Work-Life Innovation
The Future of Distributed and Networked Work

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This paper launches a series of perspectives by the Cisco Internet Business Solutions Group (IBSG) on the future of geographically distributed, networked work, and how this approach is enabling profound changes to organizations, communities, and individuals. Upcoming perspectives will provide further insights into emerging technology platforms and applications, their relevance to education and developing countries, and several other topics that will shape the future of work.

Introduction

Across the globe, business, government, and social structures are buffeted by sweeping generational change, technological innovation, and the emergence of new economic-development models. Although these forces differ by geography, they provide opportunities for social innovation, community engagement, economic growth, sustainability, and country transformation. Much of the change under way contains, at its core, a new relationship between individuals and their trusted communities, the work environment, and employers.

Now, more than ever, workers in every sector of the economy are opting for more collaborative and flexible forms of work that allow them to contribute when they want, from virtually anywhere, with almost anyone. At the same time, increasing demands for speed and real-time access to information and partners, combined with the growing complexity of knowledge work, are driving the need to collaborate and engage a broader workgroup to obtain needed results. The convergence of these factors is spawning new paradigms for how work gets done, along with significant opportunities to innovate.

These forces of change are impacting the collective future of work and, consequently, the ways communities and individuals thrive. As the nature of work changes, communities, organizations, and individuals become empowered, thereby generating a variety of economic, social, and environmental benefits. These improvements directly affect communities, cities, and regions, creating a newly defined resilience.

How Is Work Changing, and Where Will It Be Done?

The nature of work, including where and how it is done, has fundamentally shifted, fueling a number of trends. With regard to "place," for example, a 2010 GigaOM Pro WebWorkerDaily reader survey found that one-third of respondents sometimes work from coffee shops and 27 percent in public spaces such as libraries (see Figure 1). It also revealed that flexible
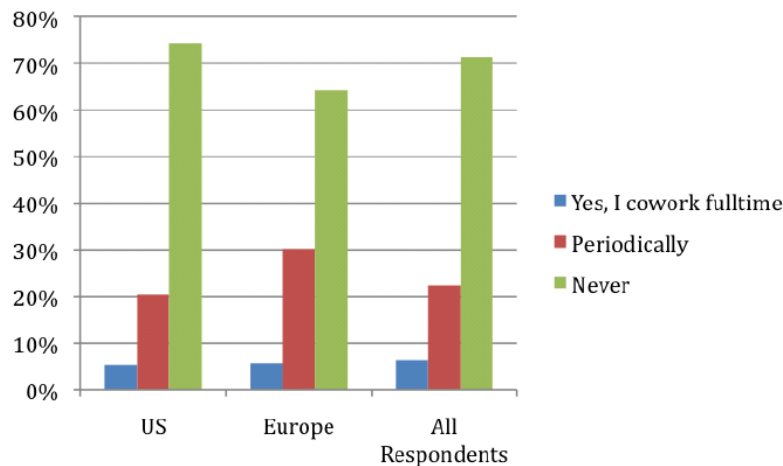
working is widely adopted, with 28 percent of respondents using some form of co-working space, and 6 percent using co-working spaces exclusively (see Figure 2).[1]

Figure 1.   "Alternative" Work Locations
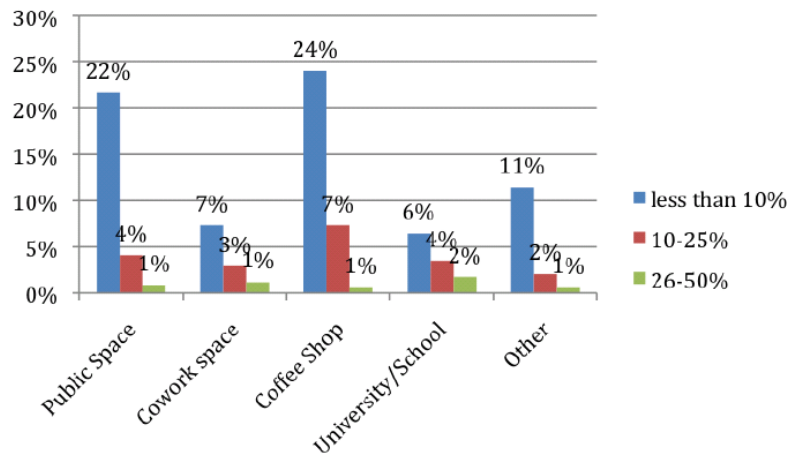
Source: GigaOM Pro WebWorkerDaily survey, 2010; n=339 (2010)

Figure 2.   Use of Co-working Facilities

Source: GigaOM Pro WebWorkerDaily survey, 2010; n=350 (2010)

In this environment, a number of attributes for the future of work are coming into view:

- **The worker is being redefined:** New forms of talent engagement are taking hold as the traditional workplace gives way to a broader range of workers and employment models that feature more complex relationships between individual workers and peers, teams, and, occasionally, multiple employers.

