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Prepared and designed by L. C. WILLIAMS & ASSOCIATES, INC.

Mission Statement

ASID means business through design excellence, professional education, market expansion, information sharing and the creation of a favorable business environment for interior designers.

About ASID

The American Society of Interior Designers (ASID), headquartered in Washington, D.C., is the oldest and largest professional organization for interior designers and has the largest commercial and residential membership.

With more than 30,000 members, ASID establishes a common identity for professionals and businesses in the field of interior design. ASID provides its members with ongoing support, education and resources.

Professional members of ASID must pass rigorous acceptance standards: they must have a combination of accredited design education and/or full-time work experience and pass a two-day accreditation examination administered by the National Council for Interior Design Qualification (NCIDQ).

Of the society's 20,000 practicing interior designers, 6,500 practice primarily in the commercial field with 4,000 practicing primarily as residential designers. The remaining 9,500 work in both commercial and residential design. ASID's membership also includes 7,500 students of interior design.

ASID's Industry Partners include more than 3,500 member firms and individual representatives, uniting the professional designer with manufacturers and suppliers of design-related products and services. As part of an ongoing research and education program, ASID is working with Industry Partners to examine the relationship between interior design and office productivity.

The association has 49 chapters throughout the United States and more than 450 international members. ASID was founded in 1975 with the consolidation of the American Institute of Designers (AID) and the National Society of Interior Designers (NSID).

ASID promotes professionalism in interior design services and products for the work, home, learning and commercial environments. To keep up with the unique needs of its members, ASID has created eight *Design Specialties*.

Network ASID, an on-line service, features specialized information, news bulletins, membership information, reports, publications, product options/availability and more.

ASID members also receive the most current information about appropriate materials, technology, building codes, government regulations, flammability standards, design psychology and product performance.

For more information about ASID, to be included on the list for future mailings on office productivity, or to locate an ASID interior designer, please contact or visit us at:

ASID

American Society of Interior Designers
608 Massachusetts Avenue, NE
Washington, D.C. 20002
Phone 202.546.3480
Fax 202.546.3240

www.asid.org (member and potential member information)

www.asidnews.com (media inquiries)

www.interiors.org or 1-800-610-ASID (worldwide referral service)

FOR ADDITIONAL INFORMATION

The following points of contact are available at each organization that participated in this project. Contact the person and/or the department listed for additional information.

ASID

Ross Leonard

Director, Industry Partnerships and **Business Development** American Society of Interior Designers 608 Massachusetts Avenue, NE Washington, D.C. 20002

202.546.3480 www.asid.org

Armstrong World Industries

Armstrong World Industries

Building Products Operations P. O. Box 3001

Lancaster, PA 17604

800.888.CEILINGS (234.5464) option 3

www.ceilings.com

Collins & Aikman Floorcoverings John Dunham

General Manager, Corporate Business Collins & Aikman Floorcoverings 311 Smith Industrial Blvd. P. O. Box 1447 Dalton, GA 30722-1447 800.241.4902, ext. 2032 www.powerbond.com

Steelcase

Douglas R. Parker

Director, Application Strategies

Steelcase P. O. Box 1967

Grand Rapids, MI 49501-1967

616.698.4488 www.steelcase.com **Contents**

- 2 President's Message by Joyce Burke-Jones, FASID, President
- 3 Theory: Identifying Productive Workplace Elements

Experts Survey and Literature Review

- 4 Five Keys to Create Productive Workplaces
 - " People Performance
 - " Technology
 - " Designed Environment
- " Human Resources
- " Workflow
- 6 Four Design Factors to Improve Productivity
 - " Access

" Privacy

- " Comfort
- " Flexibility
- 14 Practice: Putting Productivity Elements in Place

ASID Interview Insights

- 16 Principle 1: Integrate Design into the Organization's Strategic Plan
 - Step 1: Involve Employees in the Planning Process
 - Step 2: Work with an Integrated Team of Professionals
 - Step 3: Plan for Flexibility and Change
- 21 Principle 2: Support Cultural Change Through Redesign
 - Step 1: Reflect Changes in Leadership Styles
 - Step 2: Promote Communication and Teamwork
 - Step 3: Create Task-Based Workspaces
 - Step 4: Use Facilities to Improve Employee Satisfaction
- 26 Tools: Creating Productive Workplaces

Hands-On Questionnaires

- " Design Planning Guide
- " Questions for Leaders to Ask Themselves
- " Topics to Consider
- 30 Conclusion
- 31 For Further Reference
- 32 For Additional Information
- 33 About ASID

President's Message

The American Society of Interior Designers (ASID) is leading the way in the quest for answers to how design impacts productivity. As an association, we've made a commitment to study this important issue for our members and the business community, knowing it will impact how Americans work for generations to come.

Designers have always known, intuitively, that design can have an impact on the bottom line. But only recently have we been able to determine – with the use of sophisticated research – how right our intuition has been. ASID's goal is to explore how design can influence performance, change corporate culture and lead to a deeper understanding of how our office surroundings contribute to improved work life.

This white paper is one step in our mission to understand workplace productivity and design. It is based on the results of an independent research survey commissioned by ASID and conducted by L.C. Williams & Associates. In it, management consultants, university researchers and leading office designers were asked about keys to improving productivity and how office design contributes to the process. Interestingly, albeit not surprisingly, this current study reaffirms findings of a previous ASID survey of business decision makers, showing that there is a consensus on the connection between office design and workplace productivity.

The interview findings indicate that working with a designer as part of a multi-disciplinary, team-based approach is often the best way to start, plan for and implement improvements in workplace productivity. We are encouraged to find that more companies and professionals are beginning to use an integrated design strategy that teams designers with facility and human resource managers, as well as with management and technology consultants.

This comprehensive, holistic approach helps ensure that the redesigned workplace is aligned with new work processes and the organization's overall strategic goals. Working together – with the company's internal resources and outside professionals aligned together and working toward the same goals – we will develop solutions to satisfy client and employee needs and produce bottom-line benefits. In this paper, we have provided hands-on, practical tools to help you create a productive workplace.

ASID's next step is a critical field experiment to provide convincing data on the effects of design on workplace performance. This cutting-edge research will use the three performance measures most meaningful to business – improvements in employee satisfaction, customer satisfaction and financial performance. ASID invites you to join us as we watch for these exciting results.

As designers, we play a critical role in bringing together everyone's ideas and issues and translating them to create office designs that work. I am proud to lead this organization at such an exciting time in our distinguished history. The future workplace will surely reflect this undertaking.

