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Doing The Right Thing for the Environment Just Got Easier With a Little Help from Information Systems

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Abstract

When it comes to the environment, most people want to do the right thing; they just need help in getting there. No one really wants their friends to perceive them to be careless polluters. Businesses do not really want their customers to believe that by buying their products they are destroying the planet we live on. Most people claim that they will pay more for a green product, they just need a little help with the follow through. Information Systems can play a critical role in helping people and business follow through on their good intentions when it comes to the environment. Some of the ways that Information Systems can help us do the right things include efficiency systems, forecasting, reporting and awareness, energy efficient home computing, and behavior modification. This article calls on professors, educators, and citizens of the world to develop and use information systems to help people do the right thing.

Environmental values are on the mind of many consumers and businesses today, with growing concerns about global warming, pollution, animal extinction, and other tragedies looming large in society, science, politics and press. Due to recent evidence indicating the dire consequences of ignoring this issue, the consensus is that few people would argue that they want to destroy the environment and most would agree that some measures are necessary to limit harmful environmental impacts. In addition to saving the planet, going "green" also offers more tangible benefits of cost and energy-savings (American Psychological Association, 2009). Also, many consumers participate in the "green" movement in their pursuit of "competitive altruism," the notion that one would be more apt to make an altruistic purchase or decision when being observed by others (Griskevicius, 2010 & Bandyk, 2009).

However, even with this desire to do the right thing for the environment, it has been noted that many consumers simply do not know how to be "green" (Begley, 2010). In addition, businesses sometimes need help seeing the tangible benefits of new environmentally friendly processes. Going green is often a daunting task, even for those who desire to change their habits. Many people simply need help with the follow through which is where Information Systems comes in. Information systems can help to provide the information and tools necessary for this follow-through using efficiency systems, forecasting, reporting and awareness, energy efficient home computing, and behavior modification.

EFFICIENCY SYSTEMS

Business and the environment are inevitably linked and business always has an impact on the environment. Similarly, business is often dependent on a healthy environment to perform its business. By improving the environmental performance of a business, it is enabled to improve both its efficiency and that of the economy as well. By using resources more efficiently, the business can save money while promoting the sustainability of its actions for the environment creating goodwill among its customers (N.R.D.C., 2010). For these reasons, information systems enabled efficiency systems are usually an easy sell for businesses.

There are many types of business efficiency systems. There are many examples of those that specifically aim to save energy such as Hitachi's Eco2dc initiative to design data centers with IT equipment with a lower environmental impact through greater efficiency of energy use (Hitachi, 2010). Many other companies have followed suit, for example IBM and HP have heavily advertised their green computing options for businesses. Also, Google has invested in wind farms and solar panels to offset the carbon emissions from its data centers (Google, 2010).

Efficiency systems can increase efficiency through other means as well. For example, Package Flow Technologies used by UPS optimize delivery routes and use of fuel. In the air, UPS uses Continuous Decent Approach when landing to minimize fuel and emissions and Lido to account for weather, winds, terrain and other factors (UPS, 2010). The lumber industry uses software-operated automated saws to reduce waste and increase yield rates when harvesting trees (Zuo, 2003). Also, the agricultural industry uses GIS for mapping and input and machine control to minimize fertilizers and pesticide usage, cutting costs while reducing pollutants released into the environment (Lorimer, n.d.). Similarly, furniture maker Herman Miller has constructed a database to rank the environmental attributes of all of its product components to eliminate highly polluting inputs (CIO, 2007).

Another common type of efficiency system is Environmental Management Systems which are systems used by businesses to manage, review, and improve the

organization's approach to business and the environment (FedCenter, 2010). Many government agencies as well as businesses use these systems to reduce their environmental impact while increasing efficiency (Business.gov, 2010). For example, GE uses a $10 million system that evaluates its environmental performance, resource use, safety, and compliance. Since the installation of this system, GE's regulation violations have fallen by more than 80% and the company has saved tens of millions of dollars through efficiency improvements derived from the program (CIO, 2010). Clearly, efficiency systems represent the easiest and most adopted ways to date that information systems can help to save the planet.

FORECASTING

Information systems have also enabled forecasting which can help greatly with the green movement. Through forecasting, information systems can increase awareness of resource issues among businesses, governments, and citizens.
Forecasting for energy, oil, climate, and forestry have been used to inform and better the use and allocation of existing resources. In addition, businesses often use forecasting within the organization to plan for future resource needs and economic factors. Similar to efficiency systems, information systems enabled forecasting has the potential to inform consumers and therefore make it easier for them to do the right thing as well.

