacturing sector,* SOMO, September 2005, 15 September, 2011 < http://somo.nl/publications-nl/Publication_476-nl/?searchterm=CSR%20Issues%20in%20the%20ICT%20Hardware%20Manufacturing%20Sector>

This description is fairly accurate when assessing direct operations as ICT companies have implemented corporate standards to guide environmental and social behavior within their focal operations. Traditionally, the headquarters of these companies have been located in developed countries and largely serve as research, design and marketing centers. Consequently, production in low-cost countries through a complex supply chain is the norm rather than the exception. Extending the same corporate standards to new entities, never mind getting accurate data, is a complex challenge.

Recently, companies in the industry have come under additional scrutiny with newer regulations affecting direct and supply chain operations including the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive and the Restriction of Hazardous Substances (RoHS) Directive as well as the Dodd-Frank Wall Street Reform Act in the U.S. Ensuring that their suppliers are in compliance with regional and global regulation is a challenge in itself. Moving suppliers from compliance towards voluntary initiatives demands innovative strategies to build partnerships and drive continuous improvement. Finally, the effort should be communicated effectively in order to add value to both companies and their suppliers.

The Information and Communication Technology (ICT) industry, through the prevalence of its products and services, has revolutionized the way people live, work and play.

6 TRENDS IMPACTING THE U.S. ICT INDUSTRY

The U.S. ICT industry is considered a global leader in innovation and design. To some degree, this is a result of the large amount of financing available to the industry, the number of university and industrial research institutions and the multitude of start-ups as well as more mature ICT firms driving the growth of the industry within the U.S.4. A 2009 report by the Organization for Economic Co-Operation and Development (OECD) showed in its analysis that global research and development (R&D) expenditures in the top ICT firms were much higher than those in the chemicals, pharmaceuticals or automotive sectors. Further, 43 percent of the ICT R&D was conducted by U.S. firms (five of the top 10 R&D spenders in 2006 and 2007 were U.S. ICT companies)5.

Additionally, the current U.S. political climate reflects a fairly positive view towards the ICT industry. In his State of the Union address in January 2011, President Obama suggested that in a single generation the technology sector has become the successor to the industries that helped grow the U.S. economy into the world's largest. He also stated that "maintaining our leadership in research and technology is crucial to America's success." 6
As U.S. ICT companies benefit from these positive trends and further increase their visibility in the global marketplace, their operations, along with that of their supply chain, will be examined more closely by their stakeholders. As a result, U.S. ICT companies will need to determine if they will respond affirmatively to demands for increased transparency, and if so, whether they can become innovators in reporting strategies and impact reduction, pushing forward the industry as a whole.

The ICT industry is not alone in facing increased scrutiny. Between 2009 and 2010, the number of voluntary sustainability reports released by U.S. firms increased by 22 percent7. 177 U.S. companies were part of the GRI reports list in 2010. Some companies included in this paper have contributed to that increase and it does not appear as if this trend will be slowing in the near future.

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[4] Telecommunications Industry, *ICT R&D Policy Report*, September 2011
[5] Graham Vickery and Sacha Wunsch-Vincent, *R&D and Innovation in the ICT Sector: Toward Globalization and Collaboration*, Chapter 1.8 in, "The Global Information Technology Report" 2008-2009 (© 2009 World Economic Forum) at 95-97, at: http://www.tubisad.org.tr
[6] The White House, 23 September, 2011< http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>
[7] Global Reporting Initiative (GRI), *GRI Sustainability Reporting Statistics*, 2010, 9 September 2011, http://www.globalreporting.org/NR/rdonlyres/EDEB16A0-34EC-422F-8C17-57BA6E635812/0/GRIReportingStats.pdf

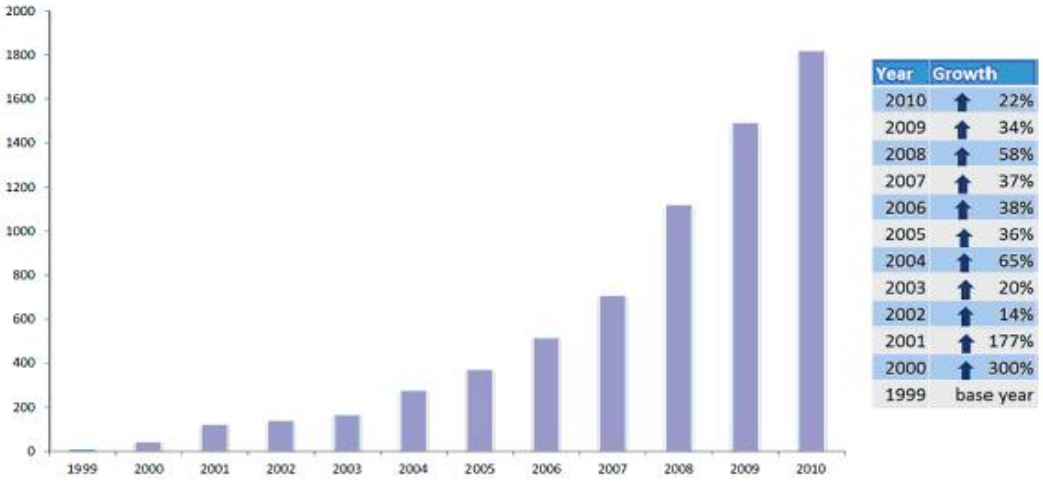
6.1 Sustainability Reporting

Sustainability reporting[8] is critical in managing the expectations of the broad range of stakeholders following the environmental, economic and social performance of a company and its supply chain. For companies, including those in the ICT industry, a thorough sustainability reporting strategy can be a vital tool in identifying and managing risks and opportunities as well as monitoring sustainability performance indicators along the supply chain.

6.2 Global Reporting Initiative's Sustainability Reporting Framework

According to the Global Reporting Initiative (GRI), which has developed a sustainability reporting framework used worldwide, fewer than 100 companies issued sustainability reports in 2000. The number of companies releasing sustainability reports is now closer to 2,000, reflecting the growing trend of disclosing social and environmental performance along with financial reporting.

Figure 1: Increase in sustainability reporting globally between 1999 and 2010



Source: www.globalreporting.org, GRI Sustainability Reporting Statistics, 2010

In 2010, GRI announced a new goal to require all large and medium-sized companies based in OECD member countries, including the U.S. and fast-growing emerging economies, to report publicly on their ESG performance by 2015, or if they don't, explain why. This, combined with the increasing disclosure demands from investors and regulators, drives ICT companies in the U.S. to develop comprehensive reporting strategies.

[8] For the purpose of this white paper, sustainability reporting encompasses the array of online and printed formats released through corporate communication channels.

Credible communication on sustainable supply chain management contributes strongly to enhanced reputation and can generate sustainable shareholder value. The globally recognized principles that comprise the GRI Reporting Guidelines have played an important role in the development of sustainability reporting and have helped companies determine how to frame their sustainability reporting.

Of the GRI framework, two overarching principles guide organizations to consider the supply chain in the report content:

Scope and boundary setting

Setting reporting boundaries is an important exercise in determining what material sustainability issues need to be tracked and in what manner and the level of control or influence the company has over them[9]. It will help prioritize topics within the report and help identify stakeholders expected to use the report[10].

Materiality

Material issues are those that are relevant to broader business operations and goals and also require careful management. Including, omitting, or emphasizing material issues in sustainability reporting would substantively influence the assessments and decisions of stakeholders[11].

A faithful interpretation of these two principles would identify risks and opportunities in the supply chain for most ICT companies producing hardware.

[9] Global Reporting Initiative (GRI), *GRI Boundary Protocol*, January 2005, 9 September, 2011 < http://www.globalreporting.org/NR/rdonlyres/CE510A00-5F3D-41EA-BE3F-BD89C8425EFF/0/BoundaryProtocol.pdf>
[10] Global Reporting Initiative (GR), *Sustainability Reporting Guidelines Version 3.0*, 2000-2006, 9 September, 2011< http://www.globalreporting.org/reportingframework/g3guidelines/>
[11] Ibid.

6.3 ICT Reporting Drivers

There are five key drivers for ICT companies to report on the management of sustainability risks in their supply chain:

1. Brand and reputation: For business to consumer (B2C) firms, both upside and downside risks are important to manage in order to avoid unfavorable exposure and to position their brands in a market environment where sustainability performance is increasingly a given, not an add-on.

