Future Work and Work Trends

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Introduction

This paper expresses Knoll's perspective on trends shaping the future of work and the workplace. It includes our research and that of others in an effort to illustrate a broad view of the future and the trends affecting the workplace. We discuss six macro business, social and technology trends, followed by the implications of these trends on real estate and workplace strategy and implementation of workplace design.

Macro Trends

The six macro trends include:

- Rise of the intangible economy

- Business in an instant

- Embedding knowledge in design

- The sustainability imperative

- Evolving workforce demographics

- Globalization of work

Implications for the Workplace

In the second section of this paper we describe six implications for the workplace based on the macro trends we reviewed. To succeed in the future, companies must:

- Anticipate mobile work styles and leverage mobility

- Plan for multiple generations at work

- Give people "environmental control"

- Design the workplace as a resource not a destination

- Incorporate sustainability into the workplace

- Provide healthy work spaces

Taken together, the macro issues we discuss in this paper are shaping the future of work and the workforce. People want to work for companies that stand for something – whether it is sustainability, healthy workspaces, best practices for supporting mobile workers, or being an attractive place for workers of different generations to work together. At Knoll we are integrating what we know about these trends into the design of our products so that we can continue to meet the needs of our customers.

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Macro Trend One: Rise of the Intangible Economy

We are in an era in which business is taking advantage of the efficiency of the Internet and the business opportunities it brings. In the early 1990's people thought the Internet itself was the "new economy." However, we believe the current period is just a part of a much larger, continuing shift to a Post-Industrial economy (Kelly, 2006). This broader shift has been underway since the mid 1970's (Triplett and Bosworth, 2004).

In this Post-Industrial economy, economic value is shifting away from tangible things to **growth in services, "knowledge intensity" in products and services**, and **experience as an economic offering.**

Growth in Services

Services account for 75% of US GDP, and 33% of all global trade. The services sector is the fastest growing and largest sector of the global economy (Chartrand, 2002). In the US, services account for 30% of all exports. In addition, services account for 50% of GDP in the developing world.

Knowledge intensity in products and services

As part of the intangible economy, knowledge is increasingly driving the economic value of goods and services. This has given rise to the "creative class" – workers who apply knowledge to create and enhance the value of products and services (Florida, 2003).

Knowledge is driving economic value

Knowledge – of how the world works, how to make crops grow, how to make products – has always been important. But in the past few decades knowledge has been driving economic value as never before; by the mid 1990's more than 50% of the GDP of the most developed world economies was "knowledge based" (Canton, 2006).

Rise of the Creative Class

There is a growing role for creativity in the US economy. Leading this transformation are the 40 million Americans – over a third of our national workforce – who create for a living. This "creative class" is found in a variety of fields, from engineering to theater, biotech to education, architecture to small business. This group of people builds knowledge into products and services. In the future, they will determine how the workplace is organized, what companies will prosper or go bankrupt, and even which cities will thrive or wither (Florida, 2003).

Knowledge has become intensively built into products

The significance of the cost of physical material to the value of goods is declining. For example, the amount of steel in a car does not determine its price. You can buy a large pickup truck for a lot less than a small BMW M3 Series automobile. Even what used to be simple products (refrigerator, radio) are getting more complex (designed for ergonomics and embedded with computers and sensors) reflecting the biggest ingredient – knowledge.

Experience as an economic offering

Consumers will pay not only for services, but for experiences. Tourism is the world's largest employer (WTO, 2004). Experience may be emerging as an economic offering in its own right (Pine and Glimore, 1999). As experience becomes a more important economic value, so does the "experience" of aesthetics. The desire to surround ourselves with things of beauty might be innate to humans. Aesthetics is related to visual appeal and simplicity and functionality. This places more importance on the design elements of products.

Macro Trend Two: Business in an Instant

This trend has three components. The first is the **growth in connectedness** between people, which is occurring at a rapid pace. The second is expectations for an **"always on" business culture.** The growth in connectedness is forcing a new "always on" business culture, in which anyone anywhere can reach out and touch almost anyone at any time. The third component is that **interruptions have become a part of work life.** Because we are constantly plugged into technology, interruptions from information sources, friends, family and business contacts are a constant issue. The final aspect is **mobility as a work style.** The work style of mobility is embraced by all generations and job levels within the workforce and has been accelerated as a trend by connectedness between people and expectations of the "always on" business culture.