REPORTING AND AWARENESS

Through increased reporting and awareness, Information systems also have the ability to further the green movement. For example, Microsoft and GE have invested heavily in Smart Grid technology. This is a smarter power grid that combines smart meters and home energy-management systems to better inform consumers and enable them to alter their energy usage easily. Google PowerMeter recently launched a program similar to Microsoft Hohm that allows consumers to view their energy consumption from anywhere using smart meters and energy monitoring devices (Google PowerMeter, 2010).

Related, Energy Monitoring Systems allow consumers to perform energy audits of their homes or businesses to monitor energy waste and air quality among many other factors (Onset, 2010). Also, Microsoft is working on the development of cheap, compact sensors to link the appliances in a house to enable a smarter home that is able to increase efficiencies. Perhaps this would enable an idle television to turn off or a furnace to check the weather prior to heating the house (Microsoft, 2010).

Through the increase of smart-phone users, apps can be used to aid with widespread reporting and awareness. For example, A SmartPhone app is being developed that enables users to use their phones as sensory devices that can upload traffic information to a central database that can then be disseminated for the real-time benefit of many other users minimizing fuel output and therefore emissions (Anthony, 2008).

Many other SmartPhone and iPhone apps make it easier for users to make green decisions as well. For example, ZipCar and Carticipate aid with carpooling efforts. Green Gas Saver informs the user when they are driving unsustainably by accelerating or turning too fast. Greenmeter tracks your car's carbon footprint and fuel efficiency. The Traffic app aids users in revising routes to avoid traffic while PrimoSpot informs users of available parking spots, both reducing fuel use and emissions. Ped-Nav uses the inputted plans of the user to create an itinerary

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complete with public transit routes and times to make traveling by foot a breeze (Sherpa, 2010).

There are many apps that enable users to "vote with their dollar" by choosing green businesses as well. For example, app FindGreen helps users find nearby green businesses based on their geographic location. The Good Guide is an app that reports detailed ratings for the environmental and social responsibility of more than 65,000 products and companies simply by scanning the barcode of a product (Sherpa, 2010). Information systems can be further developed to increase the awareness of consumers.

ENERGY EFFICIENT HOME COMPUTING

Information systems can also aid with improving the efficiency of home computing. Home computing accounts for a very measurable share of individual energy consumption and information systems has a duty to decrease this consumption. Windows 7 aims to do just that with new options, diagnostic tools, and factory settings to maximize energy efficiency (Microsoft Windows 7, 2010). Also, more companies should aim to be like Apple, who **ONLY** produces Energy Star rated computers therefore lowering emissions (Apple, 2010).

BEHAVIOR MODIFICATION

Information systems can also help people do the right thing by helping them modify their behavior. There are currently many apps that encourage users to diet or exercise, why not develop systems that provide reminders or encouragement when we do something good for the planet? Existing applications that aim to modify behavior include app Get Green, which provides daily tips on how to make a difference, and website Celsias.com, which enables users to find, discuss, pledge, and then report on green activities. Also, the Green Wars app adds a competitive element in a game-like atmosphere where users compete to buy and sell green products.

Based on the notion of "competitive altruism", consumers are more likely to make green decisions when they are visible to others and can therefore affect their status (Griskevicius, 2010). Perhaps, this element of competition could be further developed to build on the notion of competitive altruism to more effectively modify behavior. By tying in peer pressure and enabling people to compete with their friends as sustainable activities, such as recycling, biking to work, and reducing your carbon footprint, are tracked and praised, consumers may be more likely to modify their behavior.

Information systems also have the potential to enable the behavior modification of businesses through the consumerization of IT. The consumerization of IT is the idea that younger workers are driving change based on their own interactions with technology. Many businesses are not prepared to handle, let alone capitalize on, this shift in the IT model (Unisys, 2010). Information systems could enable more efficient means of connecting and sharing while delivering IT flexibly to maintain competitiveness.

CONCLUSION

There are many ways information systems can help consumers and businesses to do the right thing. Some methods, such as efficiency systems, are more widely adopted whereas others, such as behavior modification, present new challenges for

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the industry. We are all responsible to consider our effect on the environment and make necessary changes. This article calls on educators, practitioners, and citizens of the world to develop and use information systems to help people do the right thing.

As urged by Watson et al. (2010), academics have a **responsibility** to develop research on how IS can further the green movement. One way to do this is to develop IS that increases the ease of going green by aiding with follow-through for those that already desire to live green. In addition, by increasing the ease of going green and emphasizing how little changes make big differences, more people will be encouraged to make green decisions, including those that have not yet made the leap. This is a real opportunity to help people with the right tools and technologies to enable them to do the right thing for the environment.

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