How green is my outsourcer?
Measuring sustainability in global IT outsourcing

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Abstract

Purpose – The purpose of this paper is to examine the intersection of sustainability and global IT outsourcing (GITO). GITO is well established as a business practice towards reducing costs and improving performance. Sustainability issues related to carbon footprint and greenhouse gases are increasingly important for all organizations. Responsible and economic energy management is a critical business capability and environmental responsibility in global outsourcing.

Design/methodology/approach – Drawing on empirical work undertaken in the UK and North America together with content analysis of public data from leading GITO providers, this paper presents a model for measuring sustainability in outsourcing.

Findings – The research findings demonstrate a growing environmental maturity in GITO firms, as measured against external recognized standards such as the Global Reporting Initiative, the Carbon Disclosure Project, the UN Global Compact and the ISO environmental and social responsibility standards.

Practical implications – In the context of social, economic and political discussions regarding sustainability, this paper contributes to our practical and theoretical understanding of GITO providers and the impact of environmental issues in outsourcing.

Social implications – Consumers, governments and society at large demonstrate increasing expectations for sustainability from all organizations. Outsourcers can provide improved sustainability capability to their buyers in this important area.

Originality/value – Environmental and social responsibility in global outsourcing has received little attention in academic research. This paper provides a starting point for further investigation of the role of sustainability in outsourcing.

Keywords Outsourcing, Information technology, Energy management, Corporate social responsibility

Paper type Research paper

1. Introduction
Global IT outsourcing (GITO) refers to third-party management of IT assets and services delivered across multiple national locations (Lacity and Willcocks, 2006;

Thanks to all interviewees for their generous allocation of time and cooperation. Thanks to Ilan Oshri and Julia Kotlarsky (chairs), reviewers and participants for comments on this paper at the Global Sourcing Workshop, Zermatt 2009. Also we thank Strategic Outsourcing: An International Journal reviewers for comments which helped us improve the paper. Errors and omissions are the responsibility of authors alone. The title of this paper was inspired by Richard Llewelyn “How green was my valley”, the classic tale of prospering South Wales valleys before the blackening of coal dust.
GITO is an accepted practice in many business organizations and a significant body of knowledge has developed over the last decade which has improved our understanding of the management of GITO relationships (Lacity et al., 2009; Oshri et al., 2009; Dibbern et al., 2004).

Many authors have written on GITO provider capability (Lacity and Willcocks, 2006; Feeny et al., 2005; Levina and Ross, 2003; Oshri et al., 2007). However, a gap in the current literature and a problem facing practitioners is related to the impact of sustainability on GITO providers’ capabilities. This is an important issue in GITO because outsourcing buyers and regulators expect providers to demonstrate strong capabilities in sustainability. Amongst outsourcing buyers, there is a growing recognition that global standards, such as the Global Reporting Initiative (GRI), the Carbon Disclosure Project (CDP), ISO 26000 and the UN Global Compact are relevant and should be adopted by GITO providers. Many organizations have increased their expectations regarding sustainability. For example, in July 2009 Wal-Mart introduced a sustainability index to assess its 100,000 suppliers around the world, requiring them to report their sustainability plans, including carbon disclosure. Wal-Mart is the largest private user of electricity in the USA (Gunther, 2006) and is intent on reducing its own environmental footprint as well as its suppliers. Nidumolu et al. (2009) argue that companies should “develop sustainable operations by analyzing each link in the value chain,” similar to Wal-Mart, by examining all global suppliers. As members of the global value chain, GITO providers should expect to be held to the same level of sustainability performance to which their customers aspire. A recent report from Cone (2010) suggests that US consumers pay attention to social and environmental practices of firms. About 44 percent of respondents said they would “buy or boycott the company’s products” to help influence corporate social/environmental practices and initiatives.

This paper seeks to answer the question: how can sustainability of an outsource provider be assessed? A literature search, content analysis of GITO provider public information and a series of interviews with GITO buyers and providers gives an explication and categorization of features of GITO provider sustainability capabilities. The variance of sustainability capabilities between GITO providers enables a subdivision of the GITO providers into three sustainability stages of maturity. The resultant model illustrates stages of maturity in provider organizations and provides a platform for discussion of the associated management implications. The contribution of the paper lies in improving our understanding of the standards, mechanisms and practices associated with sustainability in GITO. The growth stages are useful for providing initial guidance to buyers engaged in provider assessment and can be used to stimulate debate on the developments needed by provider organizations to migrate from one stage to another. From an academic perspective, the stages provide a framework for development of further research questions regarding sustainability and GITO.