Growth in Connectedness

Growth in connectedness between people through the Internet is occurring at a rapid pace (Goldenberg, February 2008). The number of people with Internet access worldwide has expanded from 1.9 million in 1990 to 1.5 billion in 2009 (Internet World Stats Website, 2009). There has been rapid emergence of social networks like blogs, Wiki's, MySpace, Facebook and Twitter (Bajarin, 2007).

"Always On" Business Culture

This connectedness is forcing a new "always on" business culture, in which anyone anywhere can reach out and touch almost anyone at any time (Freedman, 2005). In short, "I want to connect with business the same way I connect with friends, family and colleagues." People with this expectation are called the "digital client" and they expect instant responses to business interactions (Goldenberg, 2008).

Interruptions as a Part of Work Life

Related to the "always on" business culture is another fact of life – interruptions. Employees deal with interruptions in a variety of ways: wearing headphones, signaling through body language, hiding out in unused meeting rooms or working at home when needed. Research has shown that the average worker is interrupted 4 times per hour for 2 minutes each time, and in 40% of interruptions the recipient did not resume the work he or she was doing prior to the interruption (O'Conaill and Frohlich, 1995).

Mobility as a Work Style

There are misconceptions about age, gender, job type and mobility within the workforce. The stereotype is that mobile workers are young and female (for instance, young mothers that work at home) (Naylor,

2006). In fact, several studies show that most mobile workers (65%) are men and are over age 40 (Venezia, 2007; Andriessen and Vartiainen, 2005). While it has traditionally been assumed that only specialist workers (e.g., salespeople, auditors, consultants) spend significant periods away from the office, research shows that all levels of staff are working outside the office, and 40% hold leadership positions in their organizations. (Andriessen and Vartiainen, 2005). Policies and workspaces supporting mobility are a big draw for older workers (Hedge, Borman and Lammlein, 2006). Most Baby Boomers who say they want to extend the number of years they remain in the workforce feel that the typical, traditional workplace arrangement (e.g. inflexible work hours, dedicated workspace, commuting to one location) is out of step with the potential for time/place mobility they actually possess (Venezia, 2007). A recent study found that younger workers view mobile work as directly related to their quality of life (Venezia, 2007). Thus, space and policies that support mobility for these workers will improve their perceived quality of life and sense of belonging to the organization.

Macro Trend Three: Embedding Knowledge in Design

The most successful products embed knowledge into their design. In this section, we discuss two aspects of this trend: how **good design has become a price of entry into the marketplace,** and how **good design blends function and aesthetics.**

Good Design as the Price of Entry

High design has come to inexpensive consumer goods. Good design is becoming the price of success in the market — even for everyday products (toasters, chairs, etc). For instance, the consumer products store Target hired architect Michael Graves to design products – bringing "high design" to everyday consumer goods. Propelled by this trend, consumers' expectations for attractive, functional design at all price points, has increased. Thus, the bar has been raised across the board.

Design Blends Function and Aesthetics

Through her work with the Knoll Planning Unit, Florence Knoll learned about customers' needs, and she hired the best and brightest from the Cranbrook Academy of Art to create new types of furniture. Those designers fused knowledge of functionality and technology and tied it all together aesthetically through the use of design (Schiffer, 2007). The iPod and iPhone are leading examples of using design to combine visual appeal with intuitive function. These products are more expensive than their competitors even though they perform the same function. It is the application of industrial design to fuse beauty and function that makes them so successful. These products integrate deep knowledge of ergonomics and user-interface ideas into their design.