2. Employee attraction, retention and motivation: Pride in the company's performance is increasingly cited as a motivator when employees are asked about their willingness to work at a company or their reluctance to leave, when other benefits are equal.

3. Organizational efficiencies: Effective risk management allows top management to focus on financial performance and avoids distraction from "business as usual" when issues emerge that require cross-functional fire-fighting.

4. Competitive advantage: Companies that can identify efficiencies in addressing sustainability performance are more likely to maximize on the same opportunities, thereby demonstrating the business case for sustainability risk.

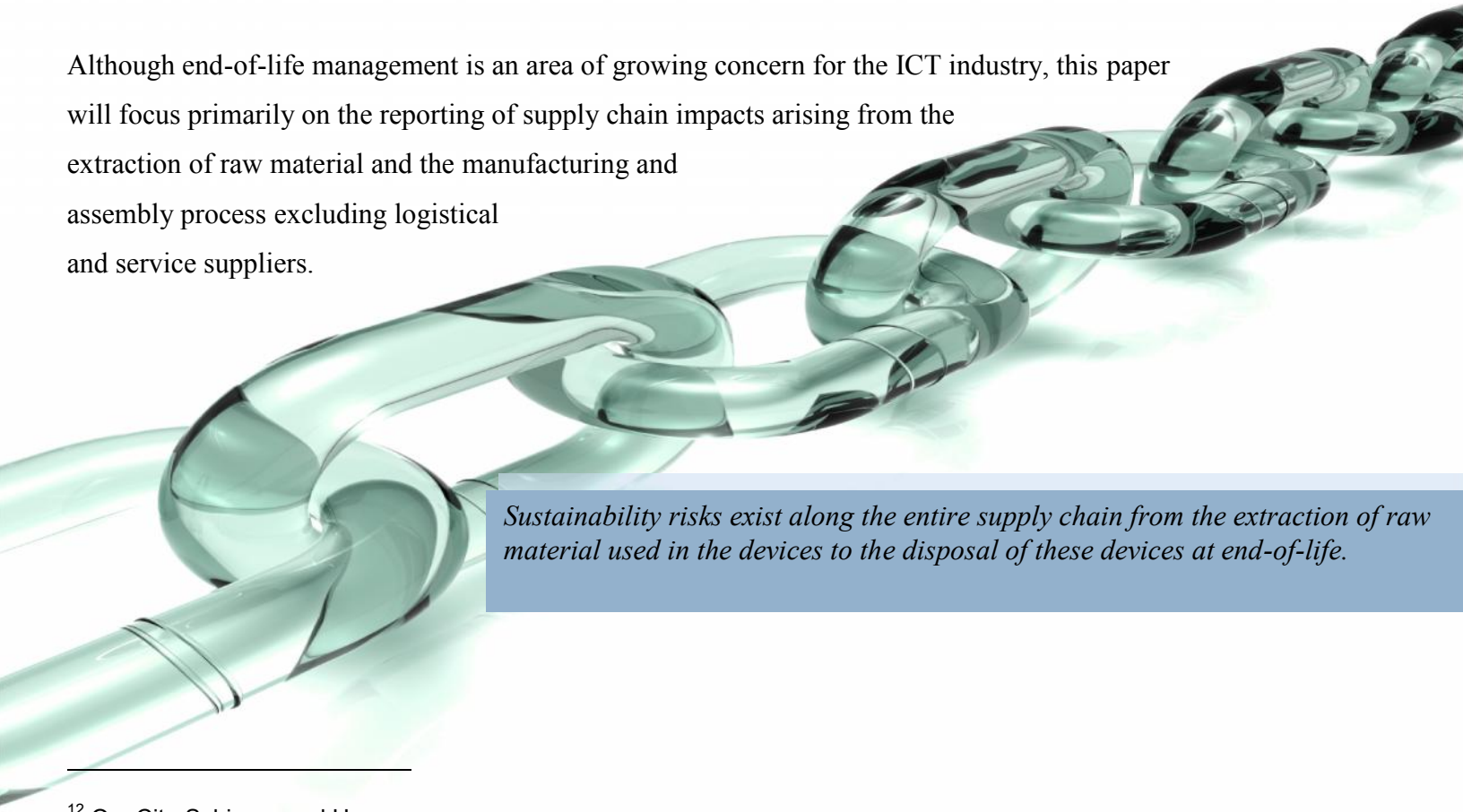
5. Regulatory interference and legal action: Sustainability aspects are increasingly integrated into law and cross-boundary litigation is on the rise. Companies may position themselves as "early adopters" or can proactively engage with stakeholders in order to pre-empt lawsuits.

7 SUSTAINABILITY CHALLENGES WITHIN THE ICT SUPPLY CHAIN

ICT companies face significant challenges in managing sustainability risks in their supply chain due to a lack of transparency resulting from complex structures and relationships[12]. The information gap limits the degree to which ICT companies can remedy instances of non-compliance that emerge in the supply chain. Developing and implementing systems which promote the flow information and increase the availability of this information can help influence and control supplier behavior and, as a result, limit exposure to risk.

Sustainability risks exist along the entire supply chain from the extraction of raw material used in the devices to the disposal of these devices at end-of-life. Labor within the ICT industry has been steadily moving to countries where production costs are lower, but are also regions where labor rights, human rights, and environmental issues are not viewed as priority issues by local governments[13]. Within the scope of this paper, sustainability issues that ICT companies should address along their supply chain are categorized into broad dimensions of environmental, social, and emerging issues, specifically conflict minerals.

Although end-of-life management is an area of growing concern for the ICT industry, this paper will focus primarily on the reporting of supply chain impacts arising from the extraction of raw material and the manufacturing and assembly process excluding logistical and service suppliers.



Sustainability risks exist along the entire supply chain from the extraction of raw material used in the devices to the disposal of these devices at end-of-life.

[12] Op. Cit., Schipper and Haan.
[13] Ibíd.

7.1 Social Challenges

ICT companies are exposed to many risks related to labor rights and human rights during both the extraction of raw materials and manufacturing and assembly operations. Therefore, in addition to following the laws and regulations of the countries in which they operate, ICT companies should ensure that their suppliers comply with the international standards developed by organizations such as the United Nations International Labor Organization (ILO) via commitment to the United Nations Global Compact which address labor policies, wages, benefits and hours.

Companies in the industry, in an effort to lower costs, have moved the low-skill production and assembly stages to developing countries where enforcement of labor standards is much weaker. Often, suppliers seek out the cheapest labor without much regard to child labor policies, limitation to work hours, health and safety issues (which is especially of note due to the toxic substances used in manufacturing operations), freedom of association and collective bargaining, and elimination of discrimination[14]. Many ICT companies have developed internal systems and policies to manage their own social standards, yet are failing to implement these same standards in their supply chains[15]. Thus, it becomes critical for ICT companies to increase transparency on the requirements of their Supplier Code of Conduct and systems implemented to manage these vulnerabilities. Media reports during 2010 and 2011 have revealed that some ICT suppliers have not been incorporating these international conventions in their day-to-day operations, posing considerable reputational risks to their buyers and brand owners.

Photo: Southern Weekly: http://nf.nfdaily.cn/epaper/nfzm/content/20100513/PageA01CJ.htm

[14] Katherine Astill and Matthew Griffith, "Clean up your computer: Working conditions in the electronics sector," CAFOD, 15 September, 2011< http://www.cafod.org.uk/var/storage/original/application/phpYyhizc.pdf>
[15]ISIS Asset Management plc, *The ICT Sector: the management of social and environmental issues in supply and disposal chains*, January 2004

7.2 Environmental Challenges

There are many environmental factors that ICT companies manage along their supply chain, ranging from water and energy consumption to the management of toxic emissions. Mining for minerals and metals used in products and during the manufacturing process can leave a large environmental footprint on the ecosystems and local communities in which the mines are based[16]. Soil and water damage can result from mining activities while hazardous material can pollute air, soil and water. Air pollution from mining dust and the release of greenhouse gas (GHG) emissions, such as carbon dioxide, cause further environmental degradation[17] during mining operations.

Toxic materials are also used extensively throughout the production process, and in products themselves, which creates environmental hazards within the manufacturing facilities and in the communities in which these facilities are based. Hazardous substances can also be discharged into the environment as a result of waste produced during manufacturing. Along with the dangers arising from the use of toxic material, the manufacturing and assembly process of circuit boards, silicon chips and semiconductors are high energy and high water consumption stages in the life cycle of ICT products[18]. If there are heightened levels of water scarcity where supply chain facilities are based, this leads to even greater impact on local ecosystems and communities.

