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Disruptive Growth Through Co-Working Industry: Economic Impact of Potential Real Estate Market Intervention in Cleveland

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DISRUPTIVE GROWTH THROUGH CO-WORKING INDUSTRY: ECONOMIC IMPACT OF POTENTIAL REAL ESTATE MARKET INTERVENTION IN CLEVELAND

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EXECUTIVE SUMMARY

This report reviews the current state of the co-working industry and its potential for growth according to current supply-demand relationships as it relates to larger economic movements and to the regional market for Cleveland, Ohio, and the surrounding area. The report analyzes factors that influence co-working growth and uptake and projects the likely state of the industry in coming years. The report provides a comprehensive assessment of the nature and scope of co-working supply and demand and develops a typology that can identify benefits and approaches for distinct types of co-workers and co-working stakeholders.

Co-working facilities provide various types of workers with shared offices and workspaces through flexible-term leases to facilitate work and networking for tenants. Many of these spaces develop a culture that enables innovation and collaboration through an ethic of sharing and support. Co-working is a labor and logistics management phenomenon that, while first broadly established with the founding of Regus in 1989, has seen major uptake and evolution of services in recent years. In our current work culture, office-based workforces have come to expect more dynamic, accommodating, and productive spaces for their labor, as well as more autonomy and support while traveling or establishing a presence in new markets. Co-working facilities have provided employees and employers alike—along with freelancers, contractors, and other itinerant labor—exciting opportunities to redefine what "office work" is and how it functions as part of pre-existing organizational structures.

In composing this report on the co-working industry, the research team analyzed and evaluated the economics of co-working and applied this analysis to an economic impact forecast of two expansion scenarios for co-working space on Cleveland's Metropolitan Statistical Area (MSA). To accomplish this, after a brief overview of co-working and its history, the study is separated into three primary parts:

- an examination of the co-working market including an investigation of co-working tenants (as the demand), co-working spaces (as the supply), and the interaction of the supply and demand of co-working,
- a market assessment of the regional co-working landscape in the Cleveland MSA, and
- an economic impact analysis of extant Cleveland co-working providers as well as the potential construction of future co-working square footage in the region.

A full methodology and relevant data on costs, rates of return, and specific impact factors can be found in the report's appendices.

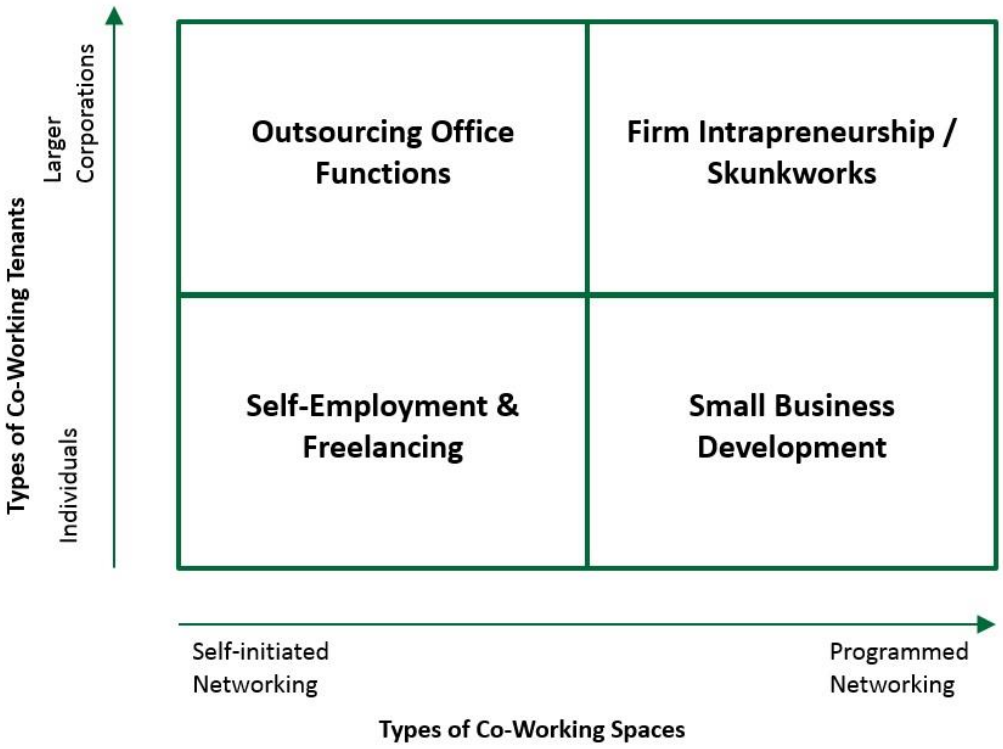
Typology of Co-Working Tenants and Spaces

We identified three primary co-working tenant groups which we feel are integral to the co-working ecology: **self-employed and freelancers**, **small businesses and entrepreneurs**, and **corporations**. Each of these three groups has different needs of co-working spaces and utilizes the work culture of those spaces to different ends. For instance, while self-employed and freelancer stakeholders most often benefit from a sense of belonging, cost-saving, and the presence of community support, larger corporate co-working participants might benefit more from flexibility and agility in entering new markets as well as access to innovation and input from outside the established corporate culture.

Additionally, co-working spaces themselves offer various types and amounts of services, from spartan office space and basic workplace technical support to professional training, social events, recreation spaces, and programmed networking. As a result, various models of co-working serve each of these stakeholder groups differently and establish a different workplace culture.

Considering both tenant needs and the structure of various co-working spaces, we have developed a matrix of what functions various co-working spaces can provide each user group:

Figure I. Typology of Co-Working



Assessment of Co-Working Markets

Based on this typological design and supply/demand analysis, the research team developed an assessment of the current trajectory of co-working markets. Based on recent studies and reports from various stakeholders, we have determined that the co-working industry is experiencing significant growth both nationally and internationally. A current estimate places the total number of co-working members at 2.3 million across approximately 18,000 co-working sites, with the number of members expected to increase to 5.1 million globally by 2022. U.S. and European co-working markets are projected to grow by 15 percent annually over that time. This is partly accounted for by an increase in freelancers and contract labor—a core tenant group for co-working—because of a growing gig economy and workers' preference for flexibility. Meanwhile, demand is increasing in terms of corporate tenants due to shifting corporate culture, and the benefits co-working can provide in streamlining entry to new markets.

A significant value of any co-working arrangement is increased connectivity, lowered expenses, and improved worker productivity. These benefits are creating significant demand for co-working spaces from all three core tenant groups. Such demand is being met not only by independent co-working providers, but also by larger market players such as **WeWork**, **Spaces & CO., IWG**, **Knotel**, **Industrious**, and **Servcorp**. Combined, these providers—large and small—comprise a multi-billion-dollar industry that has seen consistent demand and must continue to expand to meet the needs of diverse tenants.

The research team has also determined local demand in the Cleveland area. Utilizing interviews with local co-working providers to supplement demand models based on national occupational data, we estimate regional demand for co-working to be over 26,000 workers in 2018. In this section, we further map Cleveland's average office rents against supply for co-working square footage and compare this relationship to various other cities. Using this trend analysis, we then explore how various increases to meet demand would position Cleveland against a wide range of competing regions.

Currently, Cleveland falls below trend-line expectations for space availability compared to average office rents. Various increases in square footage would make Cleveland competitive to representative cities falling above the national trend line. These levels of expansion are used as our baselines for the economic impact forecast in the next section.