Joyce Burke-Jones, FASID
PRESIDENT
AMERICAN SOCIETY OF INTERIOR DESIGNERS

FOR FURTHER REFERENCE

The following reference materials were used to develop this paper and provide additional details:

- Sound Solutions: Increasing Office Productivity Through Integrated Acoustic Planning and Noise Reduction Strategies, a professional paper from ASID, Washington, D.C., 1996
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- " The New Office, Francis Duffy, Conran Octopus Ltd., London, England, 1997
- " The Total Workplace: Facilities Management and the Elastic Organization, Franklin Becker, Van Nostrand Reinhold, New York City, 1990
- Total Workplace Performance: Rethinking the Office Environment, Stan Aronoff and Audrey Kaplan, WDL Publications, Ottawa, Canada, 1995
- " Workplace by Design: Mapping the High-Performance Workscape, Franklin Becker and Fritz Steele, Jossey-Bass Publishers, San Francisco, Calif., 1995

Evaluation strategies

- " Have we collected baseline data before moving on to issues such as productivity, communication, interaction, employee satisfaction and other areas that relate to the project goals?
- Have we developed evaluation systems including short-term post-occupancy reviews and long-term, ongoing periodic reviews? The systems are designed to ask two primary questions:
 - Is the new design meeting the desired goals now and for the future?
 - Where is further adjustment or redesign needed?

Conclusion

Increasing challenges and unrealized opportunities are forcing companies to look for better ways to improve productivity and efficiency. Thus, a growing number of companies are focusing on the designed environment as a key strategic component to improve workplace productivity – rather than just looking at office facilities as an expense. This shift in strategy means increased opportunities for interior designers, but it also brings a new set of demands and expectations. Increasingly, designers are being called upon to serve as consultants to help clients, and other professionals, take a strategic view when making office design decisions.

In the first part of this paper, we outlined the elements that create a productive workplace, including five keys to productivity and four design factors that impact productivity. This information was based on ASID research as well as a review of current literature. Following that, leading management consultants and interior designers explained how they use these elements to help clients create productive workplaces. Finally, we included hands-on tools to provide managers, designers and their clients with ways to incorporate these elements into their projects.

There are two critical overriding strategies or principles that companies can use to develop and implement the types of productivity improvements that will meet today's needs while providing flexibility to accommodate future changes. The first is to integrate design into strategic planning. The second is to help companies change their cultures by changing their environment and work habits. It is also important to integrate and develop comprehensive solutions with multi-disciplinary teams that simultaneously redesign both *how* and *where* people work.

Working as part of an integrated "productivity team" composed of various client departments and outside consultants working together to achieve the same goals, designers can help their clients turn their offices into "tools" that will yield long-term productivity benefits.

THEORY: IDENTIFYING PRODUCTIVE WORKPLACE ELEMENTS

This section contains the results of a research project conducted by the American Society of Interior Designers (ASID) in cooperation with three leading manufacturers of office systems and products:

Armstrong World Industries, Collins & Aikman Floorcoverings and Steelcase. The purpose of the research project was to identify overall factors that help improve office productivity, as well as specific ways that interior design helps create a more productive workplace.

Experts Survey and Literature Review

This project involved surveying three groups of productivity experts. The first group, management consultants, includes representatives from consulting practices at Big Six accounting firms and top-ranking executives at other firms who frequently address workplace design as part of their consulting work. The second group includes researchers from major universities who have investigated various aspects of productive workplace practices. The third group includes leading interior designers who have worked on numerous projects to design, or redesign, offices for improved productivity. Collectively, the survey respondents represent a broad range of knowledge.

Nearly 90 percent of the consultants, researchers and designers said that they have seen improvements in interior design lead to increases in office productivity. This reinforced a previous independent survey that ASID commissioned in which 90 percent of business executives, including chief executive officers (CEOs), presidents, chief operating officers (COOs) and facility managers at small, mid-size and large companies also reported positive effects of design on productivity.

In addition, the productivity experts survey identified five key factors for creating and maintaining productive and efficient offices: people performance, designed environment, workflow, technology and human resources.

The experts also reaffirmed the findings of the previous survey of business executives, confirming the four primary ways in which interior design affects office productivity: access to people and resources, comfort, privacy and flexibility.

Five Keys to Create Productive Workplaces

The productivity experts who were surveyed, including management consultants, university researchers and interior designers, overwhelmingly cited five keys to create productive workplaces. These keys are essential components to help improve the performance and efficiency of individuals, teams and organizations.

The respondents also offered a number of suggestions on how to address each of the five productivity keys. Many of the respondents have seen these steps help improve productivity and efficiency for organizations.

People Performance

- " Hire and retain effective personnel and management
- " Create a team atmosphere by facilitating communication and interaction
- Empower employees and give them input into planning their workplaces

Designed Environment

- View the workplace as a *tool*, rather than just another expenditure
- Provide adequate access to resources, including team members and equipment
- Accommodate ergonomic needs, such as comfortable seating and flexible workstations
- Create an inviting, pleasant office atmosphere
- Reduce distractions and disruptions that hinder employee concentration by designing acoustically sound work environments that provide appropriate levels of privacy

Workflow

- Redesign work processes and the physical environment to improve workflow within workstations and throughout the office
- Implement process efficiencies and reduce disruptions in workflow

Technology

Supply the right tools – computers, software and other appropriate

HOW DESIGN INCREASES PRODUCTIVITY: EXPERT INSIGHTS

Make purchasing and planning decisions with an eye to accommodating future needs

Topics to Consider

Here are key factors for organizations that are looking to redesign their offices to improve productivity:

Mission and core values

- " Who are we as an organization?
- What are we trying to do?
- What are our strengths, weaknesses, opportunities and threats?
- How do we want to work, as individuals and as groups?
- How do we want to communicate?

Employee involvement

- Have we provided a variety of formal and informal means for employees to express their opinions, including company meetings, e-mail, etc.?
- Have we involved a representative sample of employees in the planning process?
- Do people involved in the planning process feel free to express their opinions?
- Are we involving people in the planning process efficiently and to maximum advantage?

Project requirements

- Can we reduce space and related costs?
- How do we maintain or improve environmental quality?
- What is the best way to accommodate unpredictable organizational change?
- How can we support new work and communication patterns for individuals and teams?
- Do we want to accommodate a more diverse workforce in age, gender and lifestyle?
- What do we need to exploit new information technologies?
- Do we want to adopt more flexible work patterns?
- In priority order, what are the performance goals for the redesigned office?
- What problems are we looking to eliminate through redesign?
- Does the proposed design reflect or contribute to the organization's overall strategic goals?

Behavioral objectives or desired ways of work

- How are individuals, groups and the whole organization to work and communicate in the new office environment?
- What changes need to be made in the way people and groups currently work and communicate?
- What changes need to be made in the office design to support these changes in work and communication patterns?