Macro Trend Four: The Sustainability Imperative

Sustainability has become more than a buzzword among corporations. It has become smart business. Companies like IBM and KPMG are now providing consulting services to help companies analyze their carbon footprints, identify ways to decrease energy use, and realize the tax benefits of sustainability efforts. A wide range of businesses are on a **quest to become climate-neutral** by seeking to reduce their greenhouse gas (GHG) emissions – or even to come as close as possible to making no net contribution to global warming. Companies – including HP, IBM, Dell and Xerox – are adopting a comprehensive life-cycle approach to thinking about their products and services, and thus we are seeing the **emergence of cradle-to-landfill stewardship**. Many organizations are seeking to quantify the impact of their sustainable business practices by incorporating **environmental metrics in their accounting**.

The Quest to Become Climate-Neutral

More companies are seeking to reduce their greenhouse gas (GHG) emissions – or even to come as close as possible to making no net contribution to global warming (Patz, 2008). For example, STMicroelectronics is a recognized leader in GHG emissions reductions. The company has committed to an ambitious goal of becoming carbon dioxide (CO_2) neutral by 2010. AMD has an ambitious greenhouse gas emissions goal to reduce absolute perfluorinated compound (PFC) emissions by 50 percent by the year 2010. PFCs are used in the semiconductor manufacturing process and have a global warming impact that is significantly higher than CO_2. The North American flooring company Interface is already climate neutral. To get more companies involved in reducing GHG, organizations like Chicago Climate Exchange (CCX) provide a trading place for greenhouse gas credits. Companies such as Ford, DuPont, Baxter and Knoll have

joined the Chicago Climate Exchange (CCX) which has a legally binding greenhouse gas reduction program. Knoll was the first furniture manufacturer to join, and has now reduced its greenhouse gas emissions more than 10 percent from its baseline. CCX is North America's only and the world's first global marketplace for selling and buying legally binding credits for all six greenhouse gases.

Emergence of Cradle-to-Landfill Stewardship

High levels of awareness about energy efficiency and environmental issues, and strict regulations are leading companies around the world to rethink established product design processes and incorporate a more holistic approach. Using the SMaRT protocol, organizations such as MTS (mts.sustainableproducts.com) promote the idea of a lifecycle analysis of products. These types of programs identify where the materials for the product come from and where they end up. The SMaRT program includes training for companies that want to participate, and accreditation for products that meet strict standards (United Nations Environment Programme Division of Technology, Industry, and Economics, 2008; MTS, The Institute for Market Transformation to Sustainability, 2008). SMaRT includes standards for suppliers, sources of materials that go into products, and how products are disposed of at the end of their life cycle.

New Environmental Metrics for Accounting

Companies are setting business goals that include sustainability, (www.sustainablebusiness.com, 2008). These business goals take two other bottom lines into consideration: environmental stewardship and social capital. Every decision made by a sustainable business must not harm (or may even improve) environmental quality and must have a social/community building component. These goals include reducing the negative social and environmental impacts related to the products they create and sell. Companies are setting these goals for a variety of reasons, including meeting the expectations of employees that companies should have a "social conscience" and of consumers who expect more than just talk about these issues – they want to see actions integrated with business results.

Business results are measured using sustainability criteria. Companies are measuring investments and savings realized from sustainability programs. "Environmental expenses" include program costs, environmental and energy engineering expenses, remediation and pollution control costs. "Environmental savings" include income, savings and cost avoidances from current year initiatives as well as cost savings realized in the current year from initiatives. They also include intangible costs such as employee satisfaction and retention that occurs along with their sustainability programs.

The business impact of investments made to increase sustainability are being reported to investors. Many investors make investment decisions based on businesses' sustainability record. For example, some companies publish an annual "Environmental Financial Statement" that documents the costs and benefits of ongoing environmental initiatives.

Macro Trend Five: Evolving Workforce Demographics

The composition of the workforce is evolving. **Aging Baby Boomers** are working side by side with **Generation Y** and an increasing number of **women in the workplace.** We will discuss each of these demographic forces in this section. There are other demographic changes in the workforce as well, but these are the ones that we think will have the greatest impact in the years to come.

Aging Baby Boomers

Aging Baby Boomers are the first "health conscious" generation and are redefining what retirement looks like. This generation will have multiple careers and bring the vigor of their experience with them to the workplace. However, employers are not focused on recruiting this valuable workforce.