Demonstrating environmental responsibility and stewardship throughout the ICT supply chain is integral to sustainable business operations. Developing and measuring key performance indicators, pollution prevention, reduction of resource consumption, hazardous material management, waste management, and monitoring of air emissions in the production chain facilitates internal awareness of critical issues and promotes continuous improvement. Furthermore, it provides a framework for communicating corporate standards addressing environmental impacts internally and externally.

[16] Marta Miranda, et al., "Mining and Critical Ecosystems: Mapping the Risks," World Resources Institute, 2003, 15 September, 2011<http://pdf.wri.org/mining_critical_ecosystems_full.pdf>
[17] Ibid.
[18] Op. Cit., Schipper and Haan

7.3 Emerging Issues-Conflict Minerals

There are several risks along the supply chain which can be considered to be emerging issues. However, with the July 2011 enactment and imminent adoption of the Dodd-Frank Act—in particular Section 1502 and its provision on disclosure requirements to the Securities and Exchange Commission (SEC) around conflict minerals—this white paper will examine how companies address this vulnerability in their sustainability reports.

The new SEC requirement impacts publicly traded companies that manufacture products using conflict minerals, columbite-tantalite (coltan), cassiterite (tin), wolframite (tungsten), gold and other minerals determined by the U.S. Secretary of State to be financing conflict in the Democratic Republic of the Congo (DRC)[19]. ICT companies will be required to report whether the origin of these particular metals and minerals is the DRC or any of its adjoining neighbors and "disclose measures taken to exercise due diligence on the source and chain of custody of the materials and the products manufactured.[20]" While there is potential for ICT companies to indicate a certain degree of confidence in sourcing conflict-free minerals, without establishing assurance mechanisms, they still run a risk of manufacturing products containing minerals that finance the conflict in the DRC.

Adopting new strategies such as direct sourcing and applying systems such as minerals tagging or fingerprinting will mitigate some of these risks. Additionally, participating in initiatives sponsored by the Electronic Industry

[19] http://thomas.loc.gov/cgi-bin/cpquery/?&dbname=cp111&sid=cp111YOlyX&refer=&r_n=hr517.111&item=&&&sel=TOC_2820495& and http://banking.senate.gov/public/_files/070110_Dodd_Frank_Wall_Street_Reform_comprehensive_summary_Final.pdf
[20] Ibid

Citizenship Coalition (EICC)[21], the Global e-Sustainability Initiative (GeSI)[22] and other NGOs will foster improved social, environmental and humanitarian outcomes as well as advance certification processes within the DRC and transparency throughout a complex supply chain[23].

For example, EICC and GeSI have formed a joint Extractives Workgroup to positively influence the social and environmental conditions in the extractives supply chain impacting EICC and GeSI member companies. The Extractives Workgroup seeks to support transparency within the ICT supply chain and explores other opportunities to support members in their efforts for conflict-free mineral sourcing[24].

[21] EICC was established in 2004 to promote a common code of conduct for the ICT industry. EICC now includes more than 40 global ICT companies and their suppliers, http://www.eicc.info/

[22] GeSI, established in 2001, is a global partnership of ICT companies that promotes technologies for sustainable development. GeSI has a number of Working Groups addressing issues including supply chain, climate change and ewaste. http://www.gesi.org/

[23] The Enough Project, Certification: The Path to Conflict-Free Minerals from Congo, Sasha Lezhnev and David Sullivan, May 2011)

[24]EICC, http://www.eicc.info/extractives.htm

8 REPORT METHODOLOGY

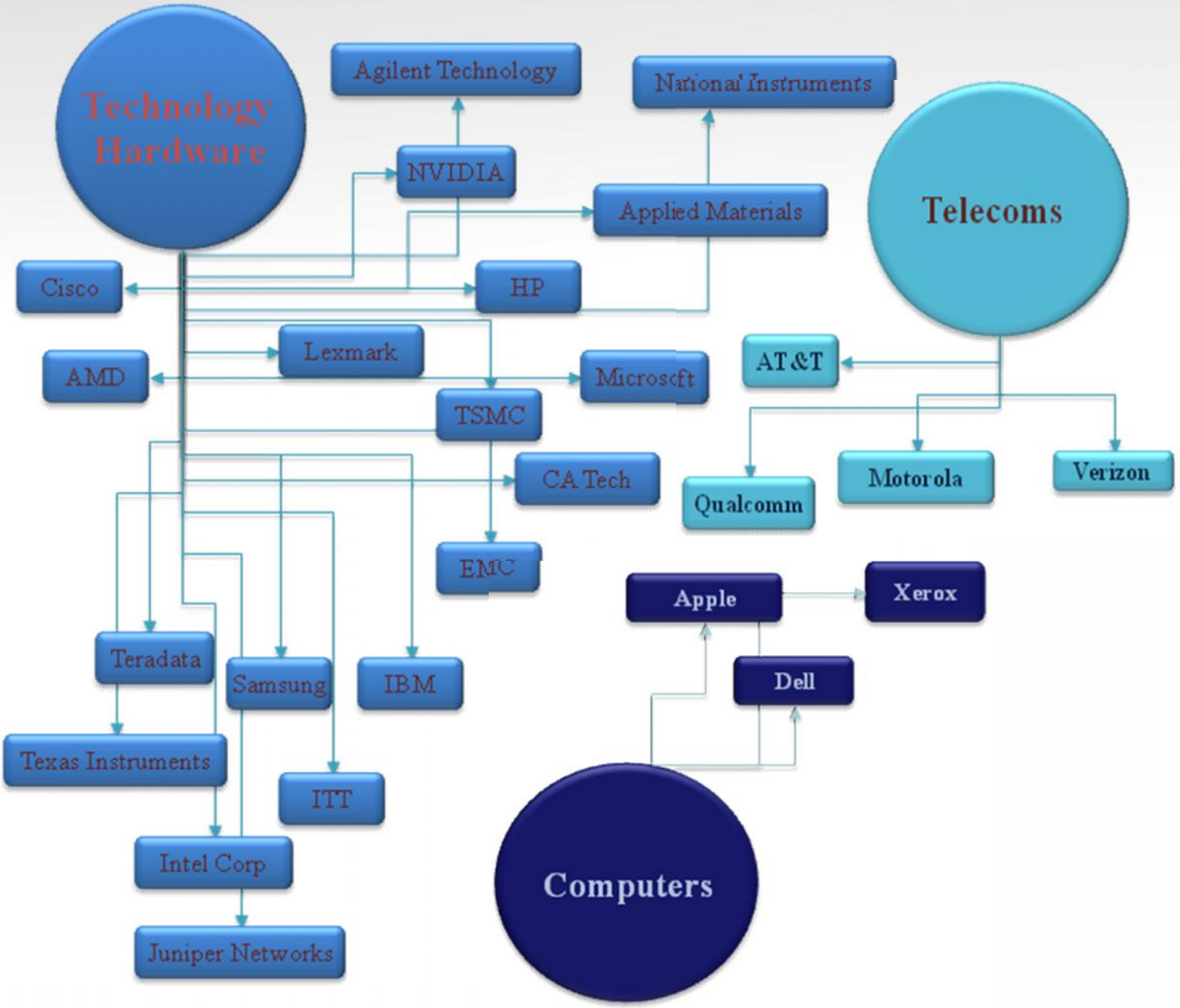
8.1 Company Selection Criteria

DNV recognizes that the content and quality of sustainability reporting varies significantly from company to company within each industry. With ICT companies simultaneously facing a rapid growth market and a shifting regulatory and operating landscape, in particular within the U.S., their response rate to these quickly developing trends differs greatly and this variance is visible in their reporting strategies.

We have therefore, as our starting point, selected ICT companies based in the U.S. that have voluntarily chosen to follow the GRI Framework, submitted their sustainability reports to GRI for the years 2009, 2010 or 2011, and made the information publicly available through their corporate communications. 26 companies in total were evaluated in this report

The GRI organizes ICT companies into the three categories of Technology Hardware, Computers and Telecommunication in the Reporting List they publish online. The companies included in this report are listed by the abovementioned categories (Figure 2). While these categories are useful for reference, several of these companies could fall into two or all three categories. As such, we reviewed the sustainability reporting of the 26 companies and ranked top performers within the context of the ICT sector as a whole.

