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Jennifer Schneider

Thea Leonard

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Integrated Sustainability in the Pharmaceutical Industry

Thea Leonard and Jennifer Schneider

The main goal of pharmaceutical companies is to create and deliver medicines designed to extend or enhance life. However—also being in the business of business—pharmaceutical companies need to grow their bottom lines by investing in business value drivers. This article shows sustainability performance as one of those drivers by demonstrating that: 1) the concept of integrated sustainability is generally understood; and 2) pharmaceutical companies taking action to integrate sustainability are reaping significant business value added. Since there are currently no standardized methods of integrating, measuring, or communicating sustainability, pharmaceutical companies are relying on self-interpretations of voluntary initiatives to successfully integrate sustainability.

Jennifer Schneider, ScD, CIH. Dr. Jennifer Schneider is a Certified Industrial Hygienist with over fifteen years of experience in Environmental, Health and Safety both in industry and academia. She has developed many courses in distance learning applications that have not only been used by RIT students pursuing academic credentials, but also by Fortune 100 industry for educating their own professionals who work in far flung locations. Her research work centers on the factors driving EHS management and performance at multinational companies.

Thea Leonard, MS, REM. Mrs. Thea Leonard is an NREP Registered Environmental Manager. She has experience in the pharmaceutical industry and served a tour of duty with the U.S. Army as a Nuclear, Biological, Chemical officer in Alaska. She recently returned from working as an Environmental Inspector and Trainer for Combat Support Associates, Ltd. in Camp Doha, Kuwait. She is currently the Staff Development/Training Coordinator for the Emergency Preparedness – Bioterrorism Department of the East Health District 9-1, in Savannah, GA.

Corresponding Author: Jennifer Schneider, ScD, CIH Associate Professor, Environmental Health and Safety Programs. Civil Engineering Technology, Environmental Management and Safety, 78 Lomb Memorial Drive, Rochester, NY 14623, Phone: +1 585 475-2092, Fax: +1 585 475-7564, Email: jlwcem@rit.edu

