



COMPETING

IN THE AGE OF TALENT

Richard Florida

The new economy is reshaping virtually every aspect of economic development as we know it. Knowledge has replaced natural resources and the efficiency of physical labor as the source of wealth creation and economic growth. In this new era, talent has become the key factor of production and regions develop advantages based on their ability to quickly mobilize the best people. The nexus of competitive advantage has thus shifted to those regions that can generate, retain, and attract the best talent. Richard Florida, from Carnegie Mellon University, has devoted himself to studying the implications of the new economy; this article is taken from his report on a yearlong study of the role of talent in the new economy. The study looked specifically at how quality-of-place — that is, amenities, lifestyle, and environmental quality — affects the ability of regions to attract talent and to generate and sustain high technology industry. To do so, Florida examined the performance of regions across the country on these quality-of-place dimensions, explored what leading regions are doing to be successful, and conducted focus groups with young knowledge workers in technology-based fields to better understand how they choose places to live and work.

The rise of this new economy radically alters the ways that cities and regions can establish and maintain competitive advantage. The key to success in the old economy was simple — costs.

In the mass production era, regions established competitive advantage via advantages in natural resource endowments, transportation access, the cost and productivity of physical labor, and by reducing the overall costs of doing business. Driven to reduce costs, firms selected locations that provided low-cost land, cheap or highly productive physical labor, and a cost-conscious business climate. Regional development strategies

typically emphasized the use of so-called business incentives designed to win over businesses by pushing their costs even lower. The environment and natural amenities were seen as sources of raw materials or as places to dispose waste.

In the new economy, regional advantage comes to places that can quickly mobilize the best people, resources, and capabilities required to turn innovations into new business ideas and commercial products. Leading regions establish competitive advantage through their capabilities. They are vehicles for resource mobilization that can almost instantaneously bring together the resources

required to launch new businesses and turn innovations into successful products. For these reasons, the nexus of competitive advantage shifts to those regions that can generate, retain, and attract the best talent. This is particularly so since knowledge workers are extremely mobile and the distribution of talent is highly skewed.

For regional development strategy, this means a shift from low cost to high quality — from attracting firms to generating, retaining, and attracting talent. The rise of the new economy dramatically transforms the role of the environment and natural amenities — from a source of raw materials and a sink for waste disposal — to a critical component of the total package required to attract talent and, in doing so, generate economic growth.

Research Questions

The research looked closely at the location decisions of knowledge workers — that is, how young professionals in technology-based industries choose places to live and work. In doing so, it focused in particular on the role of quality-of-place — that is, amenities, lifestyle, and environmental quality — in the attraction of knowledge workers and the development of high technology industries and regions.

The study seeks to better understand the location choices of knowledge workers and the factors associated with the ability of cities and regions to generate, retain, and attract talent. The study begins with the premise that talent is the critical factor of production in the new economy. Knowledge workers are highly mobile, eagerly sought after by technology companies, and can locate virtually any place they desire. At the same time, regional growth increasingly turns upon generating, attracting, and maintaining the talent base needed to create and grow technology-based companies.

In previous eras, nations and regions could prosper because they had strategic locations near raw materials or on major transportation routes. But today, it is the ability to attract talent that creates regional advantage: Those that have the talent win, those that do not lose. In this regard, the “quality” of a city or region has replaced cost and access as the pivot point of competitive advantage. Thus, quality-of-place — the amenities, lifestyle offerings, and environmental quality of a region — plays a key role in the ability to attract talent and develop high technology industries.

To shed light on these issues, the study addresses three key questions:

1. What are the primary factors that shape the location decisions of knowledge workers or talent? Traditionally, market factors such as the availability of jobs or careers have been thought to dominate these decisions — and obviously they remain very important — but what role do factors such as lifestyle, environmental quality, and amenities play in these choices?



2. What is the relationship between quality-of-place, the location decisions of knowledge workers, and economic development? Are leading high technology regions also leaders in terms of amenities, lifestyle, and environmental quality?
3. What cities and regions are attracting knowledge workers and high technology talent, and what role does quality-of-place play in this process? How do amenities, lifestyle considerations, and environmental quality factor into the economic development strategies of leading high technology regions? What are leading regions doing to enhance these factors?