Figure 2: Companies by "GRI Reporting List" categories



8.2 Duration of Research Period and Documents Reviewed

The companies reviewed in this paper were assessed on disclosure of their management of sustainability issues within their supply chains.

The review period took place between June 1 and August 15, 2011. Reporting material reviewed included past and current sustainability reports, annual reports as well as any supplier responsibility reports and all other data available on the company website. Any material released by the abovementioned companies after August 15, 2011 was not reviewed as part of this paper.

8.3 Scope of Assessment and Scoring Dimensions

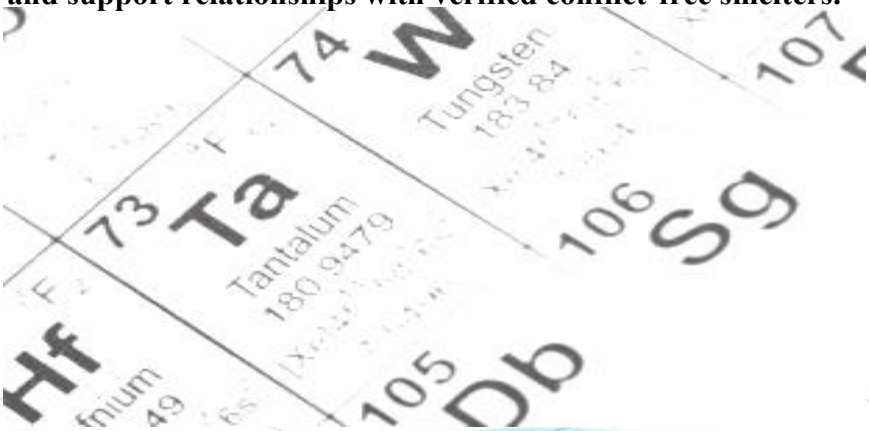
Companies included in this paper were evaluated on their reporting of supply chain management against three broad performance dimensions to incorporate the widest definition of sustainability.

Performance Dimensions:

Environment: Sustainability reporting includes disclosure on issues such as GHG emissions management strategy, toxic material use, disposal of hazardous waste, use of toxic substances, and water consumption.

Social: Sustainability reporting includes disclosure on workplace conditions, workers' rights and human rights as outlined in international standards, such as SA8000 and EICC Code of Conduct.

Emerging Issues-Conflict Minerals: Disclosure includes public commitment to not purchase conflict minerals or include conflict minerals in products, participation in a track and trace system, involvement in programs intended to strengthen supplier responsibility, and support relationships with verified conflict-free smelters.



8.4 Management Strategies

Within each dimension, there are five management strategies (See Table 1 for more detail) that are derived from DNV's expertise in the areas of corporate social responsibility, sustainable supply chain management and performance ratings in the integration of non-financial criteria in annual reporting. The available reporting data and management responses were evaluated and given a score encompassing both qualitative and quantitative indicators, which allowed for comparison in order to highlight top performers of sustainable supply chain management reporting.

Management Approach: How does the company deal with this issue? Is it identified as a specific risk?

Risk Management: What criteria are used to define risk among suppliers? (Location, Socio-Economic areas, supplier priority?)

Monitoring: How are suppliers' performance monitored? Is it 1st Party (self assessment), 2nd Party (company audits supplier) or 3rd Party,(using external auditors)

Performance Reporting: Does the company report on violations or poor performance among the supply base?

Engagement: How does the company work with the suppliers in resolving issues, corrective actions, capacity training, etc?

Companies were scored on a scale of 1-6, with 6 as the high score, for each management strategy within a performance dimension. It was possible for a company to achieve up to 30 points for each performance dimension. A maximum total score of 90 was possible.

Performance Dimension Scoring Guide

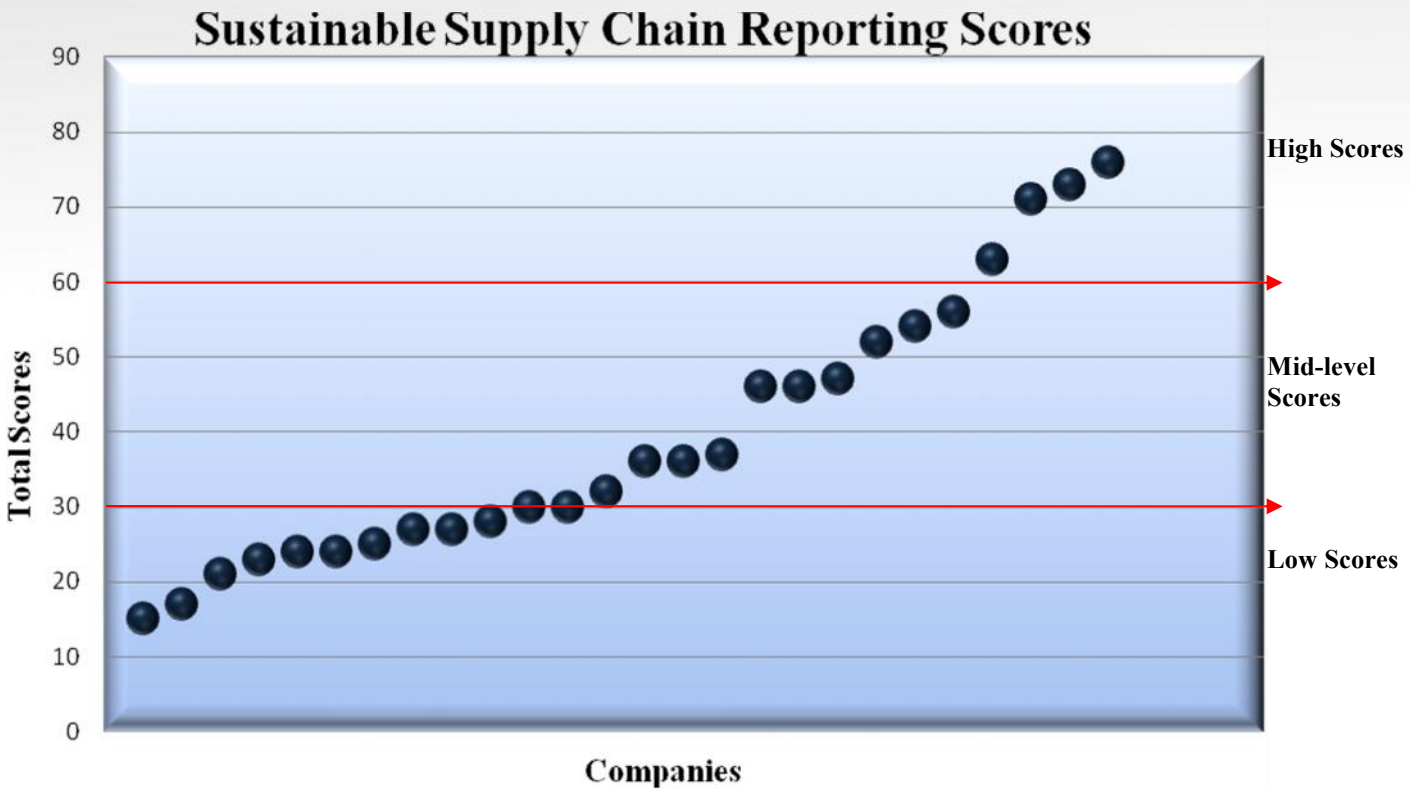
Environmental, Social and Emerging Issues—Conflict Minerals:

Table 1: Scoring Guide

Management Strategy:	Low Score (1-2 points)	Mid-level Score (3-4 points)	High Score (4-5 points)
Management Approach	No identification of this risk. Policy is absent.	No concrete identification of sustainability risks in environmental/social/emerging issues. Policy exists but reporting on enforcement and monitoring may not be satisfactory.	Company has specifically identified supply chain risks in its reporting and provides an adequate policy. The company reports that adequate resources are in place to manage and review risks. Conditions for non-compliance are adequately explained, and do not involve termination of contracts as a first resort.
Risk Management	No mention of risk management.	Risk management is mentioned, but the methodologies are not clear. No evidence of stakeholder consideration is provided.	Company identifies and explains its approach to management of environmental/ social/emerging issues risks, including integration of stakeholder concerns with a transparent engagement process.
Monitoring	Reporting of first self-assessment only or not at all.	Company reports only on second party audits of suppliers.	Suppliers are reportedly monitored through a combination of second party and third party audits. Auditor competences and monitoring methodology are specified.
Performance Reporting	No reporting on audit performance.	Company reports on the number of audits, but does not disclose non conformities.	Company reports on number of audits conducted over the reporting period. Reports number and frequency of non conformities, and follow up actions.
Engagement	No evidence of supplier engagement	Company reports on communication of values between themselves and suppliers, (e.g. possibly limited to contractual obligations)	Company reports on approaches to improve supplier performance through education and provision of tools.