Economic Impact of Co-Working in Cleveland

Results of data analyzed indicate that Cleveland currently falls below industry averages for co-working square footage compared with typical class-A office rents. Given increasing demand, we have modeled the economic impact for various expansion efforts that would increase available co-working spaces. Based on the results of the market analysis, the research team assembled two feasible supply expansion scenarios: (1) the increase in number of co-working spaces required to satisfy one-third of future demand (Scenario 1), and; (2) the increase in number of co-working spaces required to satisfy two-thirds of future demand (Scenario 2).

In this section, we calculate the economic impact of both the **construction** and **operation** of pre-existing co-working spaces using census and occupational employment data; this total impact is calculated from the direct, indirect, and induced impact measures of *employment, labor income, value added, output,* and *state and local taxes* (for in-depth explanation of these categories, see Appendix D). We then calculate these same values for models accounting for the appropriate growth for each scenario. Future construction impacts are calculated for 2018–2020, while future operations impacts are calculated for 2018–2028. The calculated values for each scenario can be found in the following table, compared with the economic impact on the existing market (Table I).

Table I. Impact of Existing and Potential Co-Working Spaces in the Cleveland MSA

		Average Annual Employment[1]	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Existing 237,000 sq. ft.	**2015-2017 Construction**	74 jobs	$9.4 M	$13.2 M	$20.2 M	$1.7 M
	2018-2028 Operation	105 jobs	$44.7 M	$104.7 M	$153.7 M	$9.8 M
Scenario 1: 698,000 sq. ft.	**2018-2019 Construction**	212 jobs	$18.1 M	$25.4 M	$38.6 M	$3.4 M
	2018-2028 Operation	295 jobs	$125.7 M	$294.0 M	$431.5 M	$27.5 M
Scenario 2: 1,400,000 sq. ft.	**2018-2020 Construction**	355 jobs	$45.5 M	$64.0 M	$97.2 M	$8.5 M
	2018-2028 Operation	563 jobs	$240.0 M	$561.2 M	$823.8 M	$52.6 M

Note: (1) Average employment is reported because some people have continuous employment through multiple years.

Currently, the existing 237,000 square feet of co-working space in the Cleveland MSA support an average of 105 jobs per year and generate $44.7 million in labor income from 2018 to 2018. Potential expansions of co-working spaces to 698,000 square feet would result in 295 additional jobs each year and $125.7 million in labor income over the span of eleven years

Final Thoughts

- The report finds that with the growing demand for shared working space, the prospects for these two scenarios are positive. If the Cleveland MSA creates additional co-working space to meet one-third of future demand, it will be comparable to the Denver-Aurora-Lakewood, Colorado, MSA. If co-working spaces are occupied quickly after the first scenario is implemented and the region will be willing to create additional supply addressing two-thirds of that demand, the region will compare with the San Francisco-Oakland-Hayward, California, MSA.
- These two proposed scenarios will create (conservatively) the economic impact displayed in the tables. Additionally, the overall economic impact will likely grow beyond these estimates as a result of increased productivity from these developments.
    - This type of development could spur further growth in terms of the development of new companies, new collaborations, and innovative products and business approaches (all frequent products of the alternative work culture of co-working spaces).
    - Increased co-working access means a resultant increase in cross-pollination between those freelancers, small businesses, and corporations which share these facilities.
- Finally, cost savings may promote additional opportunities for investment and growth beyond what can be indicated by this impact analysis.

INTRODUCTION

In recent years, sharing-economy practices have permeated industries across many significant facets of modern life, from housing and transportation to family care, professional services, and even peer-to-peer lending. Similarly, these new approaches to sharing resources have made their way into business practices in the form of co-working. Simply put, co-working is the act of individuals, who can be from various industries and sectors, work either together or in parallel within a shared office space. Co-working can bring significant savings to individuals and companies across various industries and can be based on different business models of renting, sharing, or borrowing office space and supplies. Beyond economic savings, many freelancers seek out shared office space to combat the loneliness of home-based self-employment, create a workplace community, and foster creativity.

The goal of this study is to qualitatively and quantitatively enumerate the economics of the co-working industry and to assess the economic impact of a co-working space on the Cleveland region. This study is organized into three parts. First, we present a brief history and evolution of co-working, its value proposition, and how co-working has become an industry disruptor. Second, we investigate the market for the co-working industry by assessing the demand and supply of co-working to determine who are co-working tenants and the types of co-working spaces themselves. Third, we enumerate the economic impact of the construction and operations of co-working spaces based upon several different scenarios in the city of Cleveland, Cleveland MSA, Cuyahoga County, and the state of Ohio.

These three components contribute to a combined analysis and understanding of the economic development, economic impact, and industrial aspects of the co-working industry and co-working spaces. All assumptions, methodologies, and scenarios are detailed in the Appendices.

ABOUT CO-WORKING

History

Shared office space in the traditional sense of renting a fully furnished individual office with business support services has been around for decades. Regus was founded in 1989 when a traveling United Kingdom businessman, Mark Dixon, noted the lack of office space available for traveling businesspeople in Brussels. Forced to work out of a hotel, he devised a model for fully staffed temporary office spaces, identifying the market benefits of offices "maintained, staffed, and available for companies to use on a flexible basis."[1] Today, Regus has thousands of locations in over 100 countries, offering small offices and shared business capacity to the self-employed, small businesses, and large corporations around the world.[2] Shared office space, as conceived by Regus, is a business model where individuals work in offices and are only connected by proximity rather than through a shared office community.

Although shared office space can trace its roots back to the 1990s, the first "official" co-working space in the United States was hosted at an organized nonprofit cooperative in San Francisco in 2005; it was replaced by the now-defunct Hat Factory a year later.[3] It was in the Hat Factory that an intentional community was created among those who rented in the co-op, shifting the business model from shared office space (the Regus model) to co-working.

In the 1990s and 2000s, co-working gained traction in various, mainly coastal, cities across the country, however, it began to be more strongly embedded in business culture during the recession which began in 2007. By the late 2000s, co-working grew to meet expanding demand for inexpensive, flexible short-term office spaces. Most early tenants of co-working spaces were young, urban professionals in their twenties who identified as creative freelancers and sought to overcome the isolation of working from home.[4] Co-working was a potential answer to structural shifts in the labor market during the recession when many creative freelancers and professionals shifted from working for a company to operating as self-employed entrepreneurs.[5]

[1] Cave, A. (2009, April 25). Mark Dixon: The Briton who wants to build a new Google. Retrieved from https://www.telegraph.co.uk/finance/financetopics/profiles/5219967/Mark-Dixon-the-Briton-who-wants-to-build-a-new-Google.html

[2] The rental structure of Regus space is very similar to traditional office environment with structured leases, while renting a small office.

[3] Foertsch, C. & Cagnol, R. (2013, Sept 2). The History of Coworking In A Timeline. *Deskmag*. Retrieved from http://www.deskmag.com/en/the-history-of-coworking-spaces-in-a-timeline

[4] Watters-Lynch, J., Potts, J., Butcher, T., Dodgson, J., & Hurley, J. (2016, Feb). Coworking: A Transdisciplinary Overview

[5] Merkel, J. (2015). Coworking in the city. *Ephemera*, 15(2), pp. 121-139.