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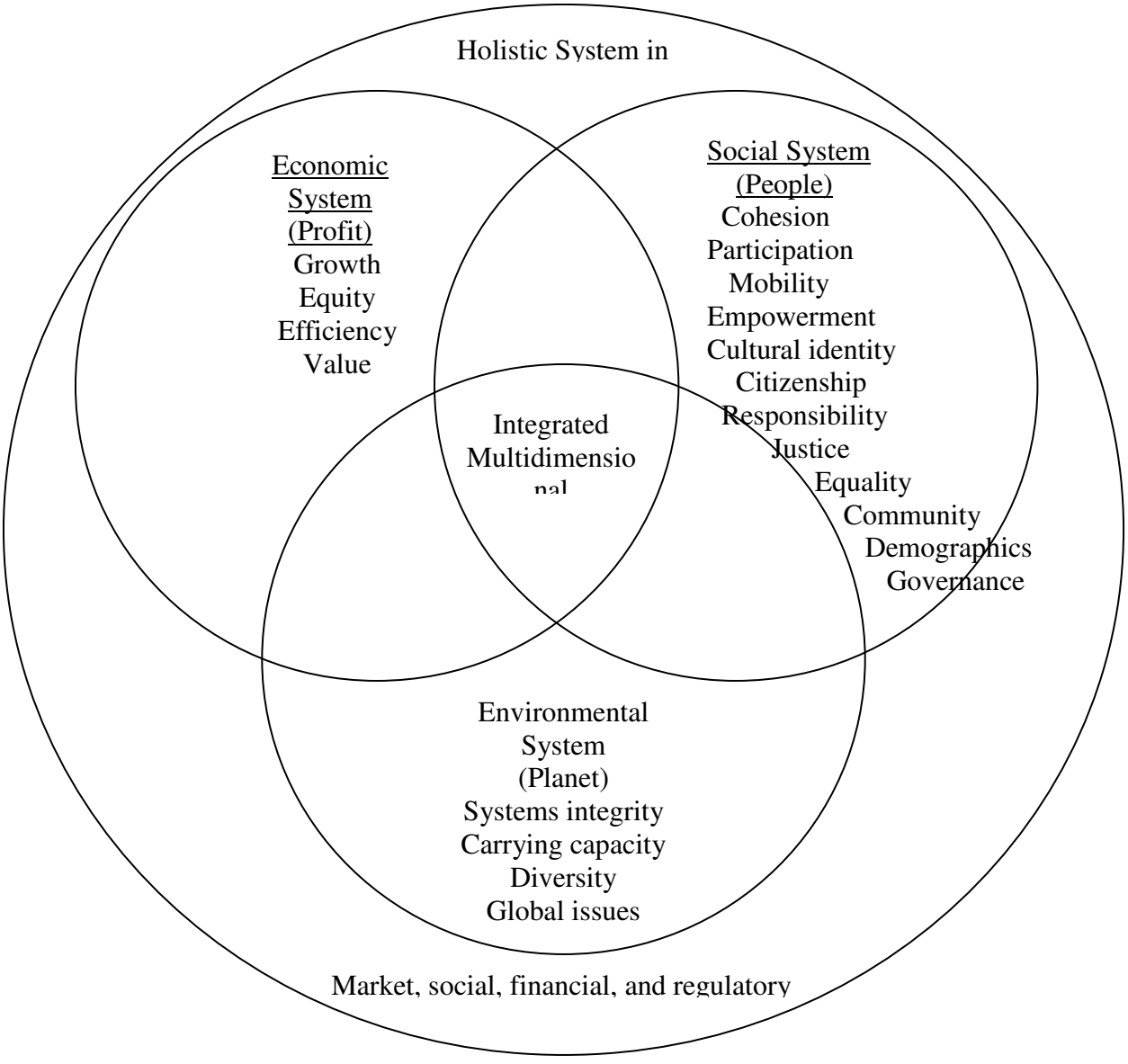
The goal of every business is to be successful. The definition of success is widely understood as increasing and sustaining wealth or adding business value. Business drivers are internal or external initiatives (i.e., markets) or opportunities companies take to add value or create advantage. A current core business value driver in many pharmaceutical companies is integration. It is common knowledge that successful companies run like flexible and well-maintained machines; all of their well-integrated parts fluctuating and evolving together toward a common end. The integration of business elements includes both traditional business value drivers (i.e., profit) and emerging elements surrounding health, safety and the environment (HS&E) and the Triple Bottom Line (TBL). Integrating sustainability is increasingly recognized as an important business driver that adds value to pharmaceutical companies. Figure 1 visually demonstrates the

Figure 1
Sustainability Model



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concept of integrating multidimensional sustainability.

The definition of sustainability is *not* as readily understood as the definition of value. Sustainability is often decried as a "green buzzword" or some kind of intuitive feel-good idea, such as motherhood and apple pie.[1] Some critics even go so far as to liken sustainability to pornography stating, "You'll know it when you see it."[2] The theory of sustainability can be traced back to Thomas Jefferson in 1789, or even to Malthus' work in the late 19th century.[3] The word "sustain" comes from the Latin verb sustinere, "to uphold" or "to support".[4]

Today sustainability is often cited as a complex umbrella or holistic term that continues to be variously defined and vigorously debated.[5] The Brundtland Commission (World Commission on Environment and Development) gives the most generally accepted definition of sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." In investment terms, sustainability means "living off Earth's income, not its capital."[6]

For the sake of this article, sustainability is defined as balancing the economic, environmental and social systems—or more simply put—balancing people, planet and profits.[7] Businesses require flexibility to perform in accordance with each company's particular and changeable needs. In order to add business value for all stakeholders the interconnectedness of the three arms of the TBL must be recognized and allowed for. In business the simultaneous consideration of people, planet and profits—and the trade-offs between all three—are an important aspect of integration. The pharmaceutical industry is of particular interest because the Sustainable Asset Management (SAM) Group and Dow Jones Indexes have rated the pharmaceutical industry's economic, environmental and social performance above the average of all industries. Nearly 230 companies are included in the Dow Jones Sustainability Group Indexes (DJSGI), launched in September 1999.[8] According to the DJSGI Internet site, sustainable "companies have superior performances and favorable risk/return profiles because sustainability is a catalyst for enlightened and

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[1] Farrell, A. and M. Hart. "What Does Sustainability Really Mean? The Source for Useful Indicators." *Environment* 40.9 (1998): 2.

Niemeyer, S. and C. Francis. "Beyond Green: From Issues to Initiatives" *Journal of Family and Consumer Sciences* 92.4 (2000): 1.