To shed light on these issues, the study conducted the following research: literature review, case studies of four best-practice regions (Austin, TX; Seattle, WA; Chattanooga, TN; and Burlington, VT), regional statistical comparisons, econometric research, and focus groups and interviews.

High Technology: Where does Philadelphia rank?

High Technology Regions: Before proceeding to explore the role of amenities and environment in the new economy, it is useful to identify the leading regions of the technology-based knowledge economy. The numerous ways to define high technology regions have been the subject of

considerable debate among academics and professional analysts. A 1999 report by the Milken Institute, however, provides a careful and comprehensive rating of 350 U.S. regions across several dimensions of high technology, making it the best available summary ranking of high technology regions. The Milken report assigned a “techpole” score, which is a composite of several measures of high technology concentration and growth. Not surprisingly, the most highly ranked region was San Jose, CA (Silicon Valley), followed by Dallas, TX; Boston, MA; Seattle, WA; and Washington, DC. Philadelphia ranked 15th in the Milken report’s techpole ranking. Of the 35 benchmark regions selected for this analysis, the Philadelphia region ranked 10th.

Knowledge Workers: In addition to knowing which regions are leading centers of high technology industry, it is also useful and important to know which regions are able to attract knowledge workers. This analysis uses workers in the software industry as a proxy for knowledge workers. By the measure of the numbers of knowledge workers per million residents, the Philadelphia region ranks 18th out of 27 benchmark regions. Further, the annual growth rate of knowledge workers from 1991 to 1996 in Philadelphia stood at a relatively low 5.4 percent: only one of the 27 benchmark regions had a lower annual growth rate (see Table 1).

In sum, it is clear that although Philadelphia is a high-technology region, it does not appear to attract knowledge workers or foster entrepreneurial activity.

Table 1: Knowledge Workers in Selected Benchmark Regions

Region	Rank Among 27 Benchmark Regions	Knowledge Workers Per Million Population	Annual Rate of Growth (1991-96)
San Jose, CA	1	24,349	11.33%
Washington, DC	2	22,562	9.58%
San Francisco, CA	3	17,633	15.95%
Boston, MA	4	16,871	14.77%
Atlanta, GA	5	11,633	18.68%
Dallas-Ft. Worth, TX	6	11,346	10.93%
Denver, CO	7	11,258	23.55%
Oakland, CA	8	9,701	20.78%
Minneapolis-St. Paul, MN	9	9,408	14.01%
Raleigh-Durham, NC	10	9,309	7.23%
Philadelphia, PA	18	5,552	5.38%
Pittsburgh, PA	22	4,272	12.76%
Baltimore, MD	23	4,224	6.49%



Entrepreneurial Rankings: Entrepreneurship, along with high technology industry and the ability to attract knowledge workers, is an essential element of regional economic growth. According to the entrepreneurial rating system developed by Cognetics, Philadelphia ranks 44th as an entrepreneurial hot spot — in the bottom 3 among the 35 benchmark regions.

Talent and Amenities: Where does Philadelphia rank?

In the new economy, the ability to attract talent creates regional advantage. Talent has become the single most critical factor of production. Contrast this with the old economy. In the mass production era, regional competition revolved around the competition for firms. The location decisions of firms drove regional economies, and the location decisions of people followed from location of firms. For regions, the key was to combine endowments of natural resources or energy with advantages of transportation systems, labor costs, and/or business incentives to attract firms and industry.

The new economy dramatically alters this calculus. In the knowledge economy, those places that have talent thrive, while those that do not decline. Knowledge workers are both highly mobile and eagerly sought after by technology employers, and