9 SUSTAINABLE ICT SUPPLY CHAIN REPORTING OVERALL RESULTS

Figure 3: Reporting scores by company



Although companies in the ICT industry are facing a growing number of sustainability challenges from their supply chain operations, the quality of reporting from the 26 companies included in this paper varied significantly, with some companies disclosing little to no information on their suppliers or sustainable supply chain management strategies. In overall scoring, four companies received high scores, 10 received mid-level scores, and 12 received low scores. The four frontrunners that emerged from the assessment of the sustainability reports released through corporate communication channels are:

- ☑ **HP:** scored 76 (84% of possible points)
- ☑ **Apple**: scored 73 (81% of possible points)
- ☑ **Intel**: scored 71 (79% of possible points)
- ☑ **Motorola**: scored 63 (70% of possible points)

While there are many reporting strategies exemplified by these four that companies across the U.S. ICT industry (and beyond) can adopt, even among the top performers opportunities to improve disclosure practices exist as no company exceeded 76 out of a total of 90 points. The average score among companies in this report was 39.1 points. It should be mentioned that apart from HP, Apple, Intel, and Motorola, several companies achieved high scores in reporting practices for specific management strategies (e.g. *Risk Management* in the Social performance dimension), but these alone were not sufficient in surpassing the aggregate scores of the top performers.

Table 2: Top performing companies

	Performance Dimension: Social Best in Management Strategy	**Performance Dimension: Environmental Best in Management Strategy**	**Performance Dimension: Emerging Issues—Conflict Minerals Best in Management Strategy**
Management Approach	AMD, Intel	TSMC, IBM, Intel, Apple	HP, Apple
Risk Management	TSMC, Cisco, Intel, HP	TSMC, HP	Apple
Monitoring	EMC, HP, Apple	EMC, HP	Intel, Apple
Performance Reporting	HP, Apple	Intel, HP, Apple	Apple, HP, Intel, Motorola
Engagement	Intel, Apple	Applied Materials, Intel, HP	Motorola
Top Performers Overall	**HP, Apple**	**HP**	**Apple**

The table above represents the companies that received the highest score (on a scale of 1-6, 6 being the highest) in each management strategy within the performance dimension. In the majority of management strategy elements, the highest score was attained by multiple companies and each company receiving that score was listed.

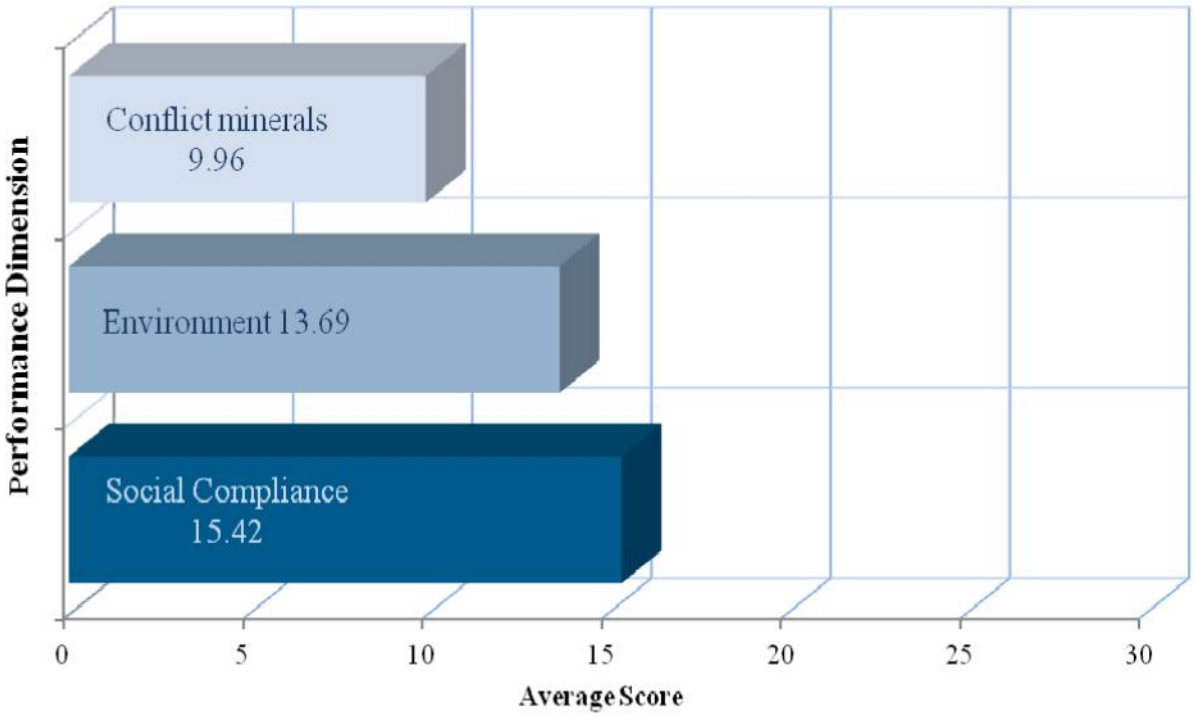
9.1 Key Findings

9.1.1 Finding 1:

Highest scores are achieved in the Social performance dimension and lowest scores are in Emerging Issues

It is not surprising that, with the exception of three companies, the Social performance dimension was the dimension in which companies achieved their overall highest scores. Social compliance has been the initial driver for sustainability efforts across industries, including ICT. As a result, sustainability reporting on social issues has reached a level of sophistication that has not yet been developed in environmental and emerging issues reporting.
The lowest scores, even for the top performers, were given in the performance dimension of Conflict Minerals. Again, given that reporting guidelines around conflict minerals have yet to be finalized, ICT companies have an opportunity to build their capabilities in this issue. However, with enforcement of the Dodd-Frank Act impending, there will be a steep learning curve for incorporating these requirements into their financial filings and sustainability reports.

Figure 4: Average Score by Performance Dimension



9.1.2 Finding 2:

***Performance* Reporting is the management strategy element with greatest potential for improvement whereas *Management Approach* is the element with which companies are more comfortable**

Within each performance dimension (Social, Environmental and Conflict Minerals), the management strategy of *Performance Reporting* was where the lowest scores were received. Reporting on performance is a critical point in the feedback loop between ICT companies and their suppliers. In order to develop a company risk management strategy which adapts to the reality on the ground, companies benefit from accurate on-site audit results to inform this iterative process and prioritize compliance efforts.