Pearce, D., A. Markandya, and E. Barbier. Blueprint for a Green Economy. London: Earthscan Publications Ltd, 1992: 1.

Sutton, P. "Sustainability: What Does it Mean?" 28 August 2000. Version 2.e-w: 1.

[2] Goodland, R. and H. Daly. "Environmental Sustainability: Universal and Non-Negotiable." Ecological Applications 6.4 (1996): 1002.

[3] Davis, G. "Growing Business, Naturally." Forum for Applied Research and Public Policy 15:4 (Winter 2000): 1.

Heeney, D. Sustainability and Sustainability Indicators. 13 Apr 1995. Transportation Collaborative Policy Group: 1.

[4] Becker, B. "Sustainability Assessment: A Review of Values, Concepts, and Methodological Approaches." February 1997 Issues in Agriculture 10: 4.

Sutton, P. "Sustainability: What Does it Mean?" 28 August 2000. Version 2.e-w: 2.

[5] Sutton, P. "Sustainability: What Does it Mean?" 28 August 2000. Version 2.e-w: 4.

[6] Hedstrom, G., S. Poltorzycki and P. Stroh. "Sustainable Development: The Next Generation of Business Opportunity". Prism (4th Quarter, 1998), Arthur D. Little, Inc. 29 Jan 2002 <http://www.getf.org/file/toolmanager/O16F4954.pdf>: 7.

[7] Elkington, J. "The Triple Bottom Line: Implications for the Oil Industry". Oil and Gas Journal 97.50 (1999): 139-141.

People, Planet, and Profits: The Shell Report 2001. 29 Jan 2002 <http://www.bcsd.org.tw/images/doc/300/004/002/010.PDF>.

[8] Knoepfel, I. Dow Jones Sustainability Group Index: A Global Benchmark for Corporate Sustainability. In Corporate Environmental Strategy, Vol. 8, Iss. 1 (2001) 23 Mar 2002. <http://www.environmental-center.com/magazine/elsevier/ces/art3.pdf>: 7.

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disciplined management, a crucial success factor."[9] The DJSGI has consistently "outperformed" the Dow Jones Global Index (DJGI) (2000 companies of seventy-three industries, globally diversified) since 1993.[10] The SAM Sustainability Rating™ is closely linked to the DJSGI. The SAM Sustainability Rating™ identifies and rates sustainable companies (within specific industry groups or in comparison to other industry groups) with both an investment rating and a corporate sustainability indicator.[11] According to the SAM Internet site[12], fifty of the largest pharmaceutical companies listed in the Dow Jones Global Indexes (DJGI's) were invited to participate. Eight made the cut with Bristol-Myers Squibb (BMS) emerging "as the industry's corporate sustainability leader followed by GlaxoSmith-Kline (GSK), and Novo-Nordisk."[13]

This reflects the fact that sustainability initiatives are being integrated in the pharmaceutical industry in spite of the lack of any single definition for sustainability. Voluntary sustainability initiatives provide participating **pharmaceutical** companies and the public with a variety of resources to both catalyze action toward—and capitalize on—integrating sustainability without a homogenous definition. (See Table 1, page 2-xx.) These resources include voluntary sustainability initiatives that: recommend guidelines and principles; provide training and educational opportunities; arrange forums for discussion and sharing of practical information (e.g., best practices); promote transparency (e.g., standardized reporting), open communication and dialogue; and conduct research, benchmarking and consulting services.

Voluntary Sustainability Standards Adopted by the Pharmaceutical Industry

Even though the evidence as a whole neither supports nor rejects the concept that integrating sustainability leads to improved TBL performance, pharmaceutical companies are moving ahead with sustainable initiatives by committing to and acting on sustainability with immediacy. The successful integration of sustainability initiatives is dependent on these few factors: 1) articulating the sustainability concept (vision statement); 2) top management support and guidance; 3) involving and empowering both internal and external stakeholders at all levels (buy in and alignment); 4) solid frameworks and management systems to support sustainability initiatives (e.g., developing objectives and assigning responsibilities); and 4) measuring, monitoring and continuous improvement (e.g., establishing processes, baselines and reviews).[14]

[9] http://www.sustainability-indexes.com/htmle/sustainability/corpsustainability.html

[10] Knoepfel, I. Dow Jones Sustainability Group Index: A Global Benchmark for Corporate Sustainability. In Corporate Environmental Strategy, Vol. 8, Iss. 1 (2001) 23 Mar 2002. <http://www.environmental-center.com/magazine/elsevier/ces/art3.pdf>: 7.