There is a significant global co-working market. It is estimated that there are currently 2.3 million co-working members, a number that is expected to expand to 5.1 million by 2022,[6] with most of this expansion taking place in Asian countries;[7] there are currently 17,725 co-working locations globally.[8] This strong growth may not be reflected in the U.S. and European markets, where co-working is considered a more mature industry, growing more modestly than Asian expectations at about 15% yearly.[9]

Demand for more co-working spaces is the highest in cities with one million or more inhabitants,[10] with urban co-working spaces having more members per space than rural co-working spaces.[11] Audrey Jamal, Ph.D., a researcher of mid-sized cities at the University of Waterloo, recognizes that co-working has the potential to revitalize downtowns in mid-sized cities by fostering local economic development. Her research shows that co-working "allows new companies to try the city and give their businesses an opportunity to grow. Co-working spaces are fantastic for the economies of mid-sized cities. They provide an ecosystem for small businesses to flourish, grow, and succeed in ways that are not possible working alone."[12]

Value Proposition

Potential benefits of the shared consumption of office space in collaborative and communicative environments include lower expenses (see Appendix A) and higher productivity for each employee by placing employees in an environment more conducive to their preferences. Rather than being assigned to specified cubicles, employees are encouraged to choose a working space that best suits them. While there may be increased socialization associated with this shift, employees will also be significantly more productive while working. In addition to increased overall productivity, a survey of over 2,600 respondents from the website *flexjobs.com* found that "82 percent of respondents say they would be more loyal to their employers if they had flexible work options" and "97 percent say a job with flexibility would have a positive impact on their overall quality of life."[13] Without adding or increasing the number of traditional benefits or vacation days, employers, by enabling their employees to work where they like inside a space, can attract and develop a more effective and efficient

[6] Statista (2018). *Number of coworking spaces in the United States from 2007 to 2022*. Retrieved from https://www.statista.com/statistics/797546/number-of-coworking-spaces-us/
[7] Ibid.
[8] Global Coworking Unconference Conference. (2018). *2018 Global Coworking Forecast: 30,432 Spaces and 5.1 Million Members by 2022*. Retrieved from https://gcuc.co/2018-global-coworking-forecast-30432-spaces-5-1-million-members-2022/
[9] Ibid.
[10] Coworking in the USA 2016 – GCUCALL 2016. Deskmag 2016. Retrieved from https://www.slideshare.net/carstenfoertsch/coworking-in-the-usa-2016
[11] Foertsch, C. (2012, February 1). The members of coworking spaces. *Deskmag*. Retrieved from http://www.deskmag.com/en/the-members-of-coworking-spaces-survey-203
[12] Jamal, A. (2018). Coworking spaces in mid-sized cities: A partner in downtown economic development. *Environment and Planning A: Economy and Space*, *0(0): 1*-16.
[13] Reynolds, B. (2015, September 14). Survey: 76% Avoid the Office for Important Tasks. Retrieved from https://www.flexjobs.com/blog/post/survey-76-avoid-the-office-important-tasks

workforce. This has the potential to decrease project completion timelines and increase worker happiness levels.

The major market player in the co-working space is WeWork, which was founded with the intention of having multiple people rent out desks or spaces at one time. The idea is that tenants would collaborate, creating a productive work environment centered on camaraderie and interaction with colleagues, which is representative of the majority of the landscape of co-working sites. However, despite Regus and WeWork's significance in the market, there has proven to be plenty of room for smaller, more niche service and site providers to thrive within the co-working industry. An example of a niche company is the Beauty Shoppe, a co-working space founded in Pittsburgh which offers a supply of features ranging from the expected—such as Wi-Fi, printing, and conference rooms—to the extravagant—like full-service espresso and alcohol bars, daycare, shower facilities, guest lectures, and more. The Beauty Shoppe illustrates that there is not one viable market approach for co-working spaces, but a conscious stratification that is currently forcing companies to specialize in and offer clients more features to attract business. In the nascent industry, co-working spaces needed only a few desks, Wi-Fi, and print services to gain clientele. Now, providers must offer not only standard services but specialized incentives as well.

Research has found that 90% of co-workers were happier since joining a co-working space,[14] 83% of co-working members surveyed were less lonely, and 84% reported that co-working improved their motivation and work engagement.[15] Companies recognize these benefits and are allowing and paying for employees to work from co-working spaces. According to the CBRE Group's Americas Occupier Survey, 14% of companies in the U.S. are currently utilizing or actively considering co-working spaces.[16]

It is essential to make the distinction between co-working spaces and business incubators. While business incubators provide many services and features found in co-working spaces, such as shared office space, shared resources, and access to networks, they traditionally also offer business support services such as mentoring, coaching, training, professional services, and technical assistance that go beyond co-working programming.[17] That said, WeWork, one of the most significant players in the global co-working market, recently launched WeWork Labs, an arm of the company that seeks to partner with incubators and accelerators to bring the WeWork model to those locations. Experts at WeWork Labs "partner with local incubators and accelerators to provide holistic, long-term support for startups throughout their journey"[18] and facilitate co-working models in traditional incubator spaces.

[14] Global Coworking Unconference Conference (GCUC). 2018. Retrieved from https://gcuc.co/why-coworking/
[15] King, S. (2017, December 28). Coworking Is Not About Workspace – It's About Feeling Less Lonely. *Harvard Business Review.*
[16] CBRE Americas Occupier Survey, 2015/2016. Retrieved from https://www.cbre.com/research-and-reports/occupier-survey-2015-16/americas-occupier-survey-2015-16
[17] Bruneel, J. Ratinho, T., Clarysse, B., Groen, A. (2012). The evolution of Business Incubators: Comparing demand and supply of business incubation services across different incubator generations. *Technovation*, 32, pp. 110-121.
[18] WeWork Companies (2018). *WeWork Labs*. Retrieved from https://www.wework.com/labs

Co-Working: Industry Disruptor

Product and process innovation may lead to a nascence of disruptive industries. Many disruptive industries are technologically straightforward, but a repackaging of products dramatically changes how people use them.[19] Repackaging of conventional real estate office spaces together with shared consumption of these spaces qualify co-working companies to fit into the model of a disruptive industry. If successfully adopted to various regional markets, industries, and business models, the co-working industry may become a major disruptive force to the way businesses, and individuals have traditionally organized their work processes and spaces.

Today, businesses are structured such that employee work affects three major factors of production: organizational *resources*, *processes*, and *values*.[20] Co-working disrupts traditional models for all three of these factors. First, co-working can offer greater resources for a firm than would be available in an isolated work environment, which is especially relevant to a firm's network. Many co-working facilities, for example, host networking nights, training programs, referrals, and exchanges of ideas and best practices that companies (especially small businesses) would not normally have at their disposal in solitude. Brian Cannon, the executive director of OneVA2021, describes this benefit to Entrepreneur.com: "We are a small nonprofit, and co-working has enabled us to cross-pollinate with smart, creative people regularly on a ton of projects. We co-work because informal access to such talent can't be found in a regular office environment."[21]

Second, the co-working facility can streamline processes within organizations. An example of this is provided by Enam Noor, CEO, and founder of Insightin, a tech firm that specializes in health care membership engagement, predictive analytics, and big data. Running his business out of a co-working space at Gaithersburg, Maryland–based Launch Workplaces, he testifies that the dynamic environment has "allowed us to move a lot faster, and we can continue to do so in the future as we are also poised to expand additional staff into the co-working area as needed."[22] Many companies see an increase in efficiency since the firm is surrounded not just by their respective employees and the specific skills for which they were hired, but also a multitude of others co-workers with different skills and novel ways of thinking. The co-working environment and interactions can foster collective thinking processes. Other tenants may not be employees of the company or even associates in a typical office space, but in sharing co-working space, firms can collaborate and organically explore process solutions instead of contracting out or prematurely hiring additional staff.