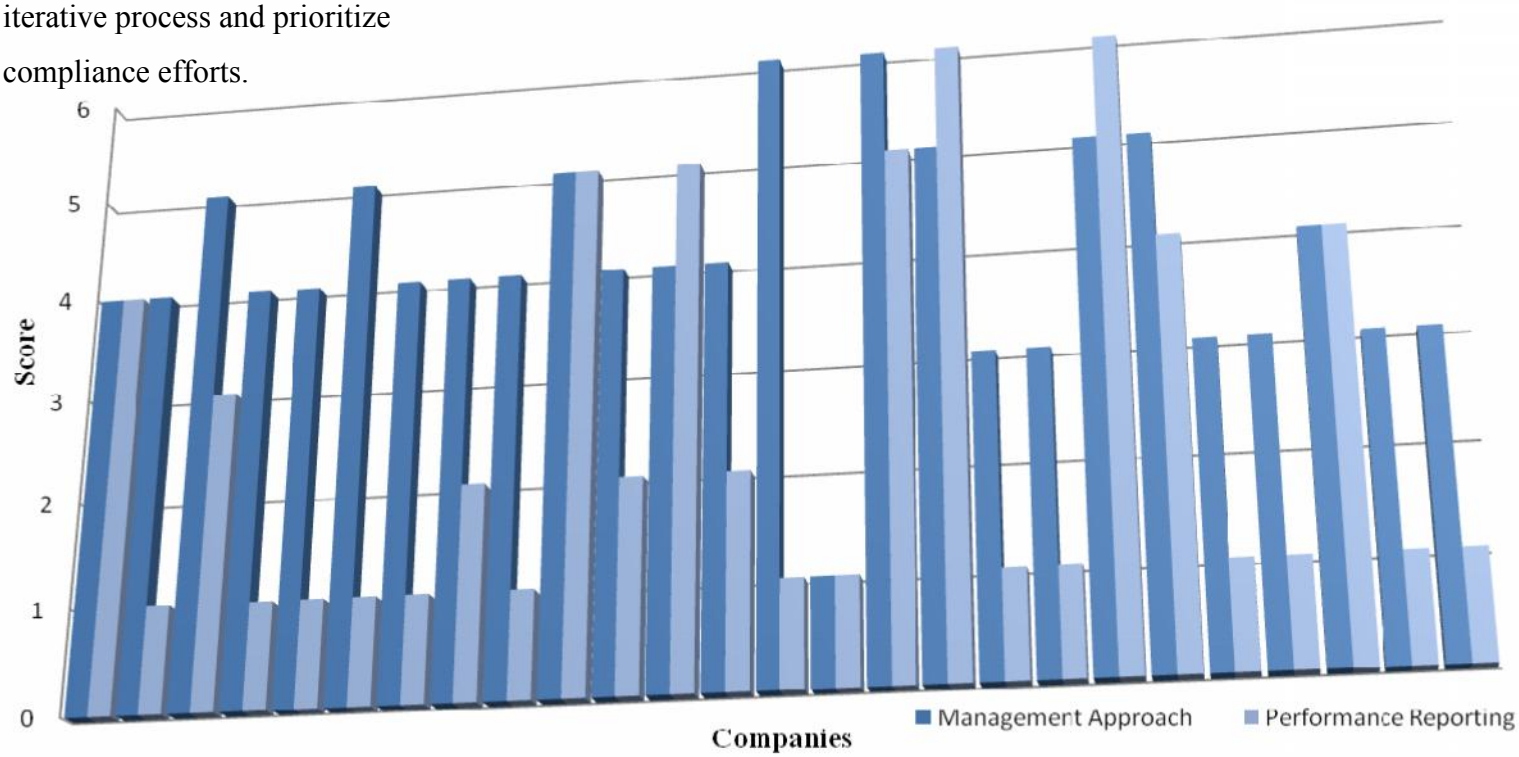


Figure 5: Scores for Performance Reporting versus Management Approach

Overall global transparency demands and events occurring at Foxconn (original equipment manufacturer to many of the companies included in this report) is elevating expectations of greater disclosure in relation to audit results and to what ICT companies are doing to mitigate these risks.

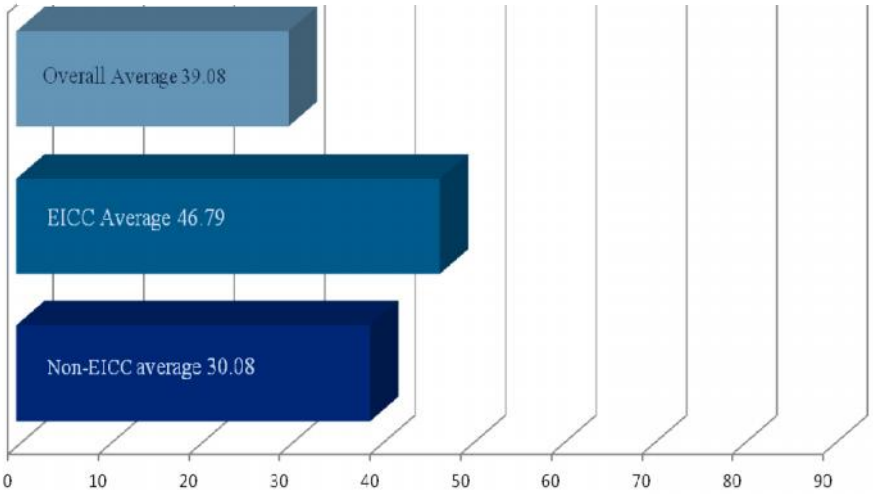
Since companies are newer to creating their environmental and conflict mineral reporting, the deficit in scoring between *Management Approach* and *Performance Reporting* was most apparent in the social performance dimension. However, within all three dimensions, *Management Approach* is the strategy that had the highest average score. In their *Management Approach* strategy within the Social performance dimension, 15 companies received high or mid-level scores, but received low scores in *Performance Reporting* due to a lack of disclosure of their efforts in measuring compliance of their suppliers (See Figure 5).

9.1.3 Finding 3:

EICC members, on average, scored significantly higher than non-members

Commitment to voluntary industry standards and codes is valuable to a robust *Management Approach* that identifies sustainability risks along the supply chain, in that it allows for a critical mass in order to ensure effective improvements. Members are also able to share common tools that are developed in partnership.

Figure 6: Average scores of EICC members versus non EICC members



Companies that are EICC members, 14 in total, received an average score of 46.8 while non-members received an average score of 30.1. Four EICC members scored higher than 54 points (60 percent) while only 2 non-members scored in that range (See Figure 6).

The EICC has two levels of members (Applicant and Full) and encourages companies at different stages of sustainable supply chain management to join. As such, some of the EICC member companies included in this report may not have progressed to meeting the requirements of full membership. Only one top-performer, Motorola, was not a member of the EICC. It is, however, a GeSI member.

While membership in industry platforms creates economies of scale and promotes industry coherence, its drawbacks may be slow implementation, lack of clarity in communicating expectations and outcomes, and tempered ambitions in order to accommodate the needs and interests of all members.

9.2 Recommendations for U.S. ICT Companies

9.2.1 Recommendation 1:

Develop an integrated approach to all three performance dimensions

The companies that scored the highest overall have approached the management of and disclosure on sustainability issues within the three performance dimensions in an integrated manner. Their management strategies include a cross-functional leadership team dedicated to monitoring supplier performance across all three dimensions. These teams are responsible for setting directions and strategies, implementing sustainable supply chain practices and ensuring that suppliers are compliant with industry codes and company standards that address material risks.

Through a holistic strategy it becomes possible for ICT companies to use the same management systems across performance dimensions and tailor the indicators to track performance on risks specific to each dimension. This integration is more likely to make sustainability core to supply chain operations while preventing the overburdening of suppliers (i.e. an integrated system will not require separate on-site audits for social, environmental and conflict mineral compliance).

9.2.2 Recommendation 2:

Establish, measure and report on qualitative and quantitative performance indicators based on risk and opportunity mapping

In order to focus resources to areas most in need in the supply chain, it is important for ICT companies to identify and prioritize their greatest risks and opportunities. By establishing direct links between international and national regulations, industry standards, geographic location, services provided, supplier audits and feedback, and stakeholder perspectives (NGOs, community representatives etc) with their impact on business drivers, it is possible to develop specific indicators that assess the sustainability performance of the supply chain. Reporting on steps taken to identify material issues, as well as on progress made to embed management of these issues and ensure accountability in the supply chain, facilitates credibility with regulators, investors, community members and suppliers alike.

Currently, when reporting on environmental performance, a reduction in impacts (e.g. GHG emissions, water consumption) from previous years adds value for stakeholders. This is a downside risk which the industry has clearly identified as an upside opportunity and is successfully leveraging.

Articulating social performance can be more challenging as stakeholders are more likely to take a stance of zero-tolerance for non-compliance in this dimension. However, because many companies in the ICT industry have achieved a degree of maturity in identifying their risks in this dimension, voluntary performance reporting that reflects this level of sophistication and also incorporates strategies such as storytelling through case studies will play an important role in managing stakeholder expectations.

9.2.3 Recommendation 3:

Increase Supplier Engagement

As ICT companies begin to integrate cross-dimensional systems to manage social, environmental and conflict mineral risks in their supply chain, it will be critical to gain supplier buy-in. In order to do so, ICT companies will need to engage their suppliers around these complex issues otherwise their influence will be limited when implementing sustainable strategies in their supply chains. As examples, HP and Apple include the supplier management teams in the audit process (HP conducts collaborative audits and Apple reviews audit findings with the supplier) to encourage a more participative process. Supplier engagement is crucial when non-conformance is discovered, especially since a non-punitive approach will have improved long-term implications. By partnering with suppliers in order to build their capabilities and by recognizing progress, ICT companies can further solidify these relationships.