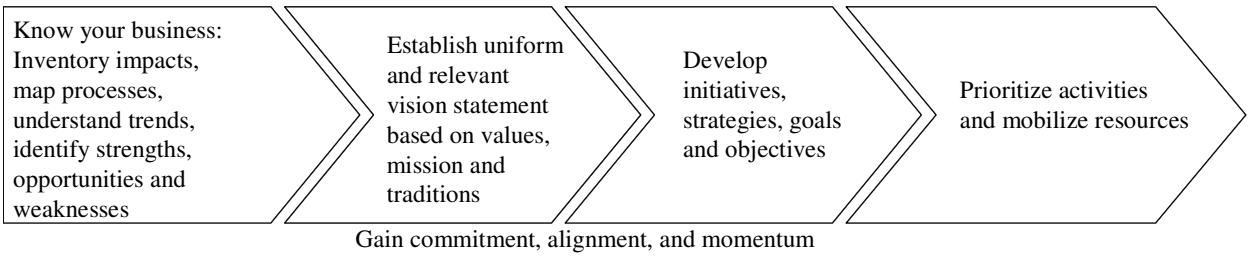
[11] Biographies of Corporate Sustainability Leaders. The Index of Dow Jones Indexes and SAM Sustainability Group. September, 2000. 12 Oct 2001 <http://www.sam-group.com/e/pdf/CB_Biographies.pdf>: 3.

[12] Industry Snap Shot. License to cure: Sustainability in the Pharma and Biotech Industry. <http://www.sam-group.com/SAM_pdf/SAM_snapshots/2000/SnapShot_DRG_E.pdf>: 2.

[13] Ibid.

[14] Jung, T. Making a Business Case for Integrating Multidimensional Sustainability in the Pharmaceutical Industry. June 2002. A thesis submitted for the degree of Master of Science in Environmental, Health, and Safety Management. Rochester Institute of Technology: 171.

Figure 2
Integration Process



Integrating sustainability is a long-term process driven by market, social, financial and regulatory drivers, as well as companies' visions. No business wakes up one day thinking "we are going to embrace sustainability today," and jumps in feet first. Companies must first recognize that change is necessary and then be willing to implement change.[15] The process of articulating sustainability begins with companies defining their sustainability visions (Figure 2). During this process companies explore how sustainability relates to their businesses, scrutinize customer, environmental and social impacts, look at trends, and identify strengths and weaknesses.[16] This results in a values based statement, or "picture of the future", defining the company's direction.[17] Integrating sustainability broadens pharmaceutical companies' traditional visions, encompassing the three arms of the TBL—people, planet and profits.[18] A sustainability vision is the basis for future sustainability initiatives, strategies, goals and objectives.[19]

To get a firm handle on the sustainability concept after defining a sustainability vision, pharmaceutical companies develop strategies to "bridge the gap between where they are, and where they want to be."[20] Gaining com-

[15] Sexton, K., A. Marcus, K. Easter, and D. Burkhardt. Better Environmental Decisions. Washington, D.C.: Island Press, 1999: 254.

WBCSD (World Business Council on Sustainable Development). The Business Case for Sustainable Development. September 2001: 7.

[16] GEMI (Global Environmental Management Initiative). Environment: Value to the Top Line. Washington, D.C.: Nov 2001: 60.

Hedstrom, G., S. Poltorzycki and P. Stroh. "Sustainable Development: The Next Generation of Business Opportunity". Prism (4th Quarter, 1998), Arthur D. Little, Inc. 29 Jan 2002 <http://www.getf.org/file/toolmanager/O16F4954.pdf>: 9-10.

[17] Hedstrom, G., S. Poltorzycki and P. Stroh. "Sustainable Development: The Next Generation of Business Opportunity". Prism (4th Quarter, 1998), Arthur D. Little, Inc. 29 Jan 2002 <http://www.getf.org/file/toolmanager/O16F4954.pdf>: 10.

Sexton, K., A. Marcus, K. Easter, and D. Burkhardt. Better Environmental Decisions. Washington, D.C.: Island Press, 1999: 257.