[1] GigaOm Pro WebWorkerDaily, "Web Worker Survey 2010: An Analysis of Technology, Communications and Workplace in Today's Web Workforce", http://gigaom.com/collaboration/web-worker-survey-2010-the-results-are-in/ (2010)

- **Work follows the worker:** Technology is enabling numerous physical and virtual modes of work, collaboration, and communication, creating a new paradigm not defined by a physical epicenter.

- **Virtual work environments:** Patterns of transportation, urban planning, building design, and spatial land management are shifting as employees change where and how they work.

- **Collaboration and self-regulation:** The new workgroup relies increasingly on collaboration, self-regulation, and access to expertise that may not reside in the traditional organization. Community participation for economic production is increasingly peer-based.

- **Workspaces are user-centric, hybrid, and dynamic:** As "central" and "peripheral" workspaces are replaced by "connected" and "peer" workspaces, the result is hybrid workspaces that blend the physical and virtual to serve multiple purposes at different times.

- **New model of Smart+Connected Work:** A new blueprint of Smart+Connected Work offers employers and workers an integrated, flexible model that combines physical and virtual work environments with collaboration tools that deliver the opportunity to reduce operational expenses and increase productivity. The provision of distributed services and infrastructure can reduce commuting and travel times, provide economic benefits, and increase individual motivation, work effectiveness, and community engagement.

- **Work-Life paradigm:** As work becomes less restricted to a single place or fixed daily time frame ("9 to 5"), traditional lines between our personal and work lives are blurring. As a result, many work-related innovations actually become "work-life" innovations.

Overall, these trends create a new value proposition for both organizations and individuals as work evolves from an industrial-era paradigm built around isolated, stand-alone models to a new, hybrid model driven by the 21st century characteristics of collaboration; shared, multipurpose, virtual workspaces and experiences; mobility; trusted, on-demand communities; and Smart+Connected Workplaces.

The ability for individuals to participate with peers through co-working spaces, multiple-use facilities, and virtual local and global communities represents a profound change in our definition of what constitutes work.

Key Imperatives and Strategies

Organizations and individual workers, in both the private and public sectors, are challenged to deliver better results for an increasingly diverse, distributed, and mobile set of customers and beneficiaries. How can any organization find the right people, skills, and expertise to achieve success? How can collaboration best be enhanced across organizational, informational, and cultural barriers to apply collective workforce experiences and knowledge to the problems of the day? How can the operational cost of the work environment be reduced while improving employee engagement, innovation, and outcomes?

Community Perspective

Governments and organizations seeking to enable their communities through a Smart+Connected Work strategy must, at a minimum, address the following elements:

- **Resilient communities:** Building and sharing a vision for tomorrow's resilient community, including how work will be done and how to facilitate these new patterns of work while enhancing economic output, social cohesion, and community attractiveness
- **Infrastructure strategy:** Combining connected and sustainable built environments, smart mobility ecosystems, and broadband networks
- **Series of governance choices:** Bringing together relevant employers, public sector entities, investors, non-governmental organizations (NGOs), and other relevant stakeholders, and then enabling new partnerships, business models, and policies in order to facilitate the resilient community vision and infrastructure strategy

Workforce Perspective

To ensure an effective, engaged, and dynamic workforce, Cisco IBSG believes that several initiatives are integral to enabling collaboration and, ultimately, success:

- **Rich-media or video strategy** to increase the speed, context, and confidence of decision making
- **Presence-based mobility strategies** to increase the agility and speed of information transfer and decision making ("presence" is knowing the status, state, and preferences of someone before you contact him or her, allowing you to connect successfully the first time, regardless of that person's location or circumstance)
- **Enterprise social networking strategy** to increase availability of trusted teams or collective brain trust. This improves the workforce's engagement level, rapidly connecting the right people, content, and knowledge to expand innovation, productivity, or quality.
- **Secure, borderless enterprise** to make resources, peers, tools, and data securely available—everywhere
- **Connected workplace** that provides a collaborative, empowering network of physical environments that are space-efficient, technology-enabled, and environmentally friendly, focused on team workspaces, mobile workforces, customers, and suppliers