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[19] Christensen, C.M. (1997). *The Innovator's Dilemma When New Technologies Cause Great Firms to Fail* Cambridge, Harvard Business School Press.

[20] Christensen, C. M. & Overdorf, M. (2000). Meeting the Challenge of Disruptive Change, *Harvard Business Review*. 3–13.

[21] White, D., & White, P. (2017, June 08). 4 Ways Co-Working Spaces Inspire Innovation and Collaboration. Retrieved from https://www.entrepreneur.com/article/295289

[22] Blake, C. (2017, July 23). The Changing Workplace: The Rise of Coworking in the Modern Business Landscape. Retrieved from http://www.areadevelopment.com/workplace-trends/Q3-2017/rise-of-coworking-in-the-modern-business-landscape.shtml

Third, the values of an organization are intrinsic to its corporate culture. Because of the inherent shared ideology and environment of co-working spaces, participation can change corporate culture for both small and large firms as well as individual entrepreneurs. Companies operating in a co-working space understand the benefit of alternate and out-of-the-box solutions to problems, not just at the operational level but also in terms of day-to-day tasks that can be optimized or automated. This model is exceedingly popular with new companies because they "require flexibility, sharing, and teamwork on joint projects."[23] Co-working is not just working in parallel, but fostering a culture that promotes specific corporate values: community, collaboration, openness, diversity, and sustainability.[24]

Moreover, life within co-working facilities can "disrupt both the stale corporate culture most of us have grown to expect, and the daily monotony that sometimes makes each day feel similar to the day before," because the spaces themselves "are ultra-modern, designed to energize and stimulate their daily workforce."[25] These collaborative, interactive, and aesthetically-pleasing environments challenge everyone in co-working facilities to be entrepreneurial and forward-thinking, not simply managerial and reactive. There is a difference between the firms that innovate and the "job-shops"—firms that produce routine products and services.[26] The challenge for many companies, both large and small, is how to transition from the corporate mentality of a job-shop to that of an innovative leader. For some, co-working might be the answer to this transition.

Conclusion

Shared office space with flexible leases is an innovative product that, when combined with shared consumption of business services through co-working models, are disrupting traditional labor and management models, improving productivity, fostering innovation and collaboration, forming new companies, and changing how businesses enter new regional markets.

[23] Singh-Kurtz, S. (2018, April 09). Photos: Tel Aviv is leading the co-working trend with these insane offices. Retrieved from https://quartzy.qz.com/1242790/the-coolest-co-working-spaces-are-in-tel-aviv/
[24] Merkel, J. (2015). Coworking in the city. *Ephemera*, 15(2), pp. 121-139.
[25] Gold, A. (2017, January 16). The Corporate Coworking Trend. Retrieved from https://www.coworker.com/lab/the-corporate-coworking-trend/
[26] V. Bolden-Barrett, "Employees Favor Comfortable Work Spaces with a Community Atmosphere," retrieved May 14, 2018, https://www.hrdive.com/news/employees-favor-comfortable-work-spaces-with-a-community-atmosphere/523337.

THE CO-WORKING MARKET

Introduction

The research team identified three types of co-working tenants. The first category is self-employed and freelance professionals; individuals who own their own business or are contractual employees who traditionally work from home. The second category is small business and entrepreneurs. These business owners are looking for flexible office space as a cost-saving measure, a way to grow their business, and network with peers. The third category is corporations, who look to place employees in co-working spaces to improve productivity, increase flexibility, and seek future markets.

There are multiple types of co-working spaces, primarily differentiated by the amount and types of programming provided as a value for the membership fee. On one end of the spectrum, many co-working spaces offer services with no social or connectivity programming. These spaces consist solely of the shared office environment based on voluntary interactions. Companies such as Regus fall into this category—models dependent upon tenants to initiate any social or business connections with one another. On the other end of the spectrum are co-working spaces providing training and program networking as a core function of their business models, WeWork and The Wing for example.

This section will discuss the three types of co-working tenants and their motivation for using co-working spaces, examine the multiple categories of co-working spaces based upon the economic market in which they compete, and combine both the motivation and business model of co-working tenants (as the demand-side) and the portfolio products offered by co-working spaces (as the supply-side).

Three Types of Co-Working Tenants

Self-Employed and Freelancers

One of the traditional segments of co-working tenants is demand from the self-employed and freelancers. Freelancers are defined as individuals who have engaged in supplemental, temporary, project-based, or contract-based work within the past twelve months. According to the 2017 study by Upwork and the Freelancers Union, 57.3 million Americans currently freelance in addition to maintaining traditional employment, contributing $1.4 trillion in earnings annually to the U.S. economy.[27] UpWork estimates that the number of freelancers in the U.S. is projected to increase to 86.5 million by 2027.[28]

[27] UpWork (2017). Freelancing in America. Retrieved from https://s3-us-west-1.amazonaws.com/adquiro-content-prod/documents/Infographic_UP-URL_2040x1180.pdf
[28] Ibid.

The most common workplace options chosen by freelancers have dedicated home offices and co-working spaces.[29] Other alternative locations for freelancers to work include coffee shops, libraries, traditional offices, and business centers. In 2016, freelancers represented 32% of all co-working members in the U.S.[30] A majority of co-working members reported an increase in social and business network depth after joining a co-working space. Through social interaction, freelancers grow their network with people from all different fields. In the 2016 USA Co-Working Survey, community and interaction with others were the most cited reasons to join a co-working space, at 76%, and 75% respectively.[31]

Of all co-working members, 44% worked in a home office before switching to a co-working space, while 37% rented a traditional office, 11% worked in coffee shops, and 7% did not have a fixed location.[32] Unlike home offices, co-working spaces allow freelance workers to avoid distractions, set routines and set boundaries on work time. Working alone in a home office can also become isolating, while co-working ensures there is ample opportunity for social interaction. Zoë Langman, a blog writer and co-worker, illustrates this benefit: "I worked from home for almost four years. It caused me a lot of issues personally and then professionally as I was having such limited contact with people. Some of us thrive on those interactions, and it's us that need to be in co-working spaces. Joining a co-working space changed my life."[33]

Self-employed workers and freelancers also can get critical feedback on projects, generate new ideas, and gain recognition from peers—necessary features of professional growth.[34] Bastian Lange of the Georg-Simmel Center for Metropolitan Studies in Berlin indicates that co-working tenants are "culturepreneurs,"[35] professionals who have "multi-functional skills and irregular career paths, operating as self-entrepreneurs within scarcely-institutionalized economies."[36] Moreover, self-employed workers may need access to office resources offered by co-working spaces for core business operations, including meeting rooms, mailing hubs, technology services, and office space.