The paper is organized as follows: in the next section, we review relevant GITO literature focusing on maturity models. We then identify environmental issues facing GITO buyers and providers, and expected environmental capabilities. Following a description of the research methodology, we present our stages model for sustainability in GITO. We conclude the paper with a discussion on contribution to theory and practice and plans for future research.
2. Stages of maturity and global outsourcing
The continuing success and durability of the stages model can be seen in the recent academic research and practitioner discussion since Nolan (1973) first discussed stages of maturity 35 years ago. In the specific domain of GITO, Carmel and Agarwal (2002) “suggest that offshore IT sourcing follows a stages model, based on increasing maturity and sophistication in the offshore effort.” The Carmel and Agarwal model can be used by IT executives to benchmark activities and understand how “to leverage offshore resources in delivering their IT solutions.” Similarly, Gannon and Wilson (2007) propose a maturity model for offshore information systems (IS) suppliers. Gottschalk and Solli-Saether (2006) applied the stages of growth model for IT outsourcing relationships, suggesting that three distinct stages of costs, resources and partnership each have 11 critical success factors which can be measured and benchmarked. Adelakun (2004) describes a five-stage IT outsourcing model based on the Tuckman model of team formation, where outsourcing goes through stages of forming, storming, norming and performing. We draw on the stages model as it offers a robust means to identify, classify and assess sustainability capability in GITO. This presents a means for practical assessment of a GITO providers’ stage and enables planning for the next stage of maturity.

3. Measuring sustainability
Elkington (1994) describes how the “integration of environmental thinking into every aspect of social, political and economic activity has become central to the environmental debate” and how “business is now developing win-win-win strategies in this area to simultaneously benefit the company, its customers and the environment.” Elkington describes the importance of improved business reporting of environmental performance, and advocates the concept of the triple bottom line (TPL), where organizations measure their economic (profit), social (people) and environmental (planet) performance. TPL is often referred to as the three Ps for profit, people and planet.

However, not all organizations have embraced sustainability with the same intensity or rigour as described by Elkington. Some have embraced sustainability for market reasons, adopting “green” products to placate environmentally sensitive consumers. Others have been forced to adopt sustainability practices in response to public pressures from non-government organizations (NGOs) and governments. For example, the Shell Oil’s Brent Spar controversy of the mid-1990s, the Nike child labour controversy as described by Klein (2000), and the 2010 BP Oil spill in the Gulf of Mexico have increased public awareness of the importance of sustainability.

Researchers and NGOs have developed a set of measures to address the challenge of assessing sustainability in various organizations. Some authors (Willis, 2003) have predicted an increase in quantity and quality of environmental reporting, in response to demands from customer and investor stakeholders. A set of recognized global sustainability standards is beginning to emerge, with four underlying voluntary standards.

Two reporting standards have emerged that address sustainability. First, the GRI was established in 1997 as an initiative of Ceres (2010), which is a not-for-profit organization formed to work with organizations “to address sustainability challenges such as global climate change.” GRI began collecting sustainability reports from 43 organizations in 2000. The 2009 GRI Index identifies sustainability reports from 1,370 organizations.
Second, the CDP is an NGO which collects and reports greenhouse gas (GHG) emission data from over 2,500 organizations “in order that they can set reduction targets and make performance improvements.” The number of CDP participating organizations increased from 235 in 2003 to 2,456 in 2009, a tenfold increase in six years.

A third set of sustainability standards can be found in the UN Global Compact, which is:

[... ] a strategic policy initiative, for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption.

GRI and the UN Global Compact have recently announced an agreement whereby the 5,800 business signatories to the UN Global Compact will agree to use the GRI sustainability guidelines.

A final set of sustainability standards are proposed by the International Standards Organization (ISO), contained in ISO 26000 which is an overall standard for social responsibility. ISO 26000 is anticipated to be published as a voluntary standard late in 2010, having been in development since 2005.

4. Sustainability issues in GITO

Large IT outsourcers consume significant electrical power, and the consequences of carbon fuels used to generate electricity will be an important measure for outsourcer sustainability. As well, employee travel required for global outsourcing is an environmental concern and the availability and conservation of fresh water, for the large number of employees and communities in global delivery centres, is an environmental concern. Finally, electronic waste (e-waste) from end-of-life information and communication technologies (ICT) technologies such as servers, PCs and communication devices, is a significant environmental issue. Table I summarizes these for sustainability issues.

4.1 Energy consumption and GHG emissions

Most GITO providers are major consumers of electrical power. The increasing power consumption by IT, doubling from 2000 to 2005 according to US Environmental Protection Agency (2007), gives rise to two environmental concerns related to IT outsourcing. First, the cost of energy impacts IT operations. The Green Outsourcing Survey (2009) reported that 85 percent of the senior executives surveyed said that “the adoption of green technology is more likely the result of escalating energy costs than ecological altruism.” Second, most electricity generation produces GHG, which have

<table>
<thead>
<tr>
<th>Outsourcer sustainability concern</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical power consumption in data centres</td>
<td>Increasing demand for electricity for ICT creates GHG</td>
</tr>
<tr>
<td>Employee global travel</td>
<td>GHG created by global air travel</td>
</tr>
<tr>
<td>Availability and conservation of fresh water</td>
<td>Developing nations, where much outsourced work is performed, are constrained by limited amounts of clean water</td>
</tr>
<tr>
<td>Growing volumes of e-waste</td>
<td>Recycling of obsolete ICT equipment is costly and potentially hazardous</td>
</tr>
</tbody>
</table>

Table I.

Four sustainability issues in GITO
been linked to global warming[1]. Lewis (2007) estimated that 85 percent of global energy consumption “is represented by fossil energy, with oil, gas, and coal contributing roughly equal amounts.” He states: “our energy problem lies in the effects caused by CO2 produced when fossil fuels are burned.”