Corporate objectives

- Are we sufficiently changing where people will work to keep pace with how they will work?
- Will the new design support differences in work processes?

Furniture and Equipment Analysis

- Do employees feel their workstation areas are adequate to support their job function?
- Are ergonomic issues addressed do chairs, desks and work areas provide proper support and offer flexibility to adjust to different workers' needs?
- " What equipment do people use and how do they use it?
- " What types of shared equipment and services are needed, and where should they be located?
- In what ways do employees feel that furniture and equipment reflect their personal and professional identity or job status?
- " What do employees envision as being a functional and efficient workstation?
- Do employees have sufficient access to shared hard copy information (files, manuals, etc.) and equipment?
- Do employees have convenient access to the right types of electronic data tools when and where they need them?

Questions for Leaders to Ask Themselves

- Do we, as an organization, have a common language and a shared vision about what our facilities need to be like in order to support where we want to go as a company?
- Are we truly committed to producing change or do we just want to do the same things in a new or different-looking space?
- Are we setting clear overall direction for the company, leading the effort to define key challenges and opportunities and then making sure these are addressed in the new office design?
- Have we committed sufficient time and resources to develop a long-term strategic facilities plan that can be integrated into our overall strategic vision?
- Are we setting the overall "feel" or "atmosphere" to create the corporate culture we desire and making sure that the design supports this culture?
- Are we committed to long-term monitoring of how well our work settings fit with the goals and processes of the organization?
- Are we taking a clear role in establishing the goals and boundaries for the redesign project?
- Are we communicating about the redesign project, its goals, the expected effects on the organization and its members, the time frame and the different stages?
- Do our personal work processes and the work policies we adopt truly reflect our stated organizational objectives and does the design support these objectives?
- Are we modeling effective use of our own workplaces to set a tone of thoughtfulness and conscious choice-making for employees involved in the planning process?

Human Resources

- Offer training and education opportunities
- Maintain adequate support staff levels
- Provide competitive salaries, bonuses, rewards and other incentives
- Adopt flexible policies, such as flex-time and telecommuting

Productivity Keys Ranked

Respondents in the most recent ASID research survey agreed on the importance of the five productivity keys. In addition, responses from previous ASID research that surveyed business decision makers showed that facility managers at large corporations and presidents/CEOs at small and mid-size companies also recognize the importance of these keys to productivity. The chart below illustrates how each group ranks these keys.

Five Keys to Create Productive Workplaces – Priority Ranking

Productivity Keys	Management Consultants	University Researchers	Interior Designers	Facility Managers	Presidents/ CEOs
People Performance	1	1	2	4	2
Designed Environment	4 (tie)	2	1	1	4
Workflow	3	4	5	5	5
Technology	4 (tie)	5	3	2	3
Human Resources	2	3	4	3	1

As the chart shows, people performance issues (such as effective managers, team atmosphere, and motivated and empowered employees) tended to be mentioned most frequently by management consultants and university researchers as the most important key to productivity. Understandably, interior designers and facility managers most frequently cited the importance of designed environment (including adequate access to resources, team members and equipment; flexible workstations and addressing ergonomic needs) as the primary key to productivity.

The chart also shows that presidents and CEOs see human resources support and people performance as the most important issues, suggesting that there may be different priority pathways to talking about design and its role in contributing to productivity. For presidents and CEOs of small and mid-size companies, design may have to be talked about in terms of how it impacts people and the way they work.

Four Design Factors to Improve Productivity

Respondents polled in ASID's two recent surveys – consultants, researchers, designers and executives – agreed on four design factors that contribute to improved office productivity: access, comfort, privacy and flexibility. These factors also are addressed in much of the literature on design and workplace productivity issues.

All four design factors are part of an effectively designed workplace. They affect the physical environment of the office by improving one or more of the five keys to a productive workplace. The following diagram illustrates the direct relationship between these elements.

People Performance Designed Environment Workflow FLEXIBILITY FIVE PRODUCTIVITY KEYS People Performance Designed Environment Workflow Technology Human Resources

A Closer Look at the Four Design Factors

The factors are categories used to organize the answers that survey respondents gave when asked to list the primary ways design affects productivity. Under each category, we have listed strategies and tactics for improvement that were suggested by the respondents.

DESIGN TO PROVIDE IMPROVED ACCESS

- Group team members together to improve workflow
- Improve access to information and resources, including computer systems, shared equipment and hard copy files
- Eliminate communication barriers and provide meeting spaces to facilitate collaboration

ACCESS People Performance Designed Environment Workflow Technology

FIVE PRODUCTIVITY KEYS

Spatial Analysis

- What is each individual employee's "ideal" workspace and how can these ideas be applied to the reality of the workplace?
- How much space do current workers require to effectively perform their tasks and how likely is this to change in the next three to five years?
- Do employees feel their work areas are adequate to support their job function?
- Which people, teams or departments need to be located close together to support functional efficiency?
- " Where should shared equipment and other resources be located?
- Are there ways in which "spatial connections" can be used to overcome departmental or other organizational barriers?
- Are there different types of spaces where employees can accomplish different types of activities informal discussions, team meetings and heads-down/high-concentration work?
- Are there places where employees can go for "deep thinking" or for a brief period of regeneration?
- Can employees conveniently access other people or office equipment they need to get their work done?

Environmental Analysis

- How satisfied are employees with their current physical environment what do they want changed?
- What affect do employees feel their environment has on their performance and productivity?
- Do employees feel they have sufficient control over their personal environment (temperature, ergonomics, privacy and lighting)?
- Is the air quality satisfactory is there sufficient airflow, rate of exchange, purity, etc.?
- Is the temperature comfortable and appropriate for employees' respective tasks?
- Are employees and supervisors comfortable with the level of privacy from auditory and visual distractions?
- Are the types and placement of lighting satisfactory to meet employees needs natural light, task lighting, limiting glare on computer screens, sufficient individual control over lighting levels in their work area?
- Does the look and functionality of the office help or hinder efforts to attract and retain top talent?

Communications Analysis

- With whom do employees communicate where, when and how often? Do they consider these communication patterns acceptable or desirable? How likely is this to change in the next three to five years?
- What sorts of communications problems are present within or between departments?
- Can employees meet with co-workers conveniently and effectively?
- Are there spaces that make it easy for groups to meet informally, both within their own teams and across team boundaries?
- Are there gathering areas to attract people and encourage them to have "accidental" meetings and talk informally?