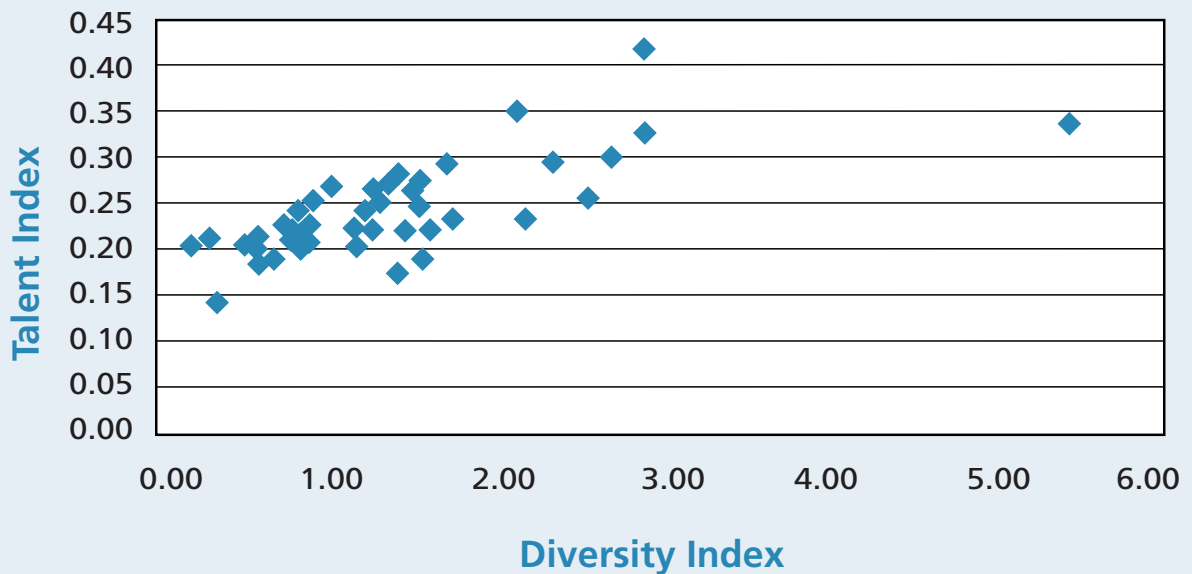
thus have the option of locating virtually anywhere they desire. At the same time, regional growth increasingly turns upon the ability to generate, attract, and maintain the talent base needed to create and grow technology-based companies. Simply put, regional advantage accrues to places that offer the lifestyle advantages required to attract talent, as well as economic and career opportunities and the ability to attract or create firms.

Overall Amenities: Measuring overall amenities as a combination of arts and culture and more youth-oriented amenities, the bottom line is that leading high technology regions are also high amenity regions. On the amenities measure, Philadelphia ranked in the top ten of the benchmark regions.

There is considerable difference between the amenities of the new and old economies. The old economy emphasized “big-ticket” amenities like professional sports, the fine arts, and cultural destinations. New economy amenities typically revolve around outdoor recreational activities and lifestyle amenities.

“Coolness” and Diversity: A coolness indicator was developed by POV Magazine to measure a region’s appeal in terms of amenities like nightlife, bars, and restaurants. There appears to be some relationship between this coolness measure, high

Figure 1: Relationship Between Diversity and Talent



technology development, and knowledge workers. Further, focus group evidence indicates that one of the most important amenities desired by young knowledge workers is a diverse cultural and demographic population. Gary Gates at Carnegie Mellon has researched the issue of local and regional diversity and developed a proxy measure — which we call the Diversity Index — of regional diversity by measuring the concentration of gay couples in the metropolitan areas. This reflects a region’s openness and attractiveness to alternative lifestyles, a characteristic that was noted as a key element of diversity by knowledge workers in the focus groups.

The data, presented in Figure 1 above, suggest a high degree of correlation between the Diversity Index and a region’s success in attracting talented workers (the talent measure here is the percent of population with a Bachelor’s degree or above) among fifty of the largest metropolitan areas in the nation. Philadelphia is well below the average on the Diversity Index, ranking 36th of the 50 metropolitan areas.

Summary of Findings

The key findings of the study confirm that amenities and environmental quality matter in the attraction of talent and development of high technology regional economies, as follows.