9.2.4 Recommendation 4:

Build internal capacity to manage conflict minerals

In order to keep pace with the regulatory environment, ICT companies will need to dedicate additional resources in the short-term to manage risks in their sourcing of raw material. Anecdotally, our research has indicated that systems managing raw material sourcing are more mature than corporate sustainability reporting suggests. In particular, developing and articulating a corporate policy around the use of conflict-minerals, establishing a principle within the supplier of code-of-conduct that addresses conflict-free sourcing and communicating that to suppliers in addition to identifying vulnerable suppliers can be important first steps in developing a comprehensive supply chain management strategy in this issue.

9.2.5 Recommendation 5:

Improve ease of access to information related to sustainability reporting

Several companies had information relevant to their sustainability reporting dispersed throughout their corporate communications channels. While these companies should be commended for making this information publicly available, stakeholders seeking this information may not find this to be easily accessible. Consolidating information from across corporate communications into one channel will be helpful in disseminating information to the stakeholders who would find it most useful, thereby increasing transparency.

By making all sustainability material available in one common repository stakeholders will be able to view and consider the overall sustainability performance of a company. This will enhance the reporting principle of responsiveness[25]. Furthermore, companies' reporting strategies should consider the periodicity of their communications efforts in light of stakeholder needs. Should commonly defined key performance indicators become widely adopted, stakeholders would be able to reach conclusions, whether in procurement, investment or campaigning. This is the reporting principle of comparability[26] which, within the parameters of materiality, companies can address in order to allow stakeholders to make better informed decisions.

[25] AA1000AS, AccountAbility, 23, September, 2011 <http://www.accountability.org>

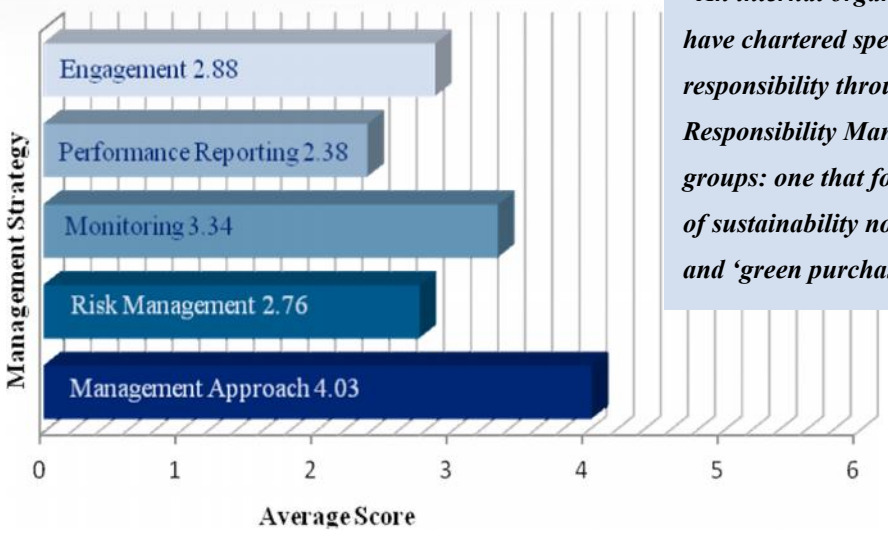
[26] The Principle of Comparability, according to DNV's Protocol for the Verification of Sustainability Reports (VeriSustainTM), is defined as information within a report that is "consistent and comparable over time and across organisations. Report boundary, scope and indicators should be presented in a way that allows readers to compare performance over time and, ideally, also benchmark performance against peers. For example, indicators should be reported in absolute terms, complemented with ratio and normalized data where appropriate. Performance trends should be analysed in the report, and any changes should be clearly explained. If necessary, previously reported information should be re-stated.

10 DETAILED FINDINGS IN SUSTAINABILITY PERFORMANCE REPORTING

The following sections will provide more detailed information on the findings which emerged in the research. In order to avoid repetition, trends that are unique to a specific performance dimension are discussed in their respective sections (Section 6.1-6.3). Management strategy trends common across the three performance dimensions are discussed at the end in Section 6.4.

10.1 Findings Unique to the Social Performance Dimension:

Figure 7: Performance Dimension: Social



> ***"An internal organization is dedicated to managing our supply chain and we have chartered specific leadership teams to focus on integrating corporate responsibility throughout the supply chain…The Supplier Corporate Responsibility Management Review Committee is supported by two working groups: one that focuses solely on the EICC and another that addresses areas of sustainability not directly covered by the EICC, such as supplier diversity and 'green purchasing.' "*** -Intel, 2006 Corporate Responsibility Report

Social: Management Approach

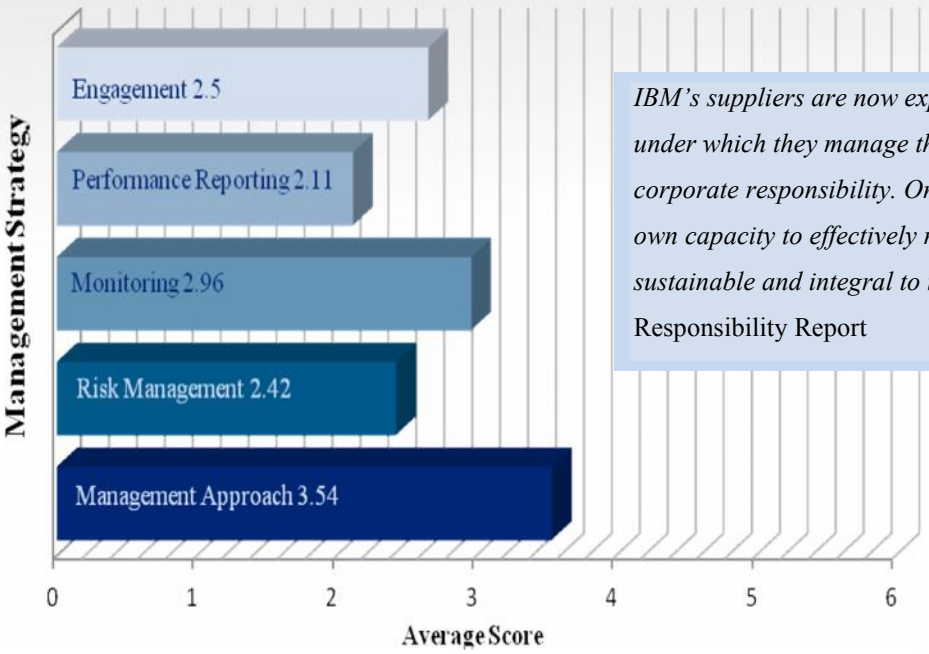
Management Approach is the management strategy element across all three dimensions in which companies scored the highest. In the social performance dimension, 25 of the 26 companies scored a mid-level score or higher (between 3 and 6). Good reporting practices include adopting standards such as the EICC Code of Conduct for the supply chain and communicating these expectations to suppliers. Additionally, companies that received high scores have a team dedicated to setting direction and strategies for sustainable supply chain management.

Social: Risk Management

While 11 (approximately 42 percent) of the companies reviewed received a mid-level or high score on their reporting of *Risk Management*, 10 (approximately 38 percent) received a score of 1. In addition to identifying risks, companies that were seen as reporting successfully on their strategies disclosed whether they audited their supply chain to determine compliance rates and incorporated stakeholder perspectives into their risk assessments. Companies that reported working closely with suppliers to help them assess their own potential risks and those that shared best practices throughout their supply chain in order to improve their suppliers' systems were awarded higher scores.

10.2 Findings Unique to the Environmental Performance Dimension

Figure 8: Performance Dimension: Environmental



IBM's suppliers are now expected to establish and maintain a management system under which they manage their intersections with the environment and other aspects of corporate responsibility. One of IBM's key objectives is to help suppliers build their own capacity to effectively manage their responsibilities in a way that is long-term, sustainable and integral to their routine business operations.-IBM, 2009 Corporate Responsibility Report

Environment: Management Approach

While companies that had an integrated *Management Approach* across the three performance dimensions scored higher overall, no company received the full 6 points in this management strategy element within the Environmental performance dimension. Companies that were top performers identified broad environmental risks along their supply chains (e.g. water, waste, hazardous substances, energy consumptions) and encouraged their suppliers to maintain their own environmental management systems. These companies also addressed specific regulations (e.g. RoHS) that suppliers with which their suppliers must comply. IBM reported having worked with suppliers since 1972 to increase their environmental responsibility.