FOUR DESIGN FACTORS

TOOLS: CREATING PRODUCTIVE WORKPLACES

The following three questionnaires were developed from a variety of sources, including interviews and a review of current literature. They were developed to assist managers, designers and their clients in applying the research findings as part of the process of creating new and more productive workspaces. The questions address issues pertinent to the five keys to a productive workplace: people performance, designed environment, workflow, technology and human resources. They also address the four design factors that improve productivity: access, comfort, privacy and flexibility.

Hands-On Questionnaires

DESIGN PLANNING QUESTIONNAIRE

Organizational Analysis

- " What are the major design-related obstacles to productivity and how can they be eliminated?
- Is the organizational structure stable or is it likely to change in the next three to five years?
- How many people are to be accommodated in the space? Is headcount stable and is it likely to remain so for the next three to five years?
- Who works here now and who is likely to work here three to five years from now? What are these employees' expectations and work styles and how can we keep up with their changing needs?
- What is the nature and extent of technology currently used in the office and how can we accommodate change?

Task Analysis

- " What types of activities or tasks need to be accommodated?
- How do employees work now and how do they want to work?
- What are the work styles of individual employees and teams and how can we adapt the physical environment of the office to fit them?
- " What do employees need to be more efficient and productive?
- How does the work of individuals and teams relate to other parts of the organization and how can we accommodate change?
- Is the company providing types of spaces and equipping them in a way to support individual and group creativity and innovation?

Access strategies can be used to improve communication and interaction, according to Franklin Becker in his book, *The Total Workplace: Facilities Management and the Elastic Organization*. "Adjacencies can be designed to support groups that should communicate but, without close proximity, are unlikely to do so," Becker says. "In other words, spatial bonds can be used to overcome organizational barriers."

In his book, *Making and Managing High-Quality Workplaces: An Organizational Ecology,* Fritz Steele adds that a balance must be achieved between access to people for communication and stimulation versus withdrawal for concentration. In addition, Steele states that it also is important that access to executives be aligned with management leadership styles.

DESIGN TO PROVIDE MORE COMFORT

- Accommodate ergonomic needs with comfortable chairs and adjustable desk configurations
- Improve lighting, air quality and temperature control
- " Create a more comfortable and pleasant overall environment, including high-quality office furniture and carpeting

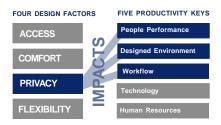
In their book *Total Workplace Performance*, Stan Aronoff and Audrey Kaplan discuss the importance of creating a comfortable and pleasant work environment: "A strategy of simply minimizing space cost assumes that spending less on accommodations or decreasing the space allocated per person does not affect work output. Although the relationship between workspace quality and office worker productivity may be difficult to quantify, it is nonetheless a significant hidden cost."

Aronoff and Kaplan add, "Well-managed facilities contribute to an organization's effectiveness and improve employee morale. Office characteristics that create obstacles occupants must overcome – such as noise disruption, sick building symptoms, insufficient work area or poorly adjusted seating – sap energy that could otherwise be applied to productive work. If ignored, they can be an unrecognized but costly burden that drains productivity and compromises corporate objectives."

Workplace redesign that is geared to improving business processes – rather than just providing cost savings – and creating a pleasant environment focused on employees' needs is more likely to improve employee satisfaction with the



designed environment. This was one of the findings of the report *Implementing Innovative Workplaces: Organizational Implications of Different Strategies*, developed by Franklin Becker, Kristen Quinn, Andrew Rappaport and William Sims with the Cornell University International Workplace Studies Program (IWSP).



DESIGN TO PROVIDE SUFFICIENT PRIVACY

- Provide an appropriate level of privacy based on specific work tasks
- Reduce visual and acoustical distractions

Becker, writing in *The Total Workplace*, stresses that privacy should be afforded based on the nature of the task to be accomplished, rather than on the status of the person doing the task. "Using privacy as a scarce resource to communicate status thus lowers its value as a functional component of the everyday work environment for employees representing a cross section of job functions and levels," Becker says.

According to Steele, in *Making and Managing High-Quality Workplaces*, giving employees the option to choose whether they want to work in an area that provides more privacy or one that provides more stimulation is an effective way to reduce stress and improve performance. Two alternatives are mixed-plan layouts and remote work options, making it easier to accommodate employee differences in sociability patterns.

FOUR DESIGN FACTORS ACCESS COMFORT PRIVACY FLEXIBILITY FIVE PRODUCTIVITY KEYS People Performance Designed Environment Workflow Technology Human Resources

DESIGN TO PROVIDE ADDED FLEXIBILITY

- Design workspaces and floor plans so they are easy to reconfigure
- Plan for changes in teams, tasks and processes
- Balance organizational and individual needs

In his book *The New Office*, Francis Duffy states, "Just as a business must flex and change to survive, so the most vital function of an office building is to facilitate and accommodate change. And in an increasingly fluid business environment, the relationship between success and the design and use of the office space is critical."

Duffy emphasizes the need to find dynamic new ways to accommodate everchanging organizations that continually have to respond to an increasingly

Step 4: Use Facilities to Improve Employee Satisfaction

Companies can use office design to ease the transition to new work styles. Getting rid of disruptions and providing employees with comfortable surroundings that support their needs in an attractive setting can transform attitudes about work and the workplace to fuel corporate pride as well as increased productivity and efficiency.

BELL: We've seen a high correlation between employee satisfaction with the work environment – including rules, technology and office design – and organizational success. Work environments that are designed to satisfy employee needs help companies recruit and retain the best, brightest and most creative people.

PRODUCTIVITY KEY: TECHNOLOGY

The real key to improving worker satisfaction and effectiveness is to create an environment through new policies, new technologies and physical redesign of the workplace that supports and encourages improved work styles.

MISCOVICH

LEISEROWITZ: It's very important for people to be proud of where they work. With a lot of people – especially Generation Xers who question everything about corporate America – this is key. Today it's all about maximizing intellectual capital, and this requires more effective work processes and a supportive environment. When you create a work environment that is efficient and that people are proud of, job performance improves.

WHEELER: A recent *Fortune* article on the "100 Best Companies to Work for in America" mentioned three key factors that survey respondents used to determine the top places to work: inspired leadership, knockout facilities and corporate vision. I thought it was very telling that design was one of the top three factors.

BELL: Work environments that adapt to support the way people want and need to work strengthen morale and give people a positive attitude about their work life. Out of this flows a higher degree of productivity.

WHEELER: Of course we can't design around a particular person's work style or personality because that person may leave. However, we want design to empower the staff so they can control their personal work environments while still maintaining corporate boundaries and standards. This allows employees to create an environment they want that addresses their personal needs.

BELL: Providing choices for employees – both in design and other issues – is becoming an entitlement issue. Today, valuable people are saying, "If this company doesn't have flex-time or won't let me work at home part of the time, then I'll go somewhere else."