The first "health-conscious" generation
People are living longer than in years past, creating opportunities for involvement much longer than we have seen before. This is true globally as well. One out of every 10 persons is now at least 60 years old; by 2050 the ratio will be one in five (Dychtwald, et. al., 2005). The Boomers are the first generation to have a high level of "health-consciousness" in their life and work styles. This desire has influenced everything from the cafeteria foods and exercise and wellness programs offered at work, to corporate policies that protect employees from exposure to secondhand smoke, harmful materials and chemicals they come into contact with at the office.

The concept of retirement is changing
Retirement will be replaced by a flexible mix of work and periods of leisure. A recent AARP study found that 34 percent of all U.S. workers say they never plan to retire and 80 percent say they will continue to work in some capacity after age 65.

Boomers bring the "vigor of experience" with them as they move through careers
Corporations are ignoring a threat that is every bit as real as recession and longterm energy costs: the coming shortage of talented workers (Dychtwald, 2008). Organizations can benefit greatly by taking advantage of the skills, experience and motivation of workers near or beyond traditional retirement age. Futurist Peter Schwartz observed, "Many older managers or [information] workers today will be hired for their third, fourth, fifth or sixth career tomorrow, and consequently will bring a cross-disciplinary 'hybrid vigor' perspective that will be increasingly valuable" (Schwartz, 2003).

Employers are not focused on recruiting this work force
Two-thirds of U.S. employers don't actively recruit older workers, 80 percent do not offer incentives for older workers, and 60 percent don't account for workforce aging in their long-range business plans (Dychtwald, et. al., 2005).

Rise of Generation Y

This new generation was born between 1979 and 1997. They are "digital natives," that is, the first to grow up with technology. They do have common, defining characteristics in terms of social values and expectations of the work experience.

First generation to grow up with high technology

Generation Y is the first generation to have grown up surrounded by technology and digital interactive media: video games, the Internet, instant messaging and many entertainment options. Their perceptions are shaped to a large degree by these experiences, and they carry these perceptions into the workplace (Wymer, 2008; O'Neill, 2008a).

Common characteristics

Sociologists (Howe and Ross, 2000) have identified some common characteristics of Gen Y from different regional, economic and ethnic backgrounds:

- Special: feeling of being vital to the nation and to their parents' sense of purpose

- Sheltered: kid safety rules, lockdowns of public schools, sweeping national youth safety movement

- Confident: high levels of trust and optimism

- Team-oriented: classroom emphasis on group learning, school uniforms, tighter peer bonds

- Achievement-oriented: accountability and higher school standards

- Under pressure: expectations to excel in many different areas

- Conventional: social rules can help; comfortable with parents' values

Unique expectations of work

Generation Y employees demonstrate technological sophistication, "street smarts," a penchant for collaboration, and positive aspirations in the workplace. But they require greater supervision and regular positive reinforcement by management than do older workers (Goldenberg, 2005). They are motivated by the opportunity to work with other bright and creative people, learn from more experienced employees, gain personal recognition for their work, and make a positive social impact (Ross, 2003).

Influence of Women in the Workforce

Women are a significant factor in the workforce today and in the future. They are a **majority or near majority in many professional schools**. However, it is **difficult for many women to successfully re-integrate into the workforce after leaving** to raise children or care for aging parents. We suggest that the **growth in technology to support collaboration**, and **women's "people skills" may increase their ability to continue successful careers more easily in the future.**

Women are a majority or near majority in many professional schools

Women comprised 46% of the total U.S. labor force in 2007 and are projected to account for 47% of the labor force in 2016 (US Department of Labor, 2007). In 2005, women earned 57 percent of the bachelor's and 58 percent of the master's degrees awarded (US Census Bureau, 2005). Women are beginning to dominate professional schools. As of 2008, females make up the majority of students in law school and are 46% of all students enrolled in medical schools. The entry of women into the paid work force is related to declining fertility rates worldwide (U.S. Dept. of Labor, 2004). A woman's educational level is the best predictor for the number of children she will have." (Trends e-magazine, May 2005).