[29] Bradshaw, C. (2018). Should I Freelance from Home or A Coworking Space? Writer's Edit.
[30] Coworking in the USA 2016 – GCUCALL 2016. Deskmag 2016. Retrieved from https://www.slideshare.net/carstenfoertsch/coworking-in-the-usa-2016
[31] Ibid.
[32] Ibid.
[33] Comments to King, S. (2017, December 28). Coworking Is Not About Workspace – It's About Feeling Less Lonely. *Harvard Business Review.*
[34] Merkel, J. (2015). Coworking in the city. *Ephemera*, 15(2), pp. 121-139.
[35] Lange, B. (2006) 'From cool Britannia to generation Berlin? Geographies of culturepreneurs and their creative milieus in Berlin', in C. Eisenberg, R. Gerlach and C. Handke (eds.) *Cultural industries: The British experience in international perspective*. Humboldt University Berlin.
[36] Gandini, A. (2015). The rise of coworking spaces: A literature review. *Ephemera*, 15(1), pp. 193-205.

Small Businesses and Entrepreneurs

Small businesses and entrepreneurs in the United States also play a significant role in the demand for co-working spaces. In the next seven years, the number of small businesses and entrepreneurs is expected to increase by more than 7 million.[37] According to *Deskmag*, entrepreneurs that employ additional staff represented 12% of co-working members in the U.S. in 2016.[38] Surveys also find that 92% of entrepreneurs felt more self-confident after joining a co-working space.

The social network is the most acknowledged benefit of a co-working space for entrepreneurs in comparison to freelancers and employees of large companies. In a *Deskmag* survey, 64% of entrepreneurs report that networking within the co-working space was very helpful when looking for new job opportunities or new projects. Co-working spaces present opportunities to connect with colleagues in several different ways, from formal collaboration through partnerships on projects to brainstorming sessions or focus groups. On average, entrepreneurs working in co-working spaces find four new and helpful connections every two months.[39] Additionally, entrepreneurs often collaborate with freelancers who are also tenants in co-working spaces. Carsten Foertsch at *Deskmag* reports that one in three co-working entrepreneurs will expand their payroll.[40] Entrepreneurs are also beneficial for co-working providers, as they are most likely to tell the public about their work in a co-working space and bring in new members.[41]

Co-working locations nationwide are appealing for small-business owners and entrepreneurs not yet in need of their own permanent offices. Overall, small businesses seek to locate in co-working spaces for the flexibility they offer, amenities the office space provides, and lower rents than the commercial market. Co-working offers specific benefits for small and fledgling businesses that need to minimize fixed costs in the early years of development. Because of the costs of obtaining and outfitting permanent offices, co-working spaces can present opportunities as these businesses transition into new markets or scale up operations, with 28% of members hiring other co-working members for projects.[42] Additionally, the community aspects afforded to small businesses and entrepreneurs within co-working spaces may prove particularly beneficial to those seeking to make connections within a market or to connect with and recruit new creative talent, including co-working freelancers.

[37] Giang, V., (2013, Mar. 21) 40 Percent of Americans Will Be Freelancers By 2020. *Business Insider* Retrieved from http://www.businessinsider.com/americans-want-to-work-for-themselves-intuit-2013-3
[38] Coworking in the USA 2016 – GCUCALL 2016. Deskmag 2016. Retrieved from https://www.slideshare.net/carstenfoertsch/coworking-in-the-usa-2016
[39] Foersch, C. (2012, April 30). How to Freelancers, Employees and Entrepreneurs Cowork? *Deskmag.* Retrieved from http://www.deskmag.com/en/how-do-freelancers-employees-and-entrepreneurs-coworking-spaces-comparison-368
[40] Ibid.
[41] Ibid.
[42] Coworking in the USA 2016 – GCUCALL 2016. Deskmag 2016. Retrieved from https://www.slideshare.net/carstenfoertsch/coworking-in-the-usa-2016

Corporations

Finally, corporations are a growing segment of the demand for co-working spaces. At WeWork, blue-chip companies currently represent more than 25% of members,[43] while other estimates show that 9% of co-working members in the U.S. work for companies with more than 100 employees.[44] *Deskmag* finds that more large corporations are using co-working spaces, which is reflected in the higher ratio of employees in co-working spaces: 51% in 2016, compared to 37% in 2014 and 34% in 2012.[45] Michael Kenny, the managing partner of San Diego, California–based Co-Merge, identifies growth in corporate clientele in his co-working facilities:

> *[Since 2014], we've seen a dramatic increase in the use of the space by enterprise employees. We have seen teams come in to use various on-demand meeting rooms. We have users from global companies of size ranging from several hundred to several thousand employees who use the space not only to allow their distributed workers to get productive work done, but also to attract employees who demand flexible workplace and work time.*[46]

A new market segment for co-working is coming from larger corporations for many reasons, including enhancing the collaborative workforce environment, taking advantage of flexible office space, and exploring new markets without the commitment of a lengthy lease. In 2017, IBM moved 600 of its employees into a WeWork co-working space in New York City; similarly, Microsoft purchased WeWork memberships for 300 employees, so they could feasibly work at any location.[47] There are many reasons why companies are now seeking to move into these spaces. Some are taking a "skunkworks"[48] approach to rekindling their entrepreneurial roots by housing specific segments of their workforce in these spaces. State Farm has started its own co-working space, called Nextdoor, which offers financial coaching, recreational/break areas, and guest speakers providing financial knowledge, all free for tenants.[49]

[43] Bliss, L. (2018, March). How WeWork Has Perfectly Captured the Millennial Id. *The Atlantic*. Retrieved from https://www.theatlantic.com/magazine/archive/2018/03/wework-the-perfect-manifestation-of-the-millennial-id/550922/

[44] Haugen, D. (2012). Freelancers, Alone No More: Coworking Is Going Big Business. *GOOD.*

[45] Coworking in the USA 2016 – GCUCALL 2016. Deskmag 2016. Retrieved from https://www.slideshare.net/carstenfoertsch/coworking-in-the-usa-2016

[46] Spreitzer, G., Bacevice, P., and Garrett, L. (2015, September). Why People Thrive in Coworking Spaces. *Harvard Business Review*.

[47] Putzier, K. (2017, April 19). IBM to take entire WeWork building in landmark deal. *The Real Deal*. Retrieved from https://therealdeal.com/2017/04/19/ibm-to-take-entire-wework-building-in-landmark-deal/

[48] Skunkworks was a concept developed by Lockheed Martin to overcome bureaucratic burdens places on project teams to meet deadlines of time sensitive projects within budget. In these areas research and development is encouraged as well as innovative ideas and products. For more information see *The Economist* (2008, Aug 25). Skunkworks. Retrieved from https://www.economist.com/node/11993055

[49] Next Door. (2016). Retrieved from https://www.nextdoorchicago.com/web/guest/home

Co-working offers companies a branding opportunity to enhance their images as forward-thinking and rewarding companies to work for. Companies often choose to rent co-working spaces to increase employee performance and job satisfaction. *Deskmag*'s Anna Cashman reports a 74% productivity increase for employees working in collaborative spaces compared to other workspaces.[50] Of Microsoft salespeople surveyed, 80% reported higher productivity throughout their day after being given co-working space access.[51] According to Bouncken and Reuschl, learning is one of the key triggers of improved performance.[52] The social element of co-working creates value for people who are connected as well as for the company. The development of additional social capital can explain improved performance among diverse groups, the growth of entrepreneurial firms, and enhanced supply chain relations.[53]

Co-working provides different models of corporate presence and expansion into new regions. Co-working corporations can maintain a regional presence through teleworkers and business travelers,[54] diversify location and cut business costs by maintaining groups of workers in different regions, and streamline entrance to new regions in a reduced capacity while establishing business in or testing new markets. For example, the social networking website LinkedIn used private offices in one of Detroit's WeWork locations for several years before deciding to lease a permanent office in the city.