WHEELER: It's not just about opportunities anymore. Facilities show how the company feels about you. Are you valued or are you seen as someone who can easily be replaced? Facilities are becoming a key point for attracting and retaining workers.

Step 3: Create Task-Based Workspaces

Rather than being status-based, workspaces are often based on the particular tasks to be accomplished within them. Thus, offices must reflect an understanding of the work that individuals, teams and departments do and how they do it.

LEISEROWITZ: We're seeing a trend toward creating specific areas for different activities such as project rooms, quiet rooms and guest areas, as well as collaborative environments that promote teamoriented work and facilitate interaction among employees.

LINSTER: Work is process based, and workflow is defining workspace needs based on job function. The design needs to take into account the unique requirements of each client, including specific needs for tasks and departments.

DUFFY: Sometimes we'll "shadow" employees to see how they work and interact. We'll watch people and groups to chart their work habits throughout the day to see what they do and how they do it. This process helps designers "see" things that people forget to tell us. We watch in a unique way, catching and retaining information on how the environment supports or hinders their work processes. Through this process, we gain insight into how the current spaces are used at different times by different people. This knowledge is invaluable in planning the new space.

PRODUCTIVITY KEY: PEOPLE PERFORMANCE

Research shows that the work environment has an impact on employees' satisfaction with their jobs and, as a result, on their productivity. Everything has influence, from layout and configuration of the space to acoustics, lighting and ergonomics.

LINSTER

WHEELER: People work in a variety of ways and they need the flexibility to work in different types of spaces as their tasks change. They may need private or "cave" space for concentrated or confidential work, semi-private space for heads-down work on computers and public space for teaming and collaboration.

SMITH: "I can't think in this place" is the biggest complaint we hear from people as they try to work in open space that was designed to foster interaction and divergent thinking. Managers often fail to recognize that some of their people also need to think convergently – to focus on a task without distraction. To support both types of thinking, we encourage creation of a flexible "selforganizing" workplace that includes both open and enclosed,

unassigned workspaces. With this plan people can choose to work in the environment that best supports the kind of work they need to do at a particular time.

BELL: Old-style conference rooms don't support teaming. Newer approaches provide places to plug in computers and conference phones, have videoconferencing capabilities and provide lots of places to put things like pin boards, flip charts and white boards.

HOW DESIGN INCREASES PRODUCTIVITY: EXPERT INSIGHTS

Sound Solutions for Privacy

ASID's Sound Solutions
professional paper states that
office employees feel that noise
and other auditory distractions
are one of the biggest problems
in open plan environments.
Employees who responded to
surveys for this paper said that a
lack of auditory privacy affects
their job satisfaction and
performance.

Sound Solutions recommends an integrated approach to improving acoustics throughout the whole office. This will provide greater flexibility to accommodate future changes in privacy needs. A designer can implement this integrated approach by using the "right mix" of elements, including high-performance acoustical ceiling tiles, sound masking systems, adjustable-height workstation panels, and carpeting with high-density cushioning. Regardless of how space is reconfigured in the future, such as new team spaces or mixed-plan layouts, these elements are critical to provide appropriate privacy levels for each work area.

unstable and unpredictable business environment. "Old-fashioned, hierarchical, stable ways of laying out offices cannot easily cope with change, let alone help with its management."

The benefits of providing flexible workplace options inside and outside the office also are extolled in the report *New Working Practices*, developed by Franklin Becker, Kristen Quinn, Andrew Rappaport and William Sims with the Cornell University IWSP. The report states that flexible office designs help improve productivity, communication and employee satisfaction while reducing employee stress and, in some instances, space costs.

Design Factors Ranked

Respondents in both ASID surveys agreed on the top four design factors that help improve productivity. There are different priorities cited by each group as detailed in the following chart, but there is a general consensus.

Design Factors – Priority Ranking

Design Factors	Management Consultants	University Researchers	Interior Designers	Facility Managers	Presidents/ CEOs
ACCESS	1	3	2	1	1
COMFORT	2	1	1	2	2
PRIVACY	3	2	3	3	3 (tie)
FLEXIBILITY	4	4	4	4	3 (tie)

As the chart shows, access and comfort are mentioned most frequently as the two most important design factors by the respondent groups. These two factors address immediate needs. Flexibility typically is a lower priority because it is future-oriented and companies often are focused primarily on addressing more immediate issues first.

Also of note, presidents, CEOs, consultants and facility managers all readily cite access improvement as the designer's primary contribution to workplace productivity, largely because of the focus that these respondent groups place on process efficiencies.

ARTHUR ANDERSEN is an

excellent example of a company that has made facilities design and planning an important part of its overall strategic planning effort to improve organizational effectiveness. The company viewed interior design and planning as an "essential element" in making its new worldwide headquarters in Chicago "a great place to do great work."

"We recognize that the design of our facilities is critical to creating effective workplaces that will support our business objectives, and this has forced us to approach the workplace environment in new and different ways," said Richard Measelle, former worldwide managing partner of Arthur Andersen. "Our space management function has become much more strategic in providing support to our business, responding to new work requirements and reflecting our overall multi-disciplinary approach to business."

According to Measelle, business leaders need to look for interior designers who understand their company's goals and can translate them into the kind of space that will drive their business in the desired direction. The best design solutions also send the right messages about the company's image and values.

10

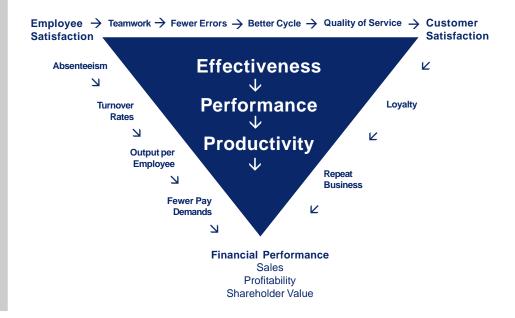
What is Productivity?

Nearly all of the consultants, researchers and designers surveyed say that productivity depends on the nature of the client's particular business. They also agree that the meaning of productivity changes from client to client and project to project. Thus, productivity is best defined as a general concept similar to effectiveness and performance.

Current thinking suggests that there are three primary components of productivity: employee satisfaction, customer satisfaction and financial performance. Employee satisfaction factors include teamwork and absenteeism. Customer satisfaction factors include loyalty and repeat business. Financial performance factors include sales, profitability and shareholder value. The following diagram illustrates the relationships between these factors.

In future research, ASID will investigate the impact of design on all three angles of the "productivity triangle" — employee satisfaction, customer satisfaction and financial performance.