Data centres have an unrelenting appetite for energy. Koomey (2008) found that 1.2 percent of total US electrical consumption can be attributed to electricity consumption for data centre servers, with an additional 20-40 percent electrical consumption added for data storage and network equipment. Koomey posits that aggregate electricity for servers doubled over the period 2000-2005 both in the USA and worldwide and that almost all of this growth was the result of growth in the number of servers, with only a small part being attributable to increased power use per unit. Using International Data Corporation market research data, Koomey forecasts that “total electricity used by servers by 2010 would be 76% higher than it was in 2005.” Laitner and Ehrhardt-Martinez (2008) commented that all computer-related equipment and internet usage is responsible for “closer to 6 percent” of the US electrical consumption, “reflecting the continued investment in ICT technologies and systems.” In the UK, Forge (2007) estimated that “data centres consume about 5 percent of the country’s maximum generation capacity.”

The European Commission’s (2008) Institute for Energy’s “Code of Conduct on Data Centers Energy Efficiency” attempts to address the problem of growing data centre energy consumption. The code states that:

The projected energy consumption rise poses a problem for EU energy and environmental policies. It is important that the energy efficiency of data centres is maximized to ensure the carbon emissions and other impacts such as strain on infrastructure associated with increases in energy consumption are mitigated.

This voluntary code defines best practices and commitments for industry and governments.

Several European countries have established policies for carbon emission reductions that have an impact on data centres. For example, the UK Government created a Carbon Reduction Commitment (CRC) to reduce GHG emissions by at least 80 percent by 2050. According to the UK Department of Energy and Climate Change (2008):

The UK has passed legislation which introduces the world’s first long-term legally binding framework to tackle the dangers of climate change. The Climate Change Bill became law on 26 November 2008.

CRC will be mandatory for UK data centres that consume more than 6,000 MWh. CRC will result in mandatory public reporting of energy efficiency, plus incentives and penalties.

As governments enact legislation that mandates improved energy efficiency, most if not all organizations will be challenged to reduce their overall ICT carbon footprint. Data centres and other electricity intensive ICT facilities will become obvious targets for sustainability standards and legislation.

GITO does not solve the energy consumption problem, as it simply moves the problem from an in-house data centre to an outsourced facility, often in a distant global location. In the UK, outsourcing providers face penalties under the CRC legislation when contracted to undertake responsibility for a client’s data centre because it will increase their carbon emissions. Similarly, a buyer who outsources their data centre to
an offshore location will be acknowledged as having reduced carbon emissions in the UK even though the offshore GITO provider may have a worse carbon emission record. The UK National Outsourcing Association (NOA) calls for a single international “uniform standard of measurement” for measuring carbon efficiency, or Green IT in global outsourcing (NOA, 2009).

4.2 Human environmental impact – travel and water consumption
Global IT outsource providers have two additional environmental impacts that can be measured: the amount of travel (and related GHG emissions) and the amount of fresh water consumption by employees.

Airline travel is a significant aspect of global outsourcing, especially when developing new business relationships. Researchers at Cranfield University (2009) found that 57 percent of business people will travel for new business relationships, while day-to-day management and operations require far less travel. Given the global nature of outsourcing, air travel is the predominant mode. Mason and Miyoshi (2009) states that air travel is a significant contributor to an organization’s carbon footprint, and for service firms such as consultancies, “travel may account for as much as half of the company’s carbon emissions.” In our research, we learned that at least one major outsource provider tracks individual employee carbon emissions, particularly air travel.

Regarding water, Jackson et al. (2001) found that per capita availability of fresh water will decrease as human population grows faster than the increases in the amount of accessible water. For global IT outsourcers, in areas of the world such as India where fresh water is not always plentiful, this suggests that conservation of water will become an important sustainability issue. In many cases, outsource providers have hired thousands of personnel at global delivery centres, creating significant water requirements. One outsourcing centre that we visited in India houses 10,000 employees. The outsource provider has committed to a water-neutral environment, so that all fresh water is captured and recycled.

4.3 E-waste
A final GITO-related environmental concern is e-waste. Several jurisdictions have recognized the growing problem of e-waste and have enacted legislation that requires a planned and environmentally appropriate method for disposing of obsolete electronic equipment. In the USA, 19 states have passed legislation mandating e-waste recycling programs. In Canada, the Ontario Government enacted the Waste Diversion Act, which resulted in the industry-led waste electrical and electronic equipment program. This program requires buyers of electronic equipment to pay an up-front disposal fee for equipment such as computers, printers, monitors, etc. California has a consumer electronic waste recycling fee similar to the Canadian program[2].

5. Research approach
Petter and Gallivan (2004) have identified the need for mixed method (i.e. quantitative and qualitative) research in IS, stating that:

[...] a research problem that is examined via multiple perspectives and approaches can withstand opposition. Thoughtful use of mixed methods can capitalize on the strengths and defuse the weaknesses of each method.
Similarly, Tashakkori and Teddlie (1998) argue that mixed model studies, combining quantitative and qualitative methods across all phases of the research process, are a growing trend in the social and behavioural sciences. Our research approach consists of quantitative and qualitative analysis. We conducted qualitative interviews with GITO providers, buyers and advisors to understand current and anticipated attitudes regarding sustainability in GITO. Second, we combined this with a quantitative content analysis approach to evaluate the sustainability profile of current GITO providers to delineate stages of maturity.