Difficult for mothers who leave, to re-integrate into full time jobs

The social and economic demands of professional employment place great pressure on child-rearing activities (Mathews, and Ventura, 1997). Women typically carry the brunt of the workload of child-rearing. In one study, 43 percent of the women surveyed left the work force at some point in their careers to raise children (Center for Work-Life, 2005). Of these, only 74 percent who sought re-employment successfully found jobs, and only 40 percent of those were full-time (Trends e-magazine, 2005).

Collaboration tools and technology may ease this problem in the future

Today, communication and collaboration tools are reducing the need for workers to be physically present at the office and are enabling workers to accommodate home and work demands better (Microsoft, 2005).

Increasing emphasis on collaboration lends itself well to women's "people" skills

The increasingly collaborative nature of information work will also increase the relative value of intuitive, persuasive, diplomatic and integrative skills, which are skills traditionally associated with women (Microsoft, 2005).

Macro Trend Six: Globalization of Work

As technology connects the world, globalization is becoming a big factor in business. **Globalization opens the playing field** to any company, anywhere in the world. In this section we will also discuss how **globalization can improve problem solving and innovation**.

Globalization Opens the Playing Field

A global presence has benefits and challenges for a company. While a global presence can open a company to new markets, and economic opportunities, it can also open the playing field to new competitors (Freidman, 2005). Due to technology, companies from around the world can now easily have a global network. Doing business with competitors who have other norms and values can lead to conflicts due to differing expectations about the protection of intellectual property rights, especially by North American companies who are used to doing business with the security of patent or copyright protections.

Globalization Can Improve Problem Solving and Innovation

Employees from different cultures and countries bring new points of view to problems. Multi-national companies have employees networked across the globe, located in different countries, embedded in different cultures with different points of view.

Global teams have diversity in ideas and improved innovation. When employees with different geographical and cultural backgrounds work together on projects, they can integrate their different experiences and points of view that can result in innovative approaches to problems. The key is good collaborative technology and social and communication skills as team members communicate across languages, cultures and time zones.

Locations across time zones can increase speed to market. When teams working on a common project are located around the world, project work can be passed from time zone to time zone as it follows the work day around the world. Technology companies have been using this approach for years and it has proven effective in reducing time to market for software and other highly competitive product areas.
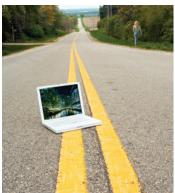
Implications for the Workplace

Based on the larger macro trends we just described, the landscape of the office workplace is also shifting. In this section we describe six implications for the design and management of the workplace based on the macro trends we reviewed. To succeed in the future, companies must:

- **Anticipate mobile work styles**
- **Plan for multiple generations at work**
- **Give people "environmental control"**
- **Design the workplace as a resource not a destination**
- **Incorporate sustainability into the workplace**
- **Provide healthy work spaces**

Implication One: Anticipate Mobile Work Styles

Technology has enabled us to be un-tethered from specific times and places to work. We now have easy access to information from any location, and any time we need it. Companies are struggling to determine how to leverage mobility for competitive advantage (Andriessen and Vartiainen, 2005). The following are four suggestions for addressing this implication.

Develop mobility policies and technology

Before designing spaces to support mobile workers, management policies must be in place to allow workers to conduct their business in different locations within the building or other external locations (such as home). Clear policies need to be in place that define the boundaries of mobility and provide employees and managers with guidelines for behavior – for instance, the timing and process of employee "check in" with their manager. Wireless connectivity, portable computing devices and data security must also be in place.

Balance assigned versus unassigned workspaces

Employ a mix of assigned and unassigned workspaces to best support a mix of mobile and traditional workers (Venezia, 2007). Do not physically segregate mobile workers who use unassigned workspaces from the rest of the workforce. Integrate unassigned workspaces throughout the facility to enhance a feeling of belonging and increase chance encounters between mobile and traditional employees.