WBCSD (World Business Council on Sustainable Development). The Business Case for Sustainable Development. September 2001: 7.

[18] Elkington, J. "The Triple Bottom Line: Implications for the Oil Industry". Oil and Gas Journal 97.50 (1999): 139-141.

People, Planet, and Profits: The Shell Report 2001. 29 Jan 2002 <http://www.bcsd.org.tw/images/doc/300/004/002/010.PDF>.

WBCSD (World Business Council on Sustainable Development). The Business Case for Sustainable Development. September 2001: 7.

[19] GEMI (Global Environmental Management Initiative). Environment: Value to the Top Line. Washington, D.C.: Nov 2001: 60-61.

Hedstrom, G., S. Poltorzycki and P. Stroh. "Sustainable Development: The Next Generation of Business Opportunity". Prism (4th Quarter, 1998), Arthur D. Little, Inc. 29 Jan 2002 <http://www.getf.org/file/toolmanager/O16F4954.pdf>: 10.

[20] Hedstrom, G., S. Poltorzycki and P. Stroh. "Sustainable Development: The Next Generation of Business Opportunity". Prism (4th Quarter, 1998), Arthur D. Little, Inc. 29 Jan 2002 <http://www.getf.org/file/toolmanager/O16F4954.pdf>: 8.

mitment, alignment and momentum starts with explicitly visible top management support.[21] Management commitment ensures adequate resources will be dedicated to future required tasks.[22] Additionally, corporate sustainability initiatives should be in line with mainstream corporate business plans, strategies and management priorities. Unfortunately, top management support is not often freely given. Buy in, commitment, ownership and involvement (participative leadership) from top management must be built.[23] Integration is initiated by "gaining leadership commitment to model, reward, and support new programs and systems."[24] Another requisite of organization-wide sustainability is recognition of sustainability as a management driven team effort.

Besides upper management, many other individuals and departments have roles to play in integrating sustainability.[25] Gaining company wide support not only helps to integrate sustainability throughout the company, it also increases involvement, alignment and motivation.[26] Establishing a sustainability vision and—ideally—bringing everyone in the company on board are very general but essential goals in the long-term process of integrating sustainability in pharmaceutical companies.

Traditionally linear or compartmentalized management approaches are insufficient for company wide integration of sustainability.[27] Instead, frameworks "are evolving toward broad network designs that are being stimulated by advancing communications and computer technology".[28] The sustainability management and integration frameworks reviewed for this article all had at least the following elements in common: 1) clear sustainability management thinking, planning and implementation (e.g., objective setting, actions to be taken by whom and by when, committing resources, etc.); 2) measuring, monitoring and reporting sustainability management performance (e.g., auditing, close linkages between performance and incentives, transparency, etc.); and 3) stakeholder participation (e.g., involvement in decision making, prioritization, etc.).[29]

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[21] GEMI (Global Environmental Management Initiative). Measuring Environmental Performance: A Primer and Survey of Metrics In Use. Washington, D.C., 1998: 26.

Hansen, L. "Rebraining Corporate Safety and Heath: It's Time to Think Again!" Professional Safety (1995): 27.

Hartig, J., P. Hartig, D. Lesh, D. Lowrie, and G. Wever. "Practical Application of Sustainable Development in Decision Making Processes in the Great Lakes Basin." The International Journal of Sustainable Development and World Ecology 31.3 (1996): 35-36.

[22] GEMI (Global Environmental Management Initiative). Measuring Environmental Performance: A Primer and Survey of Metrics In Use. Washington, D.C., 1998: 26.

GEMI (Global Environmental Management Initiative). Environment: Value to Business. Washington, D.C. Nov 1998: 41.

Preston, L. "Sustainability at Hewlett-Packard: From Theory to Practice." California Management Review. Berkeley, Spring 2001: 3.

[23] Hartig, J., P. Hartig, D. Lesh, D. Lowrie, and G. Wever. "Practical Application of Sustainable Development in Decision Making Processes in the Great Lakes Basin." The International Journal of Sustainable Development and World Ecology 31.3 (1996): 35-36.

[24] Simon, R. and S. Simon. "Redesigning the Safety and Health Function for the Year 2000." Professional Safety (1995): 28.

[25] Ibid.