5.1 Qualitative phase – identifying outsourcing buyer and provider attitudes regarding sustainability

The approach to qualitative interviews was broadly interpretive (Walsham, 2006). In total, 25 semi-structured interviews were undertaken with GITO buyers, providers and advisors. Interviewees included representatives from two major banks, two consumer product companies, a global mining company, an energy company, four global outsourcing vendors and three outsourcing advisors. The interviewees were senior executives in their representative organizations. In addition, two subject matter experts, one from industry and one from academia, were interviewed.

Following the guidelines provided by Meyers and Newman (2007), each interview lasted approximately 45 minutes (allowing more time if needed), interviewees were asked to describe their past experience and future expectations regarding sustainability in outsourcing, and how that would be relevant to their business operations. Specific questions were asked about the current and future sustainability challenges and associated capabilities. Detailed notes were taken and these were written up in full as soon as possible along with comments and interpretations of the researcher. After each interview, the notes were reviewed and the interviewee responses were analysed. In many instances, secondary data such as brochures, company reports and newsletters were also collected and subsequently read and analysed for relevant material on capabilities.

A panel discussion was conducted after the interviews were completed, with four of the 12 interviewees as panel members. The panel was co-sponsored by the Centre for Outsourcing Research and Education (CORE) and the Ted Rogers School of Management at Ryerson University, with an audience of 50 participants. Detailed notes were taken on the presentations, questions and discussion which were written up in full and analysed alongside the interview data.

From the interviews and panel data, we analysed and coded responses. Responses that were not repeated by more than one interviewee were not analysed further but if mentioned in multiple interviews were clustered into categories representing common themes. This grounded approach, where concepts are coded and categorized, is described by Bryman and Bell (2007, p. 584) as “by far the most widely used framework for analyzing qualitative data.”

Table II lists the interviews conducted from April 2008 to January 2010.

The qualitative interviews provided both a backdrop and direction for the quantitative content assessment of the provider web sites. The interviews alerted us to buyer and provider expectations and the overall GITO industry trends in sustainability. The content analysis (described below) was used to stratify the providers into the three stages, based on a sustainability score, which is the arithmetic summation of sustainability standards.
<table>
<thead>
<tr>
<th>Ref.</th>
<th>Interview type</th>
<th>Interviewee title</th>
<th>Organization</th>
<th>Provider/buyer/ advisor</th>
<th>Interview conducted</th>
<th>Table III reference</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>Individual</td>
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<td>Global consumer products company</td>
<td>Buyer</td>
<td>April 2008</td>
<td></td>
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<td>2</td>
<td>Individual</td>
<td>Vice president IT operations</td>
<td>Regional retail organization</td>
<td>Buyer</td>
<td>April 2008</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Individual</td>
<td>Vice president innovation</td>
<td>Regional bank</td>
<td>Buyer</td>
<td>April 2008</td>
<td></td>
</tr>
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<td>4</td>
<td>Individual</td>
<td>CSR researcher and subject matter expert</td>
<td>University</td>
<td>Advisor</td>
<td>May 2008</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Individual</td>
<td>Senior executive, outsourcing advisory services</td>
<td>Global management consultancy</td>
<td>Advisor</td>
<td>May 2008</td>
<td></td>
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<td>6</td>
<td>Individual</td>
<td>Regional CEO</td>
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<td>Individual</td>
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<td>Global IT outsourcing company</td>
<td>Provider</td>
<td>May 2008</td>
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<td>8</td>
<td>Individual</td>
<td>Lawyer</td>
<td>National legal firm</td>
<td>Advisor</td>
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<td></td>
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<td>Individual</td>
<td>Lawyer</td>
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<td>Advisor</td>
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<td>10</td>
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<td>Buyer</td>
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<td>11</td>
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<td>Executive director, outsourcing and managing director</td>
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<td>Provider</td>
<td>August 2008</td>
<td>Accenture</td>
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<td>12</td>
<td>Focus group</td>
<td>Panel of four members and audience of 50</td>
<td>CORE</td>
<td>Provider</td>
<td>October 2008</td>
<td></td>
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<td>13</td>
<td>Individual</td>
<td>Senior managing consultant and practice leader, green and innovation strategies</td>
<td>Global IT outsourcing company</td>
<td>Provider</td>
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<td>14</td>
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<td>North American Energy Company</td>
<td>Buyer</td>
<td>July-September 2009</td>
<td></td>
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<td></td>
<td></td>
<td>Director of IT</td>
<td></td>
<td>Buyer</td>
<td></td>
<td>TCS</td>
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<td></td>
<td></td>
<td>Director of public affairs</td>
<td></td>
<td>Buyer</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>Manager community relations</td>
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<td>Buyer</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Country manager – outsourcing provider 1</td>
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<td>Provider</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Head of delivery and services – outsourcing provider 1</td>
<td></td>
<td>Provider</td>
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<td></td>
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<td>Provider</td>
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<tr>
<td>15</td>
<td>Case study</td>
<td>Director, sustainable development and community relations</td>
<td>Global mining company</td>
<td>Buyer</td>
<td>May-August 2009</td>
<td>GCI</td>
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<td></td>
<td></td>
<td>Vice president integration, information and systems technology</td>
<td></td>
<td>Buyer</td>
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<td></td>
<td></td>
<td>Superintendent, global services – IT procurement</td>
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<td>Buyer</td>
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<td>16</td>
<td>Case study</td>
<td>Head, green initiatives</td>
<td>Global IT outsourcing company</td>
<td>Provider</td>
<td>January 2010</td>
<td>Infosys</td>
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<tr>
<td>17</td>
<td>Individual</td>
<td>Chairman and geography managing director</td>
<td>Global IT outsourcing company</td>
<td>Provider</td>
<td>January 2010</td>
<td>Accenture</td>
</tr>
</tbody>
</table>
met by the provider. The qualitative interview data correspond with five firms sampled in the quantitative phase and this enables the addition of a rich level of detail on the capabilities of the providers. For some firms in the sample, multiple interviews were undertaken in the process of constructing case studies. This enables a greater level of detail on specific processes and practices in these firms.