Environment: Risk Management

The companies that scored well in this element have developed comprehensive tool kits which they use to measure environmental risks in their supply chain. These tools are integrated into the companies' broader business functions and systematically include suppliers in the process of identifying risks through feedback to suppliers on their performance. A few companies reported on conducting a life-cycle analysis of their products in order to understand where in the value chain the greatest impacts occur. Using the data that comes to light from this analysis to develop risk management strategies and frame corporate disclosure in this element can elevate the quality of reporting.

10.3 Findings Unique to Emerging Issues—Conflict Minerals Performance Dimension

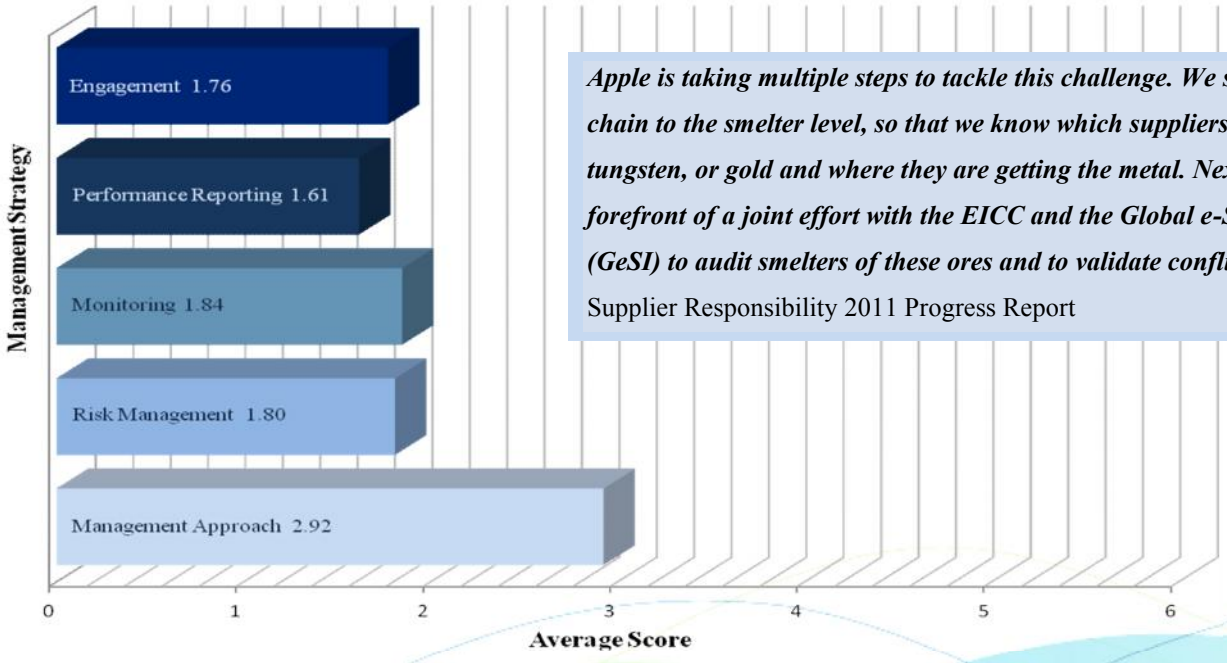
Conflict Minerals: Management Approach

14 companies received high or mid-level scores in disclosing their *Management Approach* within this dimension. Of these 14 companies, 11 are EICC members. Companies that performed well in this management strategy element indicate that they are involved in conflict-free smelter programs. The top performers in this dimension are not only members of the EICC, but also are active within industry work groups to develop protocols and standards. For example, participants in the EICC and GeSI Extractives Workgroup, a joint effort of EICC and GeSI, work together to proactively engage stakeholders in order to promote conflict-free smelter programs, due-diligence processes and transparency in an effort to encourage reponsible sourcing in the DRC.

Conflict Minerals: Risk Management

Only one company, Apple, was awarded a high level score in this management strategy element. Apple reported it had mapped out supply-chain risks related to raw material sourcing to increase their understanding of which suppliers are using tantalum, tin, tungsten, or gold and began auditing tantalum smelters 2010. Once the audit process has been completed, suppliers will be required to source from smelters that comply with both EICC and company standards.

Figure 9: Performance Dimension: Emerging Issues- Conflict Minerals



Apple is taking multiple steps to tackle this challenge. We started by mapping our supply chain to the smelter level, so that we know which suppliers are using tantalum, tin, tungsten, or gold and where they are getting the metal. Next, we are working at the forefront of a joint effort with the EICC and the Global e-Sustainability Initiative (GeSI) to audit smelters of these ores and to validate conflict-free sources. –Apple, Supplier Responsibility 2011 Progress Report

10.4 Findings Common Across Performance Dimensions

Figure 10: HP, Website, Global Citizenship, Detailed Audit Findings

Monitoring

The strongest performers in this management strategy reported engaging third-party firms in a comprehensive auditing process that is assessed against an industry program such as the EICC Validated Audit Program (VAP) or against the company's own internal audit protocol.

An Apple supplier responsibility auditor leads every audit, supported by local third-party auditors trained to use our detailed audit protocol and to assess the requirements specified in our Code. During the audit, Apple cross-references data from multiple sources. We review hundreds of records and conduct physical inspections of manufacturing facilities as well as factory-managed dormitories and dining areas. We also conduct interviews with workers and senior management in relevant functional areas. **–Apple, Website, Supplier Responsibility, Auditing for Compliance**

Performance Reporting

In general, Performance Reporting was the weakest area of disclosure across the three dimensions. Companies that scored the highest in this element, not only detailed their current performance and areas where progress was made, but also reported on areas of non-compliance. Further, these companies reported on how instances of non-compliance were remedied (aside from termination of contracts).

Engagement

High scores in engagement were achieved by the companies that reported frequent and varied modes of communication to build relationships with their suppliers. They had systems in place to facilitate feedback from suppliers and integrate a number of capacity building strategies to address several levels of sustainability performance. Among the tools in use by the top performers are supplier web portals where information can be accessed in a timely manner, working with the suppliers on an annual improvement plan, and education and trainings on areas of sustainability for one or more levels of employees in a supplier's organizational structure. Companies that evaluated their supplier engagement on an ongoing basis received additional points.

11 CONCLUSION

The quantity and quality of voluntary sustainability reporting is steadily increasing among U.S. companies. Industry standards and internationally recognized principles such as the GRI G3 Guidelines are providing the framework around which many companies are basing their reporting and a growing number of companies are registering their reports with GRI.

In a changing operating landscape, voluntary sustainability reporting is an important tool through which ICT companies can communicate their performance against ESG criteria to both internal and external audiences. For ICT companies developing their sustainability reports, there is an expanding list of issues in which their stakeholders have expressed interest. In particular, there is a demand for increased transparency on supply chain operations.

These recommendations are not intended to serve as a prescriptive solution for the sustainability reports of the companies included in this white paper. However, given that each company faces its own unique set of sustainability risks and opportunities within the supply chain, these recommendations are intended to encourage ICT companies to take a closer look at their reporting practices and assess whether they meet the needs of the multitude of stakeholders monitoring this information.

For investors, regulators, consumers, NGOs and other stakeholders, the information contained within these sustainability reports can be a useful aid when making decisions related to investments, regulatory policy, purchasing, campaigning, or employment.

For the ICT companies, benefits are realized not only through improved communications with their stakeholders, but also in the process of creating the report itself. Companies that release sustainability reports are able to go through the valuable exercises of:

- determining the scope and boundary of their reports;
- assessing which ESG criteria are material to their operations and whether they have the ability to control or influence those that are;
- developing systems that encourage the flow of information throughout the supply chain; and,
- building relationships with their suppliers that extend beyond contractual obligations.

For upstream suppliers, the advantages lie in building relationships with their clients and prospective clients that extend beyond contractual obligations. It also provides an opportunity for suppliers to develop their own capacity in managing sustainability risks. By supporting suppliers in assuming ownership and accountability of their sustainability performance, ICT companies can enhance and accelerate the way sustainability risks are managed across the supply chain.


MANAGING RISK
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