[26] GEMI (Global Environmental Management Initiative). Environment: Value to the Top Line. Washington, D.C.: Nov 2001: 60-61.

Sexton, K., A. Marcus, K. Easter, and D. Burkhardt. Better Environmental Decisions. Washington, D.C.: Island Press, 1999: 257.

Simon, R. and S. Simon. "Redesigning the Safety and Health Function for the Year 2000." Professional Safety (1995): 28.

[27] Schmidheiny, S. Changing Course. Cambridge, MA: The Massachusetts Institute of Technology Press, 1992: 91.

[28] Ibid.

[29] Jung, T. Making a Business Case for Integrating Multidimensional Sustainability in the Pharmaceutical Industry. June 2002. A thesis submitted for the degree of Master of Science in Environmental, Health, and Safety Management. Rochester Institute of Technology: 159.

Measuring and reporting sustainability helps pharmaceutical companies add business value in two main ways, by: 1) tracking where a company's performance is versus where it wants to be and where the competition is; and 2) demonstrating stewardship of the resources they manage and the value they generate through transparency and dialogue with a variety of both internal and external, traditional and emerging stakeholders.[30] The adage "business is all about business" has given way to "what's good for everyone is good business".[31] Integrating sustainability has moved the definition of value away from simple dollars and cents (as measured in the bottom line, and reported in the annual financial report) and toward the TBL and corporate sustainability reporting. Stakeholders are widely recognized as "those groups without whose support the organization would cease to exist."[32] It is relatively easy to halt corporate activities, particularly in the pharmaceutical industry, at any stage "as a result of stakeholder concern about a wide variety of issues."[33] It is therefore very important for pharmaceutical companies to ensure stakeholders are supportive of their activities.[34] Sustainability performance satisfies external stakeholders' demands, and adds value to all three arms of the multidimensional TBL within the company.

The most generally accepted means of measuring and communicating sustainability are indicators. Indicators are defined as "quantitative or qualitative variables that can be measured or described," and that can "compress information concerning a relatively complex process, trend, or state into a more readily understandable form."[35] The main agreed upon characteristics of "good indicators" are:[36]

- Clearly and completely measurable or observable,
- Readily and reliably available or obtainable,
- Recordable and comparable,
- Verifiable and reproducible,
- Understandable,
- Timely,
- Cost effective,
- Acceptable, neutral, relevant, and appropriate.

Indicators are intended to measure sustainability in ways that help decision makers choose the best corporate policies for people, planet and profits.[37] Fully integrated decisions are collective decisions made after consulting

[30] Epps, J. and F. Solomon. Adding Social Value Through Accountability in Mineral Development, 2000. The AusIMM Annual Conference: 1.

[31] WBCSD (World Business Council on Sustainable Development). Exploring Sustainable Development (1997): 27.

[32] Collins, J., and J. Porras. Built to Last. New York, NY: HarperBusiness, 1994: 2.

[33] Ibid.

[34] Ibid.

[35] Becker, B. "Sustainability Assessment: A Review of Values, Concepts, and Methodological Approaches." February 1997 Issues in Agriculture 10: 21.

Simonovic, S., D. Burn, and B. Lence. "Practical Sustainability Criteria for Decision Making." The International Journal of Sustainable Development and World Ecology 4.4 (1997): 232-233.

[36] Farrell, A. and M. Hart. "What Does Sustainability Really Mean? The Source for Useful Indicators." Environment 40.9 (1998): 4.

Gallopin, G. "Indicators and Their Use: Information for Decision Making." Sustainability Indicators: a Report on the Project on Indicators of Sustainable Development (1997): 25.

Report on the Summit on Corporate Environmental and Sustainability Reporting. May 2001. York University, Toronto: Schulich School of Business: 4.

[37] Elkington, J. "The Triple Bottom Line: Implications for the Oil Industry". Oil and Gas Journal 97.50 (1999): 139-141.

People, Planet, and Profits: The Shell Report 2001. 29 Jan 2002 <http://www.bcsd.org.tw/images/doc/300/004/002/010.PDF>.