5.2 Quantitative phase – understanding outsourcing providers’ capability

Our quantitative research examined the profile of leading global outsourcing providers to understand how they publically present their sustainability capabilities. We used the International Association of Outsourcing Professionals (IAOP) list of “2008 Global Outsourcing 100” to identify a list of 19 leading global IT outsource providers. We then examined the GITO providers’ web site to assess whether they participated in any of the global sustainability standards.

The research approach used a content analysis methodology following the four steps outlined in Neuendorf (2002). First, the theory and rationale for the analysis focuses on participation in four global standards (GRI, CDP, ISO 26000/14001 and UN Global Compact) that represent sustainability capability. Additionally, investment indices such as the Dow Jones Sustainability Index (DJSI), the Financial Times Stock Exchange for Good (FTSE4Good) Index, and the Standard and Poor Environmental Social and Corporate Governance (S&P ESG) Index suggest that a publically traded outsource provider is considered as a Socially Responsible Investment (SRI). The IAOP Global Outsourcing 100 provides a representative set GITO organizations as a proxy representing the GITO provider market. The list of leading GITO outsourcers was refined in two ways. First, the research focused on the top 25 outsourcers to understand if sustainability patterns could be determined that would be applicable to the remaining 75 organizations. Second, we focused on GITO providers, removing non-IT industries such as food service and real estate service. This resulted in a list of 19 GITO providers. The conceptual variables consist of any mention on one of the 19 GITO provider’s web site of one of the five sustainability criteria (i.e. GRI, CDP, ISO, UN Global Compact or SRI index). Coding was conducted during May/June 2009 by examining the provider web site for any mention of the sustainability criteria established above. When a sustainability criterion was mentioned, the provider reference was cross checked with the standards organization of the auditing organization for verification (e.g. GRI, CDP, ISO and UN). Weare and Lin (2000) point out that content analysis on the world wide web can be complex and volatile because of the ephemeral nature of web pages. “Entire sites come and go, and many web pages […] are updated almost constantly.” Undoubtedly, the results presented in this document will change, likely with stronger sustainability participation, as organizations update their web sites over time to reflect increased sustainability capability. Table III provides the analysis of the top 19 outsource providers and correspondence to instances where interviews have also been undertaken. The overall sustainability maturity is an arithmetic summation of whether the outsource company participated in GRI, GRI verification, CDP, UN Global Compact, ISO 14001, ISO 26000, and was listed in at least one SRI. One point was allocated for participation in each of the above standards. This approach to scoring is similar to a maturity ranking model described by Holland and Light (2001).

This analysis covered 19 representative, albeit large, GITO providers. A limitation of this research approach is that data and interviews for large GITO providers are
<table>
<thead>
<tr>
<th>Company</th>
<th>IAOP 2008 level</th>
<th>GRI verification</th>
<th>CDP (join date)</th>
<th>UN Global Compact</th>
<th>ISO 14001</th>
<th>ISO 26000 Indices</th>
<th>Overall sustainability maturity</th>
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<td>Accenture</td>
<td>1 2008 Spain</td>
<td>GRI</td>
<td>2007-2008</td>
<td>Yes</td>
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<td>DJSI NA, FTSE4Good</td>
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<td>–</td>
<td>2004</td>
<td>Intention</td>
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<td>DNV</td>
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<td>–</td>
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<td>Genpact</td>
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<td>– 2001</td>
<td>–</td>
<td>–</td>
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<td>2007-2008</td>
<td>Yes</td>
<td>Intention</td>
<td>–</td>
<td>4</td>
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<tr>
<td>EDS</td>
<td>13 –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0</td>
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<tr>
<td>CGI</td>
<td>14 –</td>
<td>–</td>
<td>2006-2008</td>
<td>–</td>
<td>–</td>
<td>FTSE4Good</td>
<td>2</td>
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<tr>
<td>ACS</td>
<td>15 –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0</td>
</tr>
<tr>
<td>Mastek</td>
<td>16 –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0</td>
</tr>
<tr>
<td>Hexaware</td>
<td>22 –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0</td>
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<tr>
<td>CSC</td>
<td>23 –</td>
<td>–</td>
<td>2008</td>
<td>Yes</td>
<td>–</td>
<td>–</td>
<td>2</td>
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<tr>
<td>Unisys</td>
<td>24 –</td>
<td>–</td>
<td>2006-2008</td>
<td>Yes</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td>Atos Origin</td>
<td>n/a</td>
<td>–</td>
<td>2007-2008</td>
<td>Intention</td>
<td>–</td>
<td>–</td>
<td>2</td>
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</table>
readily available, while smaller providers were difficult to contact and sustainability data were not readily accessible.