Benefits of a New Paradigm

The new paradigm of work provides a clear set of benefits that will vary by economic sector, geography, and the individual:

- **Enhanced economic output** to individual stakeholders and the community at large
- **Reductions in carbon footprint** and improvements in energy efficiency of the organization and individual
- **Decreased operational cost of real estate**
- **Dynamic work environment** that attracts and retains top talent
- **Inclusive work culture** that values collaboration and diversity, and provides workers with more flexibility to determine where and how work gets done

- **New, enhanced social cohesion within communities,** enabled through virtual and physical, socially conducive environments
- **Increased innovation** in organizational behavior and management, as well as in the organization's product, services, and public mission

Many leading organizations, governments, and communities have come to appreciate the cumulative impact of these change drivers, embarking on ambitious projects of their own:

- Smart Work Centers in the Netherlands[2]
- Deployments of Cisco® TelePresence® worldwide
- British Telecom's approaches to health monitoring and home working
- Deloitte's "mass customization" model for career progression and development (takes into account people's backgrounds and life stages, their desires, and the needs of the business)
- Cisco's use of connected workplace solutions across its entire organization— Integrated Workforce Experience (IWE)[3]
- British retailer B&Q's[4] enlightened attitude toward older workers
- Nationwide Smart Work Infrastructure of South Korea (Korea Communications Commission)
- Co-working[5] across the world—the phenomena tapping into community work and social participation
- WorkSnug[6]—new technology applications to access, rate, and share public workspaces in your neighborhood
- Double-U SmartWork Network[7]—linking and accessing a network of distributed workspaces
- The Hub[8]—promoting communities of interest and shared workspaces for social entrepreneurs in socially conducive locations globally
- Hub Culture[9] and Pavilions—bringing physical and virtual shared workspaces together with event-led hub pavilions and online social networking
- Pasha Centres, Kenya[10]—development space for digital villages

Social Cohesion, Social Inclusion

As modern workers determine where to perform work, based on how a task, meeting, or job gets done best, Smart+Connected Work environments help enhance social cohesion and

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[2] Smart Work Center pilot in Amsterdam:
http://www.connectedurbandevelopment.org/connected_and_sustainable_work/smart_work_center/amsterdam
[3] Cisco Integrated Workforce Experience:
http://blogs.cisco.com/ciscoit/comments/rolling_out_web_2.0_in_the_enterprise_ciscos_integrated_approach/
[4] http://www.diy.com/diy/jsp/corporate/pdfs/age.pdf
[5] The co-working wiki: http://coworking.pbworks.com/
[6] WorkSnug: http://www.worksnug.com/
[7] Double-U SmartWork Network: http://www.w-smartwork.nl/
[8] The Hub: http://the-hub.net/
[9] Hub Culture: http://www.hubculture.com/
[10] Pasha Centers, Kenya: http://www.cisco.com/web/about/ac79/docs/case/Kenya-Pasha-Centres_Engagement_Overview_IBSG.pdf

inclusion. Whether a virtual platform, Smart Work Center, broadband-enabled coffee shop, conference room, or co-working space, many environments have a broad array of users not belonging to one "brand," employer, or organization. These Smart+Connected Work environments become dynamic meeting places for modern workers, promoting social cohesion that allows for varying degrees of socioeconomic inclusion.

Recent evidence from Cisco IBSG's leading role in developing Smart Work Centers in the Netherlands suggests the socially aggregating effects of Smart+Connected Work environments are significantly more successful than "anonymous" work environments. Crucial to this are the promotion of an engaging social setting—incorporating programs, social events, and networking forums—to develop a sense of belonging and identity. Modern peer-to-peer, multimodal communication tools, user-aggregated data and reviews, and augmented-reality applications, among others, further facilitate these social dynamics. As we find better ways to blend the capabilities of new technologies into every dimension of our communities, we are discovering ways to touch the lives of people and the aspirations of the communities of which they are a part.

Conclusion

The "future of work" is not a new idea. We have, however, begun to cross over into a new world of work with the potential to change lives dramatically—including how we relate to work and each other. The risks of inaction are as considerable as the benefits of acting *now*. Many public and private organizations are leading the way with transformational projects, and the best of these efforts will be adapted by other jurisdictions throughout the world.

A new paradigm is emerging. Technology is its catalyst, enabler, and innovation driver, empowering individuals and organizations, and generating social, economic, and environmental outcomes that otherwise would be unachievable.

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More Information

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