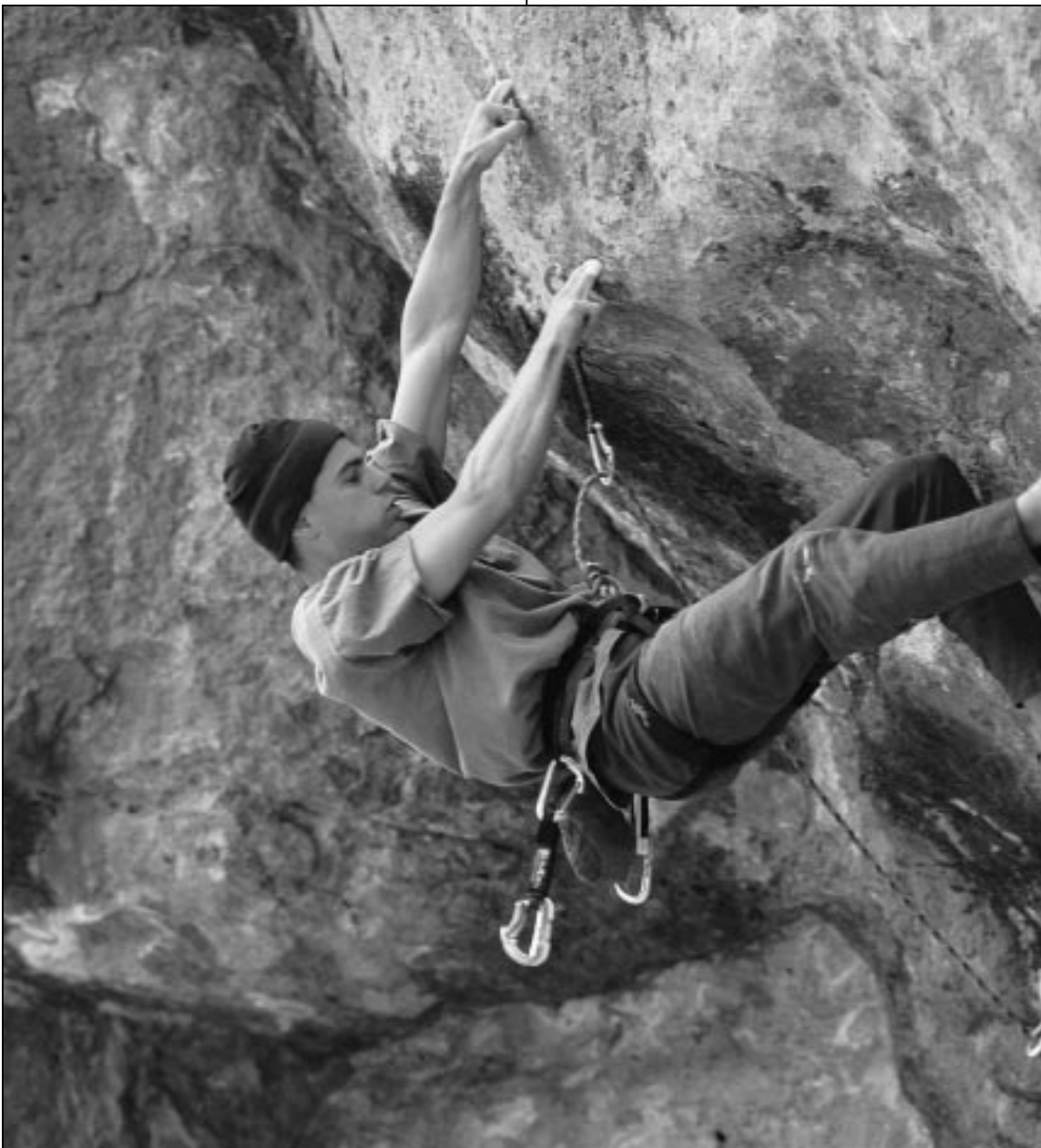
- Quality-of-place — particularly natural, recreational, and lifestyle amenities — is absolutely vital in attracting knowledge workers and in supporting leading-edge high technology firms and industries. Knowledge workers essentially balance economic opportunity and lifestyle in selecting a place to live and work. Thus, quality-of-place factors are as important as traditional economic factors such as jobs and career opportunity in attracting knowledge workers in high technology fields. Given that they have a wealth of job opportunities, knowledge workers have the ability to choose cities and regions that are attractive places to live as well as work.
- The availability of job and career opportunities is a necessary but insufficient condition to attract the young knowledge workers. Knowledge workers favor cities and regions with “thick labor markets” which offer the wide variety of employment opportunities required to sustain a career in high technology fields. Quality-of-place completes the picture.