6. Stages of sustainability in GITO

Using the sustainability scores from the content analysis phase, we plotted the sustainability scores of the 19 GITO providers. None of the providers attained a top score of 7, although five companies scored a level of 6. The top scoring companies, with scores of 5 and 6 are deemed to be mature sustainability leaders. Companies with a scores of 2, 3 or 4 are described as aspiring sustainability leaders, because they reported adoption of some but not all of the sustainability standards. Companies with a score of 0 or 1 are described as early stage sustainability adopters.

The sustainability scores of the 19 providers are shown in Figure 1, and an “S” curve is drawn over the plot to represent the stages of maturity.

In addition to the sustainability scores, we relied on the qualitative interviews to provide a deeper understanding of sustainability maturity in relation to three sustainability capabilities:

1. the capability to understand and adopt global sustainability standards;
2. the capability to anticipate and respond to sustainability requests from stakeholders; and
3. the capability to embed and develop sustainability capabilities within the organization through hiring and ongoing training.

These three capabilities are drawn from previous research by the Babin (2008) and Babin and Nicholson (2009).

Analyzing the sustainability scores shown in Figure 1, and with an understanding of the qualitative assessments provided from the interviews, we formulated a three-stage model described below. This three-stage model is similar to the stage models presented by Holland and Light (2001) and Gottschalk and Solli-Saether (2006):

1. **Mature leaders.** The highest level of maturity contains the GITO sustainability leaders who have adopted and participate in global environmental standards.
The mature leaders are listed in one or more social responsibility index, such as the FTSE-4-Good. These leaders establish the sustainability benchmarks for GITO industry. The leaders provide valued consulting advice to their customers on sustainability.

(2) *Aspirant.* At the next level of maturity, GITO providers participate in some of the global standards, or have stated an intention to participate. These providers aspire to global sustainability and follow the lead of the more mature organizations.

(3) *Early stage.* In the early stage of sustainability, GITO providers have not yet embraced sustainability or have decided that sustainability is not important, or not affordable.

Table IV summarizes how these three capabilities are displayed in the three stages of sustainability maturity in GITO providers.

<table>
<thead>
<tr>
<th>Stage Description</th>
<th>Understand and adopt global sustainability standards</th>
<th>Anticipate and respond to stakeholder sustainability requests</th>
<th>Embed and develop sustainability capabilities within the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Early stages of sustainability maturity</td>
<td>No participation in global sustainability standards, examples of sustainability projects but lacking certification</td>
<td>No formal public reporting of sustainability performance, sweeping statements of sustainability without supporting evidence, marketing oriented general responses through prepared environmental statements, not customized to individual stakeholder groups or issues</td>
<td>No formal sustainability responsibility within the organization</td>
</tr>
<tr>
<td>(2) Aspiring to improved sustainability maturity</td>
<td>Participate in some of GRI, CDP, ISO 14000 and ISO 26000, UN Global Compact, stated intention to increase participation in sustainability standards</td>
<td>General responses through prepared environmental statements, not supported, developed or recognized individual initiatives, fragmented efforts throughout the organization</td>
<td>Some understanding of sustainability issues, although not formally supported, developed or recognized individual initiatives, fragmented efforts throughout the organization</td>
</tr>
<tr>
<td>(3) Mature sustainability leaders</td>
<td>Participate in all of GRI, CDP, ISO 14000 and ISO 26000, UN Global Compact, strong executive commitment to sustainability standards, creative development of new sustainability capabilities</td>
<td>Protocol and responsibility established for stakeholder sustainability communications, increasing volume of white papers on ER, growing sustainability consulting practice, regular public reporting of sustainability performance</td>
<td>Explicit ongoing sustainability training for all employees, dedicated resources and management responsibility for ER, explicit management measurement of sustainability achievements (e.g., metric in balanced scorecard)</td>
</tr>
</tbody>
</table>
In the following sections, we further describe the characteristics that we have found in our research, both from interviews with buyers and providers, and content analysis of GITO providers web sites. We describe the top sustainability (maturity) stage first.

**Stage 3: mature global IT outsource providers**

Six providers are at the mature sustainability leader level. All have achieved certification in the global sustainability standards. They create and file annual GRI reports which are validated by third parties, they provide input and are ranked in the annual CDP evaluation, they have implemented ISO 14001 and one is evaluating ISO 26000, and these companies are signatories to the UN Global Compact.

One advisor spoke of the importance of global standards such as CDP and ISO in the contractual and disclosure phase of outsourcing, and how “CDP is a key model for GITO providers to understand” and the importance for GITO providers to achieve CDP certification. A GITO legal advisor spoke of the need for sustainability standards in outsourcing contracts: “definitely out there, in the near future, as a matter of course people will expect it; [sustainability] after some years will become boiler-plate” into contracts and CDP is “unquestionably on its way.” Another legal advisor stated, “carbon credits are coming to the fore” because “they are tangible” in many jurisdictions. Regarding global sustainability standards, one interviewee stated “GRI opens the door to corporate social responsibility (CSR), driving change psychologically” within the organization, suggesting that when organizations implement GRI they begin to change their social and environmental actions, becoming more responsible in both areas.