World Economic Forum. Pilot Environmental Sustainability Index. January 2000. Davos, Switzerland: 1.

a wide variety of stakeholders (e.g., technical, production, quality, finance, information, management, contract, etc.).[38] Finding ways to measure sustainability makes it a more "meaningful concept" for integration into corporate decision making.[39] Corporate managers should ask themselves, "Do you have a systematic means to ensure that long term economic, environmental, and social factors are considered in business decisions?"[40]

Collecting and reporting integrated sustainability data is facilitated and costs minimized when existing data collection systems are used.[41] Therefore pharmaceutical companies should use "data that are already being collected for other business purposes, where possible."[42] Data collection processes—or when and how data will be collected and reported—must be clearly defined.[43] Information is not useful unless it gets to the right people "in time for meaningful action to be taken."[44] In any case, immeasurable goals carry no weight within pharmaceutical companies.[45] Measuring sustainability helps companies track goals, drive performance and demonstrate the value of efforts in two main ways, by: 1) reducing impacts, costs, material usage, and losses; and 2) designing more efficient processes (increasing more efficient use of resources, profitability, yield, and market share).[46]

On the other hand, being in the dark about sustainability performance (except for mandatory reporting requirements) makes pharmaceutical companies "vulnerable to changing regulations, stakeholder expectations and customer demand."[47] To successfully integrate sustainability, pharmaceutical companies "need to know where they are starting from; where it is they want to go; and when or whether they have diverged from their planned path between the two points."[48]

These sustainability actions—once committed to, integrated and acted upon—provide pharmaceutical companies with significant business value added by:[49]

- Addressing habitat, biodiversity, and other ecological issues (e.g., land development, facility siting, resource stewardship, protection, preservation, and restoration, etc.)
- Addressing social and community issues (e.g., quality of life, water and sanitation, shelter, education, cultural heritage, diversity, neighbor relations, transportation, etc.)

[38] Bennett, M. and P. James (Eds.). The Green Bottom Line. Sheffield, England: Greenleaf Publishing, 1998: 250.

[39] Farrell, A. and M. Hart. "What Does Sustainability Really Mean? The Source for Useful Indicators." Environment 40.9 (1998): 2.

[40] Hindle, P. and P. White. "Sustainability: A Concept in Daily Business." Chimca Oggi/Chemistry Today (July/August 1999): 1.

[41] GEMI (Global Environmental Management Initiative). Measuring Environmental Performance: A Primer and Survey of Metrics In Use. Washington, D.C., 1998: 24.

[42] Ibid.

[43] GEMI (Global Environmental Management Initiative). Measuring Environmental Performance: A Primer and Survey of Metrics In Use. Washington, D.C., 1998: 26.

[44] GEMI (Global Environmental Management Initiative). Measuring Environmental Performance: A Primer and Survey of Metrics In Use. Washington, D.C., 1998: 28.

[45] Ditz, D., and J. Ranganathan. Measuring Up. World Resources Institute: Jul 1997: 11.

[46] Ibid.

GEMI (Global Environmental Management Initiative). Measuring Environmental Performance: A Primer and Survey of Metrics In Use. Washington, D.C., 1998: ES 1-2.

[47] Ditz, D., and J. Ranganathan. Measuring Up. World Resources Institute: Jul 1997: 30.

[48] Rodenburg, E. "Monitoring for Sustainability." A Sustainable World. Sacramento, CA: The World Conservation Union and the International Center for the Environment and Public Policy, 1995: 77.

[49] Arnold, M. and R. Day. The Next Bottom Line. Washington, D.C.: World Resources Institute, 1998: 2, 19-20.

Gladwin, T., J. Kennelly and T. Krause. "Beyond Eco-Efficiency: Towards Socially Sustainable Business."

Sustainable Development 3 (1995): 39 & 42.