Do your homework first to develop profiles of mobile work styles so that you have the right workstation designs and correct proportion of assigned to unassigned spaces. You also need to provide training to employees on how to use the spaces. Other research with highly mobile workers has shown that a lower proportion of assigned to unassigned spaces will significantly reduce fixed costs (O'Neill, 2009). However this same research found that lower proportions of assigned spaces drives down employee engagement (and increases future retention costs).

Optimize location and function of meeting spaces

Invest in providing meeting spaces in a variety of sizes (with the right technology and furnishings) that are easily available to workers at all company locations. Giving employees easy access to meeting spaces that fit their needs increases employee engagement with the organization

(O'Neill, 2009).

Invest in reception and administrative support

Design spaces for quality reception and administrative support so that mobile workers (especially those who do not have an assigned workspace) can get the help they need to perform quickly and effectively when arriving at the work location. For mobile workers, better quality reception/ administrative support actually reduces fixed costs (perhaps due to more efficient use of space and work resources) and increases employee engagement (O'Neill, 2009).

Implication Two: Plan for Multiple Generations

Generation Y workers desire, if not demand, to learn from and be mentored by older/more experienced workers. The idea of a private office, hidden away from learning opportunities and "the action," can be unappealing to them. This is the opposite of Baby Boomers who value the status and privacy of private offices and feel this type of space makes them more effective (O'Neill, 2008a). The challenge is to design the workspace to meet the needs and desires of both these groups. We suggest the following design tactics:

Create dedicated collaboration areas

Predominantly open environments should be complemented by dedicated, enclosed, sharable work space that groups of employees can use to work together with reduced distractions. These spaces should also prevent noise and visual distractions to individuals working nearby.

Promote spontaneous interaction

Facilities with predominantly enclosed offices are most effective when complemented by spaces that promote informal and spontaneous interaction (Heerwagen, et al., 2004). In order to draw people out of their enclosed offices, create spaces that act as magnets for informal collaboration: café areas, game rooms, tech labs, libraries, etc. These spaces should have comfortable furnishings and should be located in open areas adjacent to private workspaces. The intention is to encourage and support spontaneous meetings in a more relaxed atmosphere than formal conference rooms.

Balance communication and privacy

In open plan settings, select, design and orient workspaces to provide users with control over visual access by others. This control can be provided by considering the overall amount of enclosure in terms of panel height, number of sides, internal layout and the visual permeability of the materials surrounding the workspace.

Support learning and mentoring

Space should balance the need of older employees to continue to learn and develop with the desire by younger employees to be mentored. One approach is to design office space that is more open and that provides a variety of interaction spaces. Along with the open space, provide an adequate number of meeting spaces and other enclosed work areas such as study carrels, which will moderate the overall level of density. With wireless technology, employees can easily move to one of the enclosed spaces for a small group meeting or simply to work without interruption.

Implication Three: Give People "Environmental Control"

Leading edge companies are "designing personal control" into their individual spaces, meeting spaces and even whole facilities. The reason is simple: enhanced employee health and performance. Environmental

control is an important mechanism that permits people and groups to make changes and adapt space quickly to meet business needs. Thus, the more flexibility and adaptability that can be built into furnishings, meeting spaces and facilities the more optimized the space will be for work performance.

A growing body of research shows strong links between degree of environmental control, employee performance, psychological stress and business efficiency outcomes (Lee and Brand, 2005; O'Neill, 1998; O'Neill and Evans, 2000; O'Neill, 2007; Paucik, 1990).

Facility/organizational level
Environmental control can be implemented by optimizing the spatial adjacencies between buildings on a site, and by considering sustainability issues along with the adaptability of individual buildings on a campus (O'Neill, 2008b).

Group level
Within collaborative spaces, environmental control can be implemented by designing an adequate number and size of collaborative spaces with flexible features and furnishings.

Individual level
Within the individual workspace, environmental control can be implemented by specifying physical elements within the work station that have a high level of adjustability, such as: seating, task lighting, work tools, shelves, storage, work surface height, level of enclosure, monitor and keyboard supports, and other work tools (O'Neill, 2008c).