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[50] Cashman, A. (2017, February 22). Coworking: 74% of Coworkers Are More Productive. *Deskwanted*. Retrieved from https://www.business.com/articles/coworking-74-of-coworkers-are-more-productive/

[51] Bliss, L. (2018, March). How WeWork Has Perfectly Captured the Millennial Id. *The Atlantic*. Retrieved from https://www.theatlantic.com/magazine/archive/2018/03/wework-the-perfect-manifestation-of-the-millennial-id/550922/

[52] Bouncken, R.B. and Reuschl, A.J., 2016. Coworking-spaces: how a phenomenon of the Sharing Economy Builds a Novel Trend for the workplace and for entrepreneurship. *Review of Managerial Science*, pp. 1-18.

[53] Stam et al. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29 (1), pp. 152–173.

[54] Telework is one of the drivers of the demand for co-working as the number of employees working remotely continues to grow. Kate Lister and Tom Harnish at Telework Research Network found that 45% of U.S. jobs could be done from outside the office at least part of the time. In 2010, the U.S. Government passed the Telework Enhancement Act, requiring federal agencies to establish a policy under which eligible employees are authorized to telework. While flexible working schedules are not realistic for all roles, they are easier to implement in office environments than in manufacturing or retail.

Telework is an excellent option for companies looking to enhance their benefits package. In 2017 Americas Occupier Survey, flexible working arrangements were one of the most essential preferences to the labor force. Gallup data showed that 51% of employees would change jobs for one that offered them flexible work hours. Teleworkers can enhance their work-life balance and reduce commuting expenses. For employers, telework helps retain staff and save on real estate costs. Jim Graham, co-founder of Satellite Telework Centers, a co-working space targeting teleworker says: "we can house an employee for about half what it costs to support them at a corporate headquarters. Employees are happier because they are working closer to home and find they are more productive because they are away from the interruptions that come from working at the central office, and they do not have the distractions or sense of isolations that often comes from working from home."

Finally, co-working can be convenient for companies that have employees who travel regularly. Instead of working from a hotel room on a business trip, companies can purchase co-working day passes. Alternatively, many spaces offer free day passes. In such spaces, business travelers can meet members, make connections, explore the city's business vibe, have access to the open work area or fully equipped meeting rooms, and enjoy free coffee. In the 2017 Global Coworking Survey, 3% of co-working members pay for their membership on a daily basis.

Not all corporations are suited to house facilities in co-working spaces, however. JLL, a global commercial property management group, notes that there are risks for large companies housing workers in co-working spaces, including intellectual property risks and shifts in corporate culture.[55] Intermixing of non-employees and employees can contribute to synergies and idea development, but it can also cause conflicts regarding intellectual property ownership and confidentiality as related to work products. Also, while many corporations may benefit from a collaborative culture when housing operations in co-working spaces, each organization also has its own culture, which the co-working community may risk based upon factors beyond tenant control.

Beyond moving their operations to a co-working space, the trend of creating modern collaborative spaces internal to companies has taken hold. Corporations are even beginning to renovate their existing private offices to resemble the co-working model. Bright, wide-open spaces, clusters of desks, and comfortable common areas are becoming the rule rather than the exception. Mimicking the aesthetics and social structures of co-working spaces appeal to many companies because of the sense of a vibrant, collaborative environment associated with the co-working model.[56] In emulating co-working designs, large businesses are looking to replicate the look and feel of co-working spaces to increase productivity and bolster morale. By doing so, they may also be working toward increasing company loyalty so that employees do not leave for other businesses that offer more amenities and services.

Types of Co-Working Spaces

Clay Spinuzzi identifies three main types of co-working spaces in his analysis of co-working spaces found in Austin, Texas.[57] The first type of space he discovered is the *community workspace,* which seeks to serve community needs as a mixed-use space, where individuals work in parallel in a shared space. Any interactions within these spaces are self-initiated rather than coordinated by the co-working space as programming. The second type of co-working space that Spinuzzi designates is *the unoffice*, locations that have flexible office spaces superior to that of coffee shops where individuals can collaborate and get feedback from co-workers. The last type of co-working space identified is *the federated workspace*, places that encourage interaction and formal collaboration, foster business, and personal relationships, and emphasize a collaborative focus.

Co-working presents a different culture compared to employment in traditional office spaces. Conventionally, an employee occupies an office or desk space while working in parallel with other employees, often experiencing limited interaction with colleagues. At co-working spaces, interaction is a part of the innovative product, with networking and collaboration embedded as a foundational concept of work within the space. Many co-working spaces host social events to

[55] JLL. (2016). New era of coworking. Retrieved from http://www.jll.eu/emea/en-gb/Documents/co-working/doc/JLL-A-New-Era-Of-Coworking-2016.pdf

[56] Blackstock, J. (2013, April 8). Coworking Spaces... Run by Corporations. Retrieved from http://www.deskmag.com/en/coworking-spaces-operated-by-corporations-765

[57] Spinuzzi, C. (2012). Working Alone Together: Coworking as Emergent Collaborative Activity. *Journal of Business and Technical Communication* 26(4), pp. 399-441.

foster interaction between tenants, leading to networking and potential collaboration. One of the earliest formal definitions of co-working came from *Harvard Business Review*, identifying co-working spaces as "membership-based workspaces where diverse groups of freelancers, remote workers, and other independent professionals work together in a shared, communal setting."[58] The concept of intended convention and collaborative outcomes is so endemic to the co-working model that the names of co-working spaces often seek to convey the conjunction of new ideas and community,[59] including co-working spaces ThinkSpace, Spaces & CO, StartMart, Hub, and Creative Density.

Networking and flexible office space are the key differentiators between co-working and shared office competitors. The key market player in the co-working space is WeWork, a publicly traded company valued at $20 billion. WeWork is one of the leading networks of co-working spaces, with more than 130 locations and 100,000 members. According to *Forbes*, there are three other potential players in the market: Knotel, Industrious, and Servcorp.[60] Knotel aims to have companies outsource office management through it. According to its mission, the company "finds, builds, designs, and operates custom office spaces, giving members the freedom to build their own culture and focus on the future."[61] This allows Knotel to operate in a market segment of outsourcing the office function so that startups and businesses of all sizes can access amenities they require without additional cost and responsibility. Also, IWG, the company that owns Regus, is pivoting in the market by opening a co-working location called Spaces, which offers the look and feel of co-working spaces rather than individual offices for rent.[62]

Industrious is a co-working provider with more than 40 locations nationwide.[63] Seeking to provide premium co-working spaces for companies large and small, Jamie Hodari, co-founder and CEO of Industrious, argues that "the future of the office will be about high quality, yet flexible spaces that allow companies to create workplaces they're proud of on a timeline that makes sense for their businesses."[64] Industrious is seeking to focus on a "premium niche market," like that of Servcorp which is based in Australia.[65] Servcorp, however, is also currently entering the U.S. market with eight new locations nationwide, providing both virtual and