- Leading high technology regions also rate very high in terms of quality-of-place with high levels of amenities and environmental quality. Austin, Texas; Seattle, Washington; the San Francisco Bay area; the greater Boston region; and Washington, DC score consistently high across virtually every quality-of-place measure — natural amenities, lifestyle amenities, and overall environmental quality. There is a striking correlation across the board between regions that are home to large concentrations of knowledge workers, amenities, and the environment. In this regard, amenities and the environment are part of a total package of factors required to become a successful technology-based region with a large pool of knowledge workers.
- Leading high technology regions have aggressively pursued strategies to bolster their environmental quality, natural amenities, and lifestyle offerings to attract and retain talent. Austin and Seattle have placed high priority on recreational

amenities such as bike paths, mountain bike trails, parks and recreational areas, and accessibility to water for rowing and sailing. These regions have cultivated thriving music scenes and are also known for their youth-oriented cultures that are open and supportive of diversity. Both regions are among the national leaders in smart growth and sustainable development. Leading high technology regions have also supported the development of extensive lifestyle and recreational amenities around major university districts where knowledge workers reside.

- Knowledge workers prefer places with a diverse range of outdoor recreational activities (e.g., rowing, sailing, cycling, rock climbing) and associated lifestyle amenities. Access to water and water-based recreation is of particular importance to these workers. Knowledge workers prefer regions where amenities and activities are easy to get to and available on a “just-in-time” basis. Due to the long hours, fast pace,

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and tight deadlines associated with work in high technology industries, knowledge workers require amenities that blend seamlessly with work and can be accessed on demand. They favor cities and regions that offer a wide range of experiences, and are somewhat less concerned with “big ticket” amenities such as “high” arts and culture or professional sports. Knowledge workers also express a strong preference for progressive regions that are youth-oriented and supportive of demographic diversity.

Strategies for Regions to Thrive in the New Economy

The findings of this report suggest that cities and regions have a great deal to gain from developing a quality-of-place strategy designed to attract knowledge workers and from embedding it in ongoing economic development and competitiveness efforts. In doing so, the report indicates that the region should consider the following actions:

- Make quality-of-place a central feature of regional economic development strategies.
- Integrate amenities and natural assets into all aspects of regional economic development, talent attraction, and marketing efforts.
- Invest in outdoor, recreational, and lifestyle amenities as a component of regional economic development and talent attraction efforts; for example, the creation of climbing walls, mountain bike trails, bike paths, roller-blading areas, and the like. Sponsor outdoor competitions and events in the region such as triathlons, bike races, rowing competitions, and similar efforts that attract the attention of knowledge workers. Orient waterfront improvements to encourage recreational activities such as rowing, sailing, and windsurfing, particularly by improving access.
- Develop a comprehensive amenity strategy for university districts and integrate them into economic development strategies. Establish

more user-friendly transit connections between university districts, downtowns, and centers for high-technology enterprise through light rail, mass transit, and bike lanes for commuting.

- Encourage smart growth and sustainable development on a regional basis, particularly sustainable use, preservation, and revitalization of natural assets. Equip neighborhoods and communities with tools to preserve open space and to create recreational amenities. Work with developers to provide more examples of successful residential and commercial developments that feature amenities, particularly in reconverted brownfield sites in urban areas.
- Create mechanisms for harnessing the knowledge and ideas of all citizens at the neighborhood, local, and regional levels for improving the quality-of-place around the environment and amenities. Develop vehicles for involving young people in the regional amenity and lifestyle agenda as well as in the broader economic development agenda.

A quality-of-place strategy is relatively inexpensive and involves marshalling resources (parks, waterfronts, etc.) that are already in place. It also is strongly place-based and as such confers direct benefits on broad segments of the local population and industry, in contrast to conferring large subsidies to non-residents or outside industry. For example, elderly populations express support for bike trails and paths especially around the university district, as they will take commuting cyclists off the sidewalks. Amenities will also benefit disadvantaged neighborhoods and populations as well as attract knowledge workers.

Quality-of-place is the missing piece of the puzzle. To compete successfully in the age of talent, regions must make quality-of-place a central element of their economic development efforts.

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