In responding to requests for proposals, the mature providers can demonstrate superior sustainability performance in terms of certification. As one senior outsource partner at Accenture told us “carbon emission reductions will be part of many request for proposals (RFPs) and proposals,” and another executive at the same firm stated as the 2008-2009 recession recedes “competition looks different in an age of sustainable development.” This means that sustainability becomes a core competitive capability as it becomes a customer requirement in outsourcing contracts.

The mature providers are anticipating stakeholder requirements and expectations. As one GITO regional CEO at EDS explained, the environmental sustainability issue “train has left the station, everyone accepts this as an issue; environmental taxes and regulations will come from government, they are inevitable.” This means that sustainability has become a normalized activity for mature outsourcing providers and their customers. There is no need to sell the sustainability concept within the mature organization. In terms of stakeholder expectations, one outsourcing buyer implemented a carbon data management system to track all carbon emissions from within the company and plans to include its suppliers. Another outsource buyer published its Environmental and Social Performance Standards for providers, which asks for documented environmental management systems and measures regarding GHG emissions and energy consumption.

Two mature GITO providers in the sample described how they offer sustainability consulting services to buyer organizations. In one interview, a GITO executive at Accenture told us of a sustainability consulting practice that had grown to 1,000 people in under two years, although we expect that many of these consultants are re-deployed from other areas of the firm. Regardless, sustainability offers a new and growing source of revenue for some consultancies. Another mature GITO provider, TCS, described
helping a client to develop a balanced scorecard to focus on environmental issues in the outsourcing relationship.

The mature GITO providers publish sustainability white papers, articles and describe clients’ sustainability success stories. One large GITO provider, Accenture, told us of a series of client case studies being prepared for publication. IBM’s 2009 CSR report cites numerous examples of businesses “optimizing their operations to minimize environmental impact [...] in a manner that maximizes performance.” Regarding the growing volume of sustainability literature from providers, a search on the IBM global web site identified 377 documents regarding sustainability created within the last two years. A similar search on the Accenture web site identified 88 documents. As another example, IBM adopted “Smarter Planet” as a recent marketing strategy, which addresses “the problems of global climate change and energy” and other social and environmental issues.

GITO providers are perceived as sustainability leaders. An interviewee spoke of the need to “live up to the highest standards anywhere, so that we can do business anywhere.” One GITO provider points out their global sustainability success in a “2% reduction in the carbon footprint in FY07-08 compared to the prior year” as evidence of their sustainability capability. As one interviewee stated, the GITO providers must “walk the talk” internally to demonstrate sustainability capability to all stakeholders. This means that providers must demonstrate sustainability within and outside of the firm, to earn credibility with internal and external stakeholders.

Mature GITO providers use their sustainability profile to attract and retain employees. They demonstrate and communicate their commitment to sustainability, through external advertising, events and internal communications. One sustainability leader, sent an e-mail to all employees that touted a recent “strong showing” in the CDP evaluation, reflecting “robust carbon and energy measurements [...] implementing environmental management systems across [all] operations.” This same GITO provider launched an “Eco Challenge” which attracted participation from 19 percent of its global workforce and reduced carbon emissions by 40,000 tons. Although it is difficult to substantiate all of these claims, we see that these sustainability statements are intended to encourage employees and to instill pride within the organization.

Stage 2: aspirant
GITO providers who aspire to sustainability maturity have begun to adopt some of the relevant global sustainability standards. However, of the seven GITO providers in this stage of maturity each one lacks participation in two or three of the sustainability global standards. Five providers of the aspiring firms do not participate in the GRI or GRI verification. Four are not signatories to the UN Global Compact. Four are not listed in any SRI and two do not participate in the CDP. One interviewee commented that sustainability is an additional government tax on the outsourcing industry and should be rejected. Some GITO providers in this category may be reluctant sustainability participants.

Communications with sustainability stakeholders are sporadic and uncoordinated. Some provider areas are able to respond better than others. On analyzing the statements of many aspiring sustainability providers our interpretation would be that it is “one size fits all” which is not specific or responsive to individual stakeholders.

In the sample of firms investigated, sustainability skills are not consistently deployed across the organization. Sustainability capability is an individual initiative
and is not coordinated throughout the organization but is left to individual managers’ initiative. Several of the interviewed GITO buyers spoke of cynicism regarding sustainability initiatives, where stakeholders such as customers or employees would see communications as “green-wash” without substance. They cautioned about GITO providers who crafted a marketing message but did not “walk the talk”, because the sustainability capabilities were not embedded within the organization and the communication was not supported with verifiable data.

Stage 1: early stage sustainability
In early stage sustainability, the GITO providers in the sample have not yet adopted global sustainability standards. Of the six GITO providers in the early stages of sustainability maturity, two participate in only one global standard and four do not participate in any. Some participate in minor programs such as GITO provider Mastek which participates in the Planet Partner Program which offers environment-friendly solutions for recycling printer cartridges.