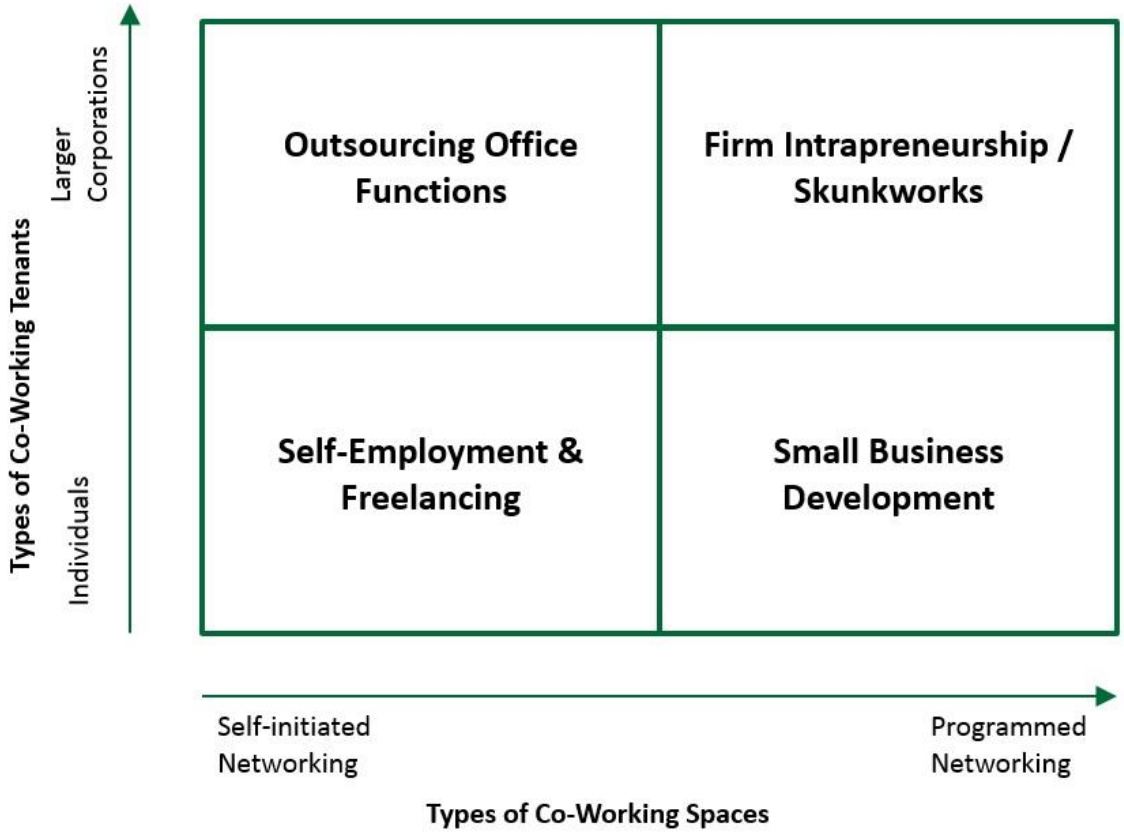
[58] Garrett, G. S. (2015, August 06). Why People Thrive in Coworking Spaces. Retrieved from https://hbr.org/2015/05/why-people-thrive-in-coworking-spaces
[59] Merkel, J. (2015). Coworking in the city. *Ephemera*, 15(2), pp. 121-139.
[60] Barzilay, O. (2017). The Shared Office Is Hotter Than Ever, With 1.2 Million Co-Working. *Forbes*. Retrieved from https://www.forbes.com/sites/omribarzilay/2017/05/30/the-shared-office-is-hotter-than-ever-with-1-2-million-co-working/#4ac64b171ba0
[61] Knotel. (2018). *Who We Are*. Retrieved from https://knotel.com/about-us/
[62] Stateman, A. (2018, May 18). Spaces to Open Five New Coworking Locations in Los Angeles This Summer. *Commercial Observer*. Retrieved from https://commercialobserver.com/2018/05/spaces-to-open-five-new-coworking-locations-in-los-angeles-this-summer/
[63] Industrious (2018). *Locations*. https://www.industriousoffice.com/
[64] Barzilay, O. (2017). The Shared Office Is Hotter Than Ever, With 1.2 Million Co-Working. *Forbes*. Retrieved from https://www.forbes.com/sites/omribarzilay/2017/05/30/the-shared-office-is-hotter-than-ever-with-1-2-million-co-working/#4ac64b171ba0
[65] Ibid.

physical office space and offering "a premier work experience in the most luxurious buildings in the world to let you create an unparalleled impression."[66]

Typology of Co-Working Market

Figure 1 combines both the types of co-working tenants (demand) and types of co-working spaces (supply) to identify different segments of the co-working market. The vertical axis displays the several types of co-working tenants: from self-employed individuals to large corporations. The horizontal axis shows the co-working spaces with the focus on networking, from self-initiated networking to programmed networking. This visual representation of the market reveals interesting dynamics as to the motivation of tenants and can identify potential business models of tenant types to sustain co-working financial viability.

Figure 1. The Relationship of Co-Working Market



[66] Servcorp, Office Spaces, 2018, retrieved from http://www.servcorp.com/en/office-spaces/

The first grouping, in the bottom-left corner of the matrix, is ***self-employment & freelancing***. Self-employed professionals may increase their productivity by avoiding household distractions or having a workspace other than the home office or coffee shop.[67] For this segment, co-working decreases time finding people and resources essential to entrepreneurial growth, thereby saving money. Co-working spaces provide opportunities to develop new business products and contracts through interactions with other entrepreneurs. Through networking across industries and verticals, they may locate new customers and increase their sales relative to competitors, also known as market share. In the co-working environment, these entrepreneurs find support from others facing similar challenges in achieving their business goals.[68] Beyond this, co-working can provide the necessary social networks for freelancers that they may not have in a home office.

In the lower-right corner of the matrix, ***small businesses development*** is a vital component for co-working spaces focusing on facilitated networking models. Creative work environments promote innovative product development while allowing businesses the flexibility granted by short-term leases to add more staff as needed. Moreover, open communication and diversity of co-working members create intentional social communities seeking to find common ground with each other, lend expertise, and foster innovative ideas and products. Co-working can facilitate more business-to-business connections since relationships are more likely to develop between people or groups with in-person experience. Collaboration between businesses can prove crucial for growth in service-intensive industries,[69] while social capital formed by repeated interactions over time can lead to negotiated reductions in transaction costs as companies grow.[70] Co-working spaces can accommodate additional employees for growing businesses by facilitating additional tenant memberships without long-term space commitments.

Corporations recognize co-working spaces as a way to reduce their real estate costs by ***outsourcing office functions***, located in the upper-left corner of the matrix. These spaces allow larger employers to save on office furniture and supplies, heating and cooling, and other utilities and facilities. Through co-working, telecommuting, and other changes to the traditional office model, large companies can save up to $10,000 per employee.[71] Co-working spaces

[67] G. de Peuter,, N. S. Cohen, and F. Saraco, "The Ambivalence of Coworking: On the Politics of an Emerging Work Practice," *European Journal of Cultural Studies*, 20, no. 6 (2017): 687–706.
[68] Small Business Resource Center. The top 10 challenges faced by entrepreneurs today: solved. *Deluxe*. Retrieved from https://www.deluxe.com/sbrc/financial/top-10-challenges-faced-entrepreneurs-today-solved
[69] Bliss, L. (2018, March). How WeWork Has Perfectly Captured the Millennial Id. *The Atlantic*. Retrieved from https://www.theatlantic.com/magazine/archive/2018/03/wework-the-perfect-manifestation-of-the-millennial-id/550922/
[70] Fukuyama, F. (2010) Social capital, civil society, and development, *Third World Quarterly*, 22(1), pp. 7-20
[71] Kate Lister & Tom Harnish. 2011. The State of Telework in the U.S. How Individuals, Business, and Government Benefit.

provide a more efficient alternative to office cubicles, where only 35% to 40% of space is utilized in an ordinary business day.[72]

Co-working spaces with a strong focus on programmed networking can facilitate **intrapreneurship**[73] and ***skunkworks*** approaches to team organization and management, located in the upper-right corner of the matrix. In digital economies, co-working allows companies to attract top talents, stimulate team members' entrepreneurial energy, and improve productivity among employees who value a high degree of autonomy and have a keen interest in social workplaces. Additionally, team members placed strategically near innovative startups gain new skills and perspectives for new markets.