Employee and Customer Satisfaction: The Road to Financial Performance



to improved communication. We were able to prove that it was a well-grounded decision because we developed a way to measure the return on investment.

WHEELER: A growing number of companies are creating special areas to draw people together, making them fun or comfortable to attract people to meet, talk and brainstorm. In a project we did for an advertising agency in Minneapolis, we designed a break room as a diner. The client doesn't just *allow*, they *encourage* people to sit in the diner booths and meet because that's where creative thinking can take place. This is an example of how a company can use design to get people to work in new ways. At the same time, it establishes a creative environment that helps companies attract and retain talented employees.

MISCOVICH: Today, offices are primarily for individual work, learning and little socialization. In the future, the office will become much more a place for socialization, interaction and learning. But the Puritan work ethic has us asking, "Does time spent talking over espressos in the office coffee bar produce value?" In many cases the answer is yes, it does produce value.

WHEELER: Working in an open environment changes people and the culture. Those of us with loud voices learn to speak quietly. You modify your behavior for the good of the group. People are neater. Instead of e-mailing someone, you go over and talk to them because they're right there.

BELL: There is an increasing need for people to work collaboratively to meet customer needs and complete projects, rather than reporting up through the old hierarchical structure. Collaborative work is happening at an exponential level, and the physical environment of an office can either be very supportive or terribly constraining and disruptive in accommodating this change.

RYBURG: The size of floor plates in facilities is important for open communication and team efforts. In large-scale reorganizations, a key goal is often to create "communities" of employees who work together efficiently. But once you get too many people on a floor plate you can lose the benefits of community. Companies with small floor plates or ring-shaped floors connected by elevators do have options to help improve interaction. For example, they can cut holes in the floor for large staircases that improve access and encourage interaction.

LEISEROWITZ: Teams often function best in open spaces with no closed doors. That way, people don't have to be part of every conversation – they can gather information through osmosis. When employees are out of each other's sight, this kind of informal knowledge sharing doesn't happen.

RYBURG: In many cases, teams are in a constant state of flux and the facilities need to be able to keep changing to provide the support they need with just-in-time workplaces. The most productive companies redesigned their offices to increase the ratio of meeting spaces to individual offices by a factor of three, which improves team communication and efficiency.

23

HOW DESIGN INCREASES PRODUCTIVITY: EXPERT INSIGHTS

PRACTICE: PUTTING PRODUCTIVITY ELEMENTS IN PLACE

Step 1: Reflect Changes in Leadership Styles Through Redesign

Transforming the culture of a company requires changing the way executives manage and how they interact with employees and each other. Office design can play an important role in communicating how committed the company and its executives are to real change.

BELL: Authority systems and leadership styles are changing in American business. Today, most executives want to be visible and accessible. They don't want to be anonymous, behind three levels of

PRODUCTIVITY KEY: DESIGNED ENVIRONMENT

Leaders want to be more interactive today and workspaces must allow for that. Being in a workstation near the rest of the employees rather than in a closed office makes it easier for managers to interact and work with teams.

MONTGOMERY

security and isolated in a corner office. Executives want to be less than a minute away from key staff members and they want to allow people access for impromptu meetings. I've done work with three CEOs who have "come down from the mountain." By moving into the center of the building, they were perceived as being more a part of what was going on in the workplace.

LEISEROWITZ: It's harder for employees to meet with an executive behind a door – in some cases it requires an appointment. That level of inaccessibility and inflexibility can lead to inefficiency. Recognizing this, a lot of executives today are more hands-on than they used to be. Companies want executives to lead corporate thinking more than manage people, and that requires more interaction and collaboration.

Step 2: Promote Communication and Teamwork

Communication and interaction are important in today's fast-paced work culture. Increasingly, employees work together in teams to increase productivity and speed up the work process. Thus, office design must provide team members with easy access to each other and to resources and informal spaces where they can meet, either by schedule or spontaneously.

LEISEROWITZ: Open office designs can play a critical role in fostering open communications by creating a feeling of energy and openness that encourages people to interact and share information.

LINSTER: Workspace design needs to facilitate interaction. On the other hand, good design must also provide an appropriate level of audio and visual privacy.

KANE: Managers say they know workplace innovation can improve productivity, but they don't know how to measure it. They say, "Help me sell it to my board or management," and that's what we do. One client put escalators rather than elevators into their new facility because they believed it would contribute

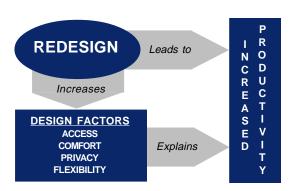
Where Do We Go From Here?

To further explore the impact that redesign has on productivity and performance, ASID and its partners – Armstrong World Industries, Collins & Aikman Floorcoverings and Steelcase – are conducting a field experiment. The experiment's ultimate goal is to provide hard evidence for CEOs that redesign leads to increased performance in the workplace.

To measure and prove the difference redesign makes, the experiment involves a number of organizations, each selecting four offices. Two of each organization's offices are being redesigned, the other two are not.

A second thrust of the experiment aims to explain how redesign increases performance – improving access, comfort, privacy and flexibility.

The Links



Before and after redesign, business performance measurements are involved in the project. Increased performance is measurable by improvements in three primary areas: employee satisfaction, customer satisfaction and financial performance.

The Links



A minimum of two types of measures, attitudinal surveys and physical tests, are used to measure design factors such as access.

Example REDESIGN Leads to CREASED **ACCESS** Increases **ACCESS** Explains **Attitudinal:** Physical: New floo Employees agree they plan shows greater can easily access access to office office equipment equipment

Performance measures for the three primary areas of employee satisfaction, customer satisfaction and financial performance are comprised of two types of measures: behavioral and attitudinal. The behavioral measures provide more concrete evidence for CEOs, such as actual reduction in customer complaints, actual increases in orders filled per employee, etc.



PRINCIPLE #2 Support Cultural Change Through Redesign

Office design is evolving to reflect a modified corporate culture. Today's offices are often not about who you are but what you do, which reflects the decreased importance of status and the new ways that companies and employees see themselves. Interior designers and consultants agree that office design plays an important role in reflecting and shaping culture and, thus, is a critical "change agent."

BELL: Companies should not consider the work environment as an afterthought. The physical work environment has to be entirely consistent with the strategic intent of the organization and the culture it is trying to create. If it isn't, people will spot it immediately, and the whole strategy can be placed at risk.

MONTGOMERY: Today's designers are part designer and part management consultant. Productivity often increases when new design sparks cultural change and encourages a new way of working and interacting at all levels.

MISCOVICH: The physical environment should reflect who the company says it wants to be and how the company says it wants to work.