Implication Four: Design the Workplace as a Resource, Not a Destination

Work is something you do, not someplace you go
If people can work anywhere, why should they be limited to working just in the office? The workplace will shift to being a resource as opposed to a place where you have to go to get work done (IFMA, 2001). Technology has freed us to be mobile and the time demands of a global economy, customers and workforce mean that people need a lot of flexibility in where and when they work (Microsoft, 2005).
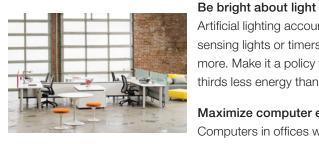
Work occurs in a series of linked activity zones, at a variety of location
The idea of the "office" as a place where we work by ourselves is shifting; the office is evolving into a place where we collaborate, where we go to work with other people and resources we need to get our work done (Wymer, 2008). Space is shifting to be a series of linked activity zones that can occur within the building facility or at other locations such as home, customer's office, car, etc. Work can be individual (focus), mentoring or learning, team or casual interactive activity.

Provide a continuous spectrum of workspaces
For work that occurs within the office facility, provide different types of individual and group work spaces to support the continuous flow of individual and group activities.

Implication Five: Incorporate Sustainability into the Workplace

Be bright about light

Artificial lighting accounts for 44 percent of the electricity use in office buildings. Invest in motion sensing lights or timers that turn off the lights when you're leaving any room for 15 minutes or more. Make it a policy to buy Energy Star-rated light bulbs and fixtures, which use at least two-thirds less energy than regular lighting.

Maximize computer efficiency

Computers in offices waste $1 billion worth of electricity a year. Make it a habit to turn off your computer—and the power strip it's plugged into—when you leave for the day. (Check with your IT department to make sure this is OK.)

Print smarter

The average U.S. office worker goes through 10,000 sheets of copy paper a year. Make it a habit to print on both sides of a sheet or use the back side of old documents for faxes, scrap paper, or drafts. Avoid color printing. Make it a policy to buy chlorine-free paper with a higher percentage of post-consumer recycled content.

Minimize travel

Make it a policy to invest in videoconferencing and other technological solutions that can reduce the amount of employee travel.

Reconsider your commute

Make it a policy to encourage telecommuting (a nice perk that's also good for the planet!) and make it easy for employees to take alternative modes of transportation by subsidizing commuter checks, offering bike parking, or organizing a carpool board.

Reduce exposure to harmful chemicals

Make it a policy to order nontoxic cleaning products. Brighten the office with plants, which absorb indoor pollution. Make it a policy to buy furniture, carpeting, and paint that are free of volatile organic compounds (VOCs). For instance, virtually every Knoll product meets the GreenGuard Indoor Air Quality Certified program, to protect workers' health.

Implication Six: Provide Healthy Workspaces

The Boomers started the trend of employees demanding and expecting a healthy workspace. There are two ways to impact healthy work in the office: select furnishings that minimize health risks from chemical exposure, and use workspace **products, design, and training** to protect employee health.

Use adjustable furnishings, flexible design concepts and training to reduce risk of injuries

Research shows that designing and specifying workstations and offices with as much flexibility and adjustability (including seating) as possible will reduce psychological stress and help to reduce musculoskeletal injuries. For instance, adjustable task lighting, storage, movable pedestal storage, adjustable monitor arms, key board trays and seating all provide employees more control over their work process. Adjustability and control has been linked to reduced stress and lower risk of heart disease (Karasek and Theorell, 1990; Rice, 2002; Business Week, 2006).

Summary: Office of the Future

Taken together, the macro issues we discussed are shaping the future of work and the workforce. People want to work for companies that stand for something whether it is sustainability, healthy workspaces, best practices for supporting mobile workers, or being an attractive place for workers of different generations to work together. At Knoll, we are integrating what we know about these trends into the design of our products so that we can continue to meet the needs of our customers.

Knoll research initiatives focus on links between workspace design and human behavior, health and performance, and the quality of the user experience. We share and apply what we learn to inform product development and help our customers shape their work environments. To learn more about this topic or other research resources Knoll can provide, go to www.knoll.com/research/index.jsp

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