- Attracting and retaining high-caliber employees and customers (e.g., increasing satisfaction, loyalty, good will, morale, etc.)
- Building and strengthening relationships with stakeholders (e.g., dialogue, partnerships, participation, etc.)
- Enhancing reputation, differentiation, official/unofficial license (right) to operate, public/brand image, etc.)
- Improving strategic planning, prioritization, and decision making
- Increasing appeal and access (e.g., to investors, consumers, banks, financial markets, capital, credit, etc.)
- Increasing competitiveness and advantage (e.g., streamlining product and process development, reducing time to market, etc.)
- Increasing efficiency (e.g., processes and products), productivity (e.g., labor), and performance (e.g., yield, quality, durability, recyclability, reusability, etc.)
- Increasing innovation and new business opportunities (e.g., standard setting, patent acquisition, proprietary learning curve, preempting competition, etc.)
- Increasing profitability, capital stability, sales, market share, and return on investments (ROI's)
- Increasing resiliency, preparedness, and responsiveness (e.g., to change, emergencies, shocks, etc.)
- Reducing or controlling consumption and resource use (and their associated costs) (e.g., economization, dematerialization, conservation, substitution, modification, recovery, exchange, etc.)
- Reducing or controlling disruptions or shutdowns (and their associated costs) (e.g., from accidents, incidents, injuries, non-compliances**, etc.**)
- Reducing or controlling risks and liabilities (and their associated costs) (e.g., releases, taxes, special assessments, workers' compensation, fines, legal fees, insurance, overhead, violations, litigation, etc.)
- Reducing or controlling operating, maintenance, and distribution costs
- Reducing or controlling waste (and its associated costs) (e.g., transport, disposal**, etc.**)

Pharmaceutical companies that successfully integrate sustainability, using—for example—some of the practices discussed in this article will accelerate their success. What drivers pharmaceutical companies choose to respond to—and to what degree—depend on the companies' strategies and markets, as well as their products. Historically HS&E initiatives—and more recently sustainability initiatives—were viewed as regulatory or compliance driven burdens or liabilities. Fully integrating sustainability means binding sustainability initiatives to company wide business goals and including people, planet and profits in company wide decision making and other thought processes. Several of the pharmaceutical companies reviewed for this article aligned sustainability initiatives with business goals to, for example, control costs, enhance yields, increase efficiencies, mitigate risks, and create strategic opportunities. In this manner, integrated sustainability initiatives are measured, valued, audited, controlled, etc. just like traditional business drivers are. Since, "business drivers are the fundamental reasons for being in business"[50] it makes sense that integrating sustainability is an increasingly "in-

[50] Taplin, S. BEST. 1998. Silver Birch Technologies Australia Pty. Ltd. 6 Oct 2001. <http://www.silverbirch.net.au/answers.htm#What%20are%20Business%20Drivers?>: 7.

Table 1
Voluntary Sustainability Standards

		Pharmaceutical Corporations												
	Voluntary Standards	Abbott Laboratories	Aventis	BASF Group	Baxter International	Bayer Group	Bristol-Myers Squibb Co	Eli Lilly & Co	GlaxoSmithKline	Johnson & Johnson	Novartis International AG	Novo-Nordisk AS	Pharmacia Corporation	Proctor & Gamble
1	Business for Social Responsibility (BSR) http://www.bsr.org/BSRForum/MemberLinks.cfm						x			x	x	x		x
2	Center for Corporate Citizenship (CCC) http://www.bc.edu/centers/ccc/Pages/a_mem.html	x	x		x		x	x	x	x	x		x	x
3	Global Environmental Management Initiative (GEMI) http://gemi.org/docs/Company.htm	x	x				x	x		x	x		x	x
4	Global Reporting Initiative (GRI) http://www.globalreporting.org/guidelines/companies.asp	x	x	x	x	x	x			x	x	x		x
5	International Chamber of Commerce (ICC) Business Charter for Sustainable Development (SD) http://www.iccwbo.org/home/environment_and_energy/sdcharter/corp_init/company_showcase/menu_company_showcase.asp						x		x					
6	United Nations (UN) Global Compact Initiative http://www.unglobalcompact.org/Portal/Default.asp		x	x		x					x	x		
7	Wildlife Habitat Council (WHC) http://www.wildlifehc.org/members/index.cfm	x		x		x	x	x			x			
8	World Business Council for Sustainable Development (WBCSD) http://www.wbcsd.ch/templates/TemplateWBCSD4/layout.asp?type=p&MenuId=MzM5&doOpen=1&ClickMenu=LeftMenu#		x	x		x				x	x	x		x
9	World Environment Center (WEC) http://www.wec.org/iefpart.htm		x				x		x	x	x			
10	World Resources Institute (WRI) http://www.wri.org/contrib_cc.html				x		x			x	x	x		x

vestable concept" for these pharmaceutical companies.[51]

[51] Dow Jones Sustainability Group Index. Green-Money Journal, Winter 2001. 12 Oct 2001 <http://www.greenmoney.com/gmj/winter01/winter501.htm>: 1.