RYBURG: The corporate world is divided about 50-50 on whether or not modifying a facility makes a difference in changing the corporate culture. Some CEOs feel facilities don't matter at all. Other CEOs will pound the table and say, "We could never have achieved the changes we wanted to achieve in our organization and culture without completely redoing our headquarters or building a whole new facility."

MONTGOMERY: Training is a critical component of cultural change. We have discovered that if you

PRODUCTIVITY KEY: HUMAN RESOURCES

It is far more difficult to change the culture of an office if you don't also modify the physical setting. You have to eliminate all the visual cues of the old culture. You can't preach empowerment and teaming and have everyone sitting in hardwalled, hierarchical layouts – it just doesn't fit.

BURKE-JONES

don't help staff members become comfortable with new space and equipment, they won't know how to use these tools and productivity will not improve. You can't assume people will "get it" without training. The designer must work this through with employees, perhaps with human resources help, as part of the design process.

WHEELER: Culture can be slow to change. Deciding who gets window offices, for example, becomes an issue when it is a part of the culture of some companies that represents hierarchical structure. Window views become an issue when companies try to become less hierarchical. Some companies try to foster this new culture by creating a corridor along the windows and putting glass-walled executive offices in the center, or core, of the floor. Others have the kitchen, break room or other common area in a location with the best views. This draws people into the best spaces for informal meetings and communication then increases.

Step 3: Plan for Flexibility and Change

Competitive pressures force companies to be flexible. As work patterns evolve and new technologies emerge, adapting workspaces to change becomes even more critical to reducing operating costs and decreasing the costs and stress of churn, whether that means headcount changes or reconfiguring the work environment.

KANE: A key to strategic planning is helping companies accommodate future change. We help customers rethink and restructure their workplaces to develop a totally flexible design strategy that can be modified in light of evolving information technology and organizational modifications.

LEISEROWITZ: Business today is all about speed and change. Everything is happening at a much quicker pace. Our clients make decisions very quickly in a work environment that must keep up with the changes. This in turn affects how people work and how office environments are planned and designed.

BURKE-JONES: In addition to struggling with the demands of internal changes, our clients' facilities also must support them in responding to all the demands made by their customers. Both sets of demands need to be accommodated, and this requires a strategic, long-term viewpoint.

PRODUCTIVITY KEY: TECHNOLOGY

Flexibility and adaptability are critical in office design because the workspace must support the changes that are happening within the office and the organization. Alterations in organizational structure and work patterns – as well as changes in information technology and mechanical, electrical and telecommunication systems – all must be supported.

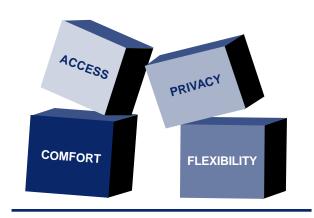
DUFFY



Hypothetical Linkage: Performance to "Access"

Customer orders have increased because the company's service is faster (according to customers) and order speed is enabled by improved access to equipment.

ASID will examine the hypothesis that redesign improves performance (e.g., increased customer orders), and that more orders are received due to better access to equipment by employees, which enables more efficient order processing.



ASID will attempt to prove links through all four critical design factors.

14

PRACTICE: PUTTING PRODUCTIVITY ELEMENTS IN PLACE

ASID interviewed leading management consultants and interior designers to discuss the ASID research findings. Consultants and designers also were asked how the principles from the research can be used to help clients improve office productivity.

ASID Interview Insights

In a series of wide-ranging, one-on-one discussions, the consultants and designers were asked to address the five keys to productive workplaces from the survey: boosting people performance, enhancing the designed environment, improving workflow, accommodating technology and integrating design with human resource policies. They also discussed how to develop productive offices using the four design factors identified in the research: access, comfort, privacy and flexibility.

Putting the interviews in a broader context, ASID identified two main concepts or principles: 1) organizations need to integrate design into their overall strategic plans, and 2) office redesign should be used to support cultural changes which are needed when implementing new work processes and policies. These principles are strategic issues that organizations need to address to improve workplace productivity. In addition, ASID consolidated the individual interview observations into steps or tactics that companies can use to achieve the strategic objectives.

Leading office designers interviewed included:



Joyce Burke-Jones, FASID, president of ASID and principle at Buckminster Fuller, Sadao & Zung Architects in Cleveland



Tama Duffy, ASID, principal and vice president, Perkins & Will in New York City



Nila Leiserowitz, ASID, vice president, Gensler in Santa Monica, Calif.

PRODUCTIVITY KEY: HUMAN RESOURCES

As designers, we commonly ask to talk with human resources professionals to get their input because they know what employees want and what employees complain about the most. This cross-functional approach helps create facilities that will support companies' efforts to attract and retain talent.

WHEELER

BELL: To develop really effective solutions that will produce long-term benefits, everyone needs to be on the same page. It has to be a holistic approach integrating various disciplines, and this must begin early in the planning process. When there is a team approach, the group benefits from the collective knowledge, experience and judgment of everyone involved. This means better solutions delivered more efficiently.

MISCOVICH: There are many advantages in taking a comprehensive multi-disciplinary team approach. There is better coordination and everyone is speaking the same language and focusing on the same strategic objectives. The client benefits from a better, more effective solution and a smoother, faster implementation process.

LINSTER: Increasingly, team approaches are being used in the design process. We're seeing more teaming between designers, technology specialists and facilities management. Together, we can provide clients with a more comprehensive solution to redesigning the workplace, as well as the way people work.

KANE: We work directly with an organization's change managers and any consultants they are working with to integrate process re-engineering with workplace redesign strategies. We also involve a number of

PRODUCTIVITY KEY: WORKFLOW

An integrated workplace redesign strategy requires that everyone – including company executives, facilities managers, human resource professionals and designers – understands the business strategy and how work flows within the organization. This assures that everyone is on the same page in redesigning workflow processes and the work environment.

RYBURG

departments such as real estate, facility management, human resources and information technology and make sure they are integrated with the design function. The end result is a workplace optimized to support new work processes and flexible enough to support future change.

SMITH: Developing cross-departmental understanding of how workplace design can affect employee performance throughout the organization is crucial. When we help people from human resources, facility management, information technology and finance use a common language to discuss work and workplace planning, we minimize unproductive, competitive approaches. With a cross-departmental approach, plans to redesign work processes and develop a supporting design plan have a much greater chance of success.

WHEELER: Companies are beginning to realize that they get the most rewards from office redesign when there is a common vision and employees are involved in the design process. Rather than just

assembling a team of executives, we involve as many users as possible.