Of the 19 firms reviewed, the smaller firms (based on revenue) tend to be the ones who have adopted fewer or no standards. Carmel and Nicholson (2005, p. 35) have examined the challenges that small firms face with relatively high transaction costs related to outsourcing. Their research notes that “small firms are disadvantaged relative to large firms in a wide range of resources crucial to coordination.” The research concludes that small firms can use their resources to mitigate transaction costs, and “are simply lagging behind those of larger firms” (p. 51), which aptly describes the GITO providers in this early stage of sustainability maturity.

Some early stage firms have taken actions but not yet adopted global standards. Provider ACS is “replacing the roofs of its data centre with Green Roofs which consist of vegetation planted over a waterproofing membrane.” These roofs have been demonstrated to lower the building temperature by up to 12 degrees Fahrenheit. However, despite this admirable sustainability example project, ACS does not participate in the GRI and the CDP and has not signed the UN Global Compact and has not committed to implementing an ISO 14001 certified environmental management system.

Communications with stakeholders are reactive and unplanned. These GITO providers do not provide a regular sustainability report to the public. Early stage sustainability providers make sweeping statements without support such as Mastek which claims that it “takes care to avoid any kind of environmental pollution through its actions.”

Transition from early stage, to aspirant, to mature sustainability
Over the two years of research we have seen an increasing interest, by buyers, providers and advisors, in the topic of sustainability in outsourcing. It is difficult to imagine that some GITO providers would not yet embrace sustainability as an organizational program and market requirement. We fully expect that early stage GITO providers will begin to report within the GRI format, moving beyond corporate sustainability brochures, and will entertain preliminary CDP evaluations. As well, when ISO 26000 is finalized, many aspiring firms will embrace that standard as a formalization of their early sustainability actions. Perhaps in time the ISO 26000 standard will become as
important to the industry as capability maturity model and standards on quality and security such as ISO 9000 and BS5750. This standard will require early stage providers to establish a formal sustainability program and protocol within the organization, moving beyond a marketing and communication approach. Aspiring sustainable outsource providers will adopt more standards, as appropriate for their market. The challenges for aspirants will be to understand when buyer sustainability requirements, as communicated in RFPs, industry guides and government regulations, exceed the cost of adopting further sustainability commitments. Corporate size and profitability will be limitations for providers who aspire to greater sustainability. Aspirants who desire to work with top firms (e.g. Fortune 500 or FT 100) will need a high level of sustainability accreditation (e.g. GRI and CDP) to meet the expectations of their target buyers.

7. Conclusions
The purpose of our research and this paper is to develop an approach for measuring sustainability in GITO. Through a series of qualitative interviews and quantitative content analysis we have defined a three-stage model to measure a providers’ stage of sustainability maturity. For outsourcing practitioners, we offer a model for improving sustainability capabilities. By examining adoption of global sustainability standards, ability to communicate with stakeholders and how sustainability capabilities are embedded within an organization, GITO providers can measure and improve their sustainability performance. Similarly, buyers can compare and evaluate the sustainability maturity of their providers and encourage aspiring or early stage GITO providers to improve their sustainability capabilities.

Environmental issues are at the forefront of social, political and economic discussions in most nations and most major corporations. GITO providers and buyers are increasingly aware of the sustainability requirements, both from statutory and regulatory requirements as well as from increasing public and buyer stakeholder expectations. We expect rapid developments in this topic in the near future.

Our theoretical contribution is to identify this topic and to provide an early adoption of the stages model to measure sustainability maturity in GITO. In this paper and earlier research, we have examined provider capabilities which begin to contribute to theoretical frameworks proposed by authors such as Feeny et al. (2005). We have extended and applied the sustainability capabilities initially defined in our earlier research (2009) to a sample of 19 GITO providers, allowing us to demonstrate the relevance of sustainability capabilities in a stage of growth model.

There is much more work to further explore outsource providers’ sustainability capabilities, in the context of the capability frameworks. Further research will focus on the value that buyers place on sustainability, and how the overall maturity of sustainability is developing in the GITO industry. Interestingly, two professional outsourcing organizations, the US-based IAOP and the UK-based NOA, have both recently identified this topic as relevant and important for their members. We are aware that IAOP is developing a set of guidelines regarding social and environmental responsibility for outsourcing. We expect that GITO leaders will develop an industry response to growing sustainability concerns from stakeholders and governments. Ideally, the outsourcing industry will embrace sustainability and provide an example for industry to follow. The outsourcing industry has the size and motivation to focus and deliver increasingly sustainable technology and business processes. As outsource
providers demonstrate innovation and leadership in sustainability, this further motivates organizations to rely on more outsourcing. We plan to examine in additional research how sustainability will expand demand in the GITO market. We encourage other researchers and advisors to apply the sustainability maturity model and to extend the concepts described in this paper. The world will be a better place when all outsourcers are mature sustainable providers.

Notes
1. An extensive literature on greenhouse gasses and global warming can be found at the Intergovernmental Panel on Climate Change, www.ipcc.ch/publications_and_data. The Fourth Report on Climate Change, completed in 2007, describes the physical science of climate change, the impact of climate change and the mitigation of climate change.
2. For more information about US e-waste programs, see the web site: www.electronics takeback.com (accessed August 27, 2009).

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Further reading


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