PRODUCTIVITY KEY: PEOPLE PERFORMANCE

It's crucial that employees be given responsibility for analyzing how their workspace gets in the way of achieving their best performance. When the office is redesigned to remove these interferences, employees feel more invested in their jobs and much more accountable to achieve their best performance. This produces enormous payback.

DUFFY: We've found that when we open up the discussion to include those employees with passion and vision about their jobs and their professions, great things can happen. We also try to talk to employees identified by management as innovators about what they would like to see accomplished with office design as it relates to how they communicate and how their professions are changing.

WHEELER: We ask employees what they like and don't like about the current office design. We attempt to create a common language and develop a common vision. We have group meetings and ask ourselves, "What are the possibilities?"

LINSTER: We conduct focus groups with employees to develop an understanding of how they work, what their roles are and what changes need to be made to help them be more efficient. We share employee input with executives and from there develop a shared vision that will drive the design of the project.

MONTGOMERY: When we're dealing with change, we try to talk with excitement to encourage buy-in to the process. We show employees and managers all the possibilities in an informal manner to build understanding and consensus.

Step 2: Work With an Integrated Team of Professionals

A growing number of professionals, including leading designers and management consultants, recognize the benefits of combining their knowledge and expertise as part of multi-disciplinary teams that often include facilities, technology and human resource managers. Aside from making sure everyone is working toward the same goals, a team approach also improves communication and coordination.

MISCOVICH: Our concept of "workplace transformation" involves integrating and aligning professionals in various disciplines that impact those factors critical to the redesign process. This includes change management, re-engineering, and consideration of business strategy and context, management philosophy and policies, corporate values and culture, human resources, work processes, information technology, the physical environment and training.



Janice Carleen Linster, ASID, project director at Ellerbe Beckett, Inc. in Minneapolis



Kathy Ford Montgomery, FASID, past president of ASID and president of Kathy H. Ford Interiors, Lubbock, Texas



Gary Wheeler, FASID, former president of ASID and principal at Perkins & Will in Chicago

Management consultants interviewed included:



Michael Bell, managing director of the Price Waterhouse corporate real estate consulting services group in New York City



Tim Kane, president of Kinetic Workplace Consulting Group in Pittsburgh



Peter Miscovich, director of the workplace transformation practice for Arthur Andersen, New York City and former president of Interior Space International, an interior design firm



Jon Ryburg, president of Facility Performance Group, Inc. in Ann Arbor, Mich.



Phyl Smith, president of Working Spaces in San Francisco

PRINCIPLE #1 Integrate Design into the Organization's Strategic Plan

Integrating facilities design into the overall strategic planning process helps companies improve their competitiveness and adapt to changing market conditions. On a regular basis – in some cases annually – companies need to ask, "Does our office design still make sense for where we are, and for where we want to go?"

PRODUCTIVITY KEY: DESIGNED ENVIRONMENT

Design issues should be addressed throughout the strategic planning process, not as a footnote at the end. If these issues aren't part of the overall strategy, the results can fall far short of expectations.

BELL

DUFFY: The up-front strategy discussions are by far the most important part of the planning process. Designers need to have a clear understanding of the client's vision and goals and how they want to practice business so we can design an environment that will help them achieve their objectives.

BURKE-JONES: The organization needs to agree on a common goal and purpose that is recognized throughout the company. The design of the office, office policies and incentive systems all need to tie into and reinforce that common purpose. However, there needs to be a balance in satisfying both the overall organizational goals and the personal needs of individual workers.

MONTGOMERY: Our first-stage planning process has three parts. First, discussions with managers help us understand their goals, how they want to embrace change and how they want employees involved in the process. That's when we uncover communication and cultural issues. Then we hold deliberately casual discussions with members of the work force to get their buy-in to the changes. Part three includes a formal space evaluation to see how productivity goals can be implemented through redesign.

MISCOVICH: Companies that recognize that facilities are a business tool are more inclined to address the physical environment in the strategic planning process. We use a strategy we call "workplace transformation" to address and integrate issues such as work processes, communications, group behavior,

HOW DESIGN INCREASES PRODUCTIVITY: EXPERT INSIGHTS

PRODUCTIVITY KEY: WORKFLOW

During the strategic planning process, we have to ask questions related to workflow, communication and interaction. Asking these questions gives us a clearer picture of the issues that are driving the organizational and workplace design changes.

LEISEROWITZ

training and change management. A holistic approach like this is critical to making sure these issues are aligned with the company's strategic objectives.

WHEELER: Numerous studies have shown that companies typically do not include facilities design in their strategic plans, except to target them for budget cuts. But this mind-set is changing, and I often provide strategic planning facilitation for clients.

RYBURG: A lot of CEOs are just beginning to understand that facilities planning plays a role in improving productivity.

PRODUCTIVITY KEY: PEOPLE PERFORMANCE

When we started our firm five years ago, the idea of looking at facilities as a way to help companies improve employee productivity was really on the cutting edge. Then, a lot of people thought we were crazy with our concept of "workplace innovation." Today, companies know this approach provides benefits.

KANE

WHEELER: The strategic planning process is similar to the way interior designers are trained to think and work. This is reflected in a common strategic planning tool, the SWOT analysis (a review of a company's Strengths, Weaknesses, Opportunities and Threats), which we frequently use in pre-design research.

LINSTER: We need to understand the client's organization and structure before we get into the design process. It starts with the corporate sponsors of the project, the key decision makers, and the reasons they want change. This helps us understand where the business is today, how it has changed and where they want to be tomorrow.

LEISEROWITZ: We ask a variety of questions about issues that are affected by workplace design. How do people work and how do these patterns need to change? How do individuals and groups communicate and interact within the office, and how can facilities make this more

effective and efficient? What image does the office currently project to employees and customers – and what image should it project?

RYBURG: Another key to effective strategic planning is to identify mismatches – the ways in which the facility does not match up with or support the business goals. There is a cost associated with these mismatches, whether or not companies correct them.

DUFFY: There still is a misconception in some circles that office design is only about creating attractive spaces. While good-looking offices are one of the benefits of using a professional interior designer, the focus really has shifted. The priority is that the organization's functional needs be addressed first and foremost.

Step 1: Involve Employees in the Planning Process

A growing number of companies are recognizing the importance of involving employees in the design process. If an office redesign project is to succeed, management and employees in all areas of the company must share a common vision.

BURKE-JONES: Employee involvement is critical because the workplace design needs to meet the personal needs of workers as well as those of the organization as a whole. Employee needs, such as interaction versus privacy, must be included in the design planning process.

LINSTER: For the design to succeed in supporting company goals, it's important to establish a connection between the project drivers of top management and the daily needs of employees. It is critical that employees at all levels be involved in the process.