[72] Lister, K. (2012, January 24). Send Employees Home to Reduce Costs and Boost Productivity. Retrieved from https://www.americanexpress.com/us/small-business/openforum/articles/send-employees-home-to-reduce-costs-and-boost-productivity/

[73] Intrapreneurship is defined as exploring new products and services and behaving like an entrepreneur while working within a large organization.

REGIONAL MARKET FOR CO-WORKING SPACE IN CLEVELAND

Beyond anecdotes that co-working is vital for workers and downtown spaces, it is essential to demonstrate a market demand for co-working spaces. We estimated the total demand for co-working spaces in the Cleveland-Elyria Metropolitan Area[74] (MSA) by assembling data on self-employment occupations traditionally found to work in co-working spaces from 2016 and 2017 (for more information on our methodology, see Appendix B). Our findings provide estimates of the potential number of individuals resulting in possible demand for co-working spaces in the Cleveland MSA. The research team spoke to representatives from current co-working spaces in Cleveland about their tenants and operations to triangulate and calibrate these estimates. These conversations revealed that Cleveland co-working tenants are traditionally freelancers in the creative class and service sector, such as the artists, photographers, real estate agents and human resource consultants that utilize co-working spaces, like Cleveland Co-Labs and MidTown Tech Hive. Beyond this, there is preliminary evidence that corporations are currently exploring the use of co-working for remote workers to work in a more formal environment while still being off-site and testing new markets for potential satellite operations.

Demand for Co-Working Spaces in Cleveland

Table 1 displays the estimated number of individuals who could potentially work in a co-working space, as well as their percentage of total co-working members based upon a national survey for the five-county Cleveland MSA.[75] These estimates represent the demand for co-working spaces in 2017.

We project that 23,366 workers could use co-working spaces in the Cleveland MSA based on 2017 demand estimates. If maximum potential demand is met, the number of self-employed workers and freelancers in co-working spaces in the Cleveland MSA would be 7,477, corresponding with the 32% national average of self-employed/freelance co-working members. Extrapolating these proportions, we estimate that 2,804 tenants would represent small businesses and entrepreneurs.

Based upon our research of co-working business models, most co-working members are corporate employees.[76] In the Cleveland MSA, it is estimated that 11,917 corporate employees could potentially use co-working spaces. Other individuals who may use co-working spaces, such as teleworkers and business travelers, account for the remaining small percentage of overall co-working use, numbering 1,168.

[74] The Cleveland-Elyria MSA consists of Cuyahoga, Geauga, Lake, Lorain, and Medina counties; hereafter referred in this report as the Cleveland MSA.
[75] Coworking in the USA 2016 – GCUCALL 2016. Deskmag 2016. Retrieved from https://www.slideshare.net/carstenfoertsch/coworking-in-the-usa-2016https://www.slideshare.net/carstenfoertsch/coworking-in-the-usa-2016
[76] The Economist. (2018, July 14). The Capitalist Kibbutz.

Table 1. Estimated Demand for Co-Working Spaces in the Cleveland MSA, 2017

Category	Estimated Number of People	Percentage of Co-Working Members [1]
Self-Employed & Freelancers	7,477	32%
Small Businesses & Entrepreneurs	2,804	12%
Corporate Employees	11,917	51%
Others (Teleworkers, Business Travelers)	1,168	5%
Total	**23,366**	**100%**

Note: (1) As in the 2016 *Deskmag* U.S. Survey.

Note that these numbers mirror the national average of occupations working out of co-working spaces and reflect the structure of the industry and occupational mix of each region. For example, information technology–centered regions house more IT specialists, and regions that are over-represented by designers and managers will have more designers and managers in their co-working spaces. We assumed that this average structure of tenants fits typical representations of co-working tenants in the Cleveland market, since the Cleveland MSA occupational structure is not heavy in one particular service sector industry.

Although these estimates are based on 2016–2017 data, given the dynamic nature of this growing disruptive industry, we predict that demand for co-working spaces in Cleveland will increase in 2018 and onward. Applying a 10%-15% annual growth projection, as indicated by national trend,[77] would create estimates of demand for co-working spaces upwards of 26,000 workers for 2018 in the Cleveland MSA.

Supply of Co-Working Spaces in Cleveland

Cleveland and surrounding Cuyahoga County provide a nascent co-working market built from grassroots efforts, largely derived from frustration over current real estate market offerings for freelancers. Current co-working locations in Cleveland are clustered around existing business areas, making them accessible to those transitioning out of traditional office jobs and into new positions. These spaces are relatively accessible via bicycle, bus, or light rail, such as Start Mart, opening in downtown Cleveland's Terminal Tower.

The current Cleveland co-working market utilizes freelancers, small businesses, and larger corporations as clients. Many co-working spaces in Cleveland are located downtown or near downtown, like The Beauty Shoppe, Limelight Cowork, Cleveland Co-labs, Dead Logic, Startmart, and Spaces & Co., allowing them to tap into communities of young, creative talent within these geographic areas. There seems to be a current concentration of co-working spaces on the Near West Side of Cleveland in neighborhoods such as Ohio City and the Detroit Shoreway, stretching west to the neighboring city of Lakewood. On the east side of the city, Shaker Launch House and The Dealership can be found in the neighboring eastern suburb of Shaker Heights. Currently, both Cleveland State University and Case Western Reserve are

[77] Cushman & Wakefield (2017, April) Corenet Global.

promoting maker spaces and co-working, which could indicate that there is pipeline potential for students and graduates to transition into a co-working community.

From conversations with current co-working facilitators in Cleveland, the researchers found that while co-working spaces have not had high turnover in their spaces and are reaching capacity, some businesses have left co-working spaces because the co-working organizations could not give the tenant the space they needed. These departures could be positive co-working exits due to growth—or might reflect the inability for co-working spaces in Cleveland to meet the needs of tenants.

We identified 25 co-working spaces within the Cleveland MSA. On average, a co-working space employs 4 people; usually only one employee is full time.[78] This number is relatively small, which reflects the fact that the co-working economy is fairly new in the region. Table 2 highlights the existing square feet of co-working space in the Cleveland MSA.[79] The average co-working space is measured at 14,000 square feet with variation in sizes from 200 square feet per co-working space to 40,000 square feet.

It is important to note that because of the extreme flexibility and short-term leasing approach to co-working, the total number of members at each location varies from month-to-month, even day-to-day. From the data we collected, a co-working space in Cleveland has on average 89 members. The variations in membership numbers (from 5 to 232 members) mirror the differences found in demand for co-working spaces; professionals have varying needs with regard to location, size, and even network capacity.

[78] Average employment per co-working space was calculated from the annual average employment of the existing co-working spaces in the Cleveland MSA in Table 4. The employment of 105 jobs in co-working operations was derived from IMPLAN via output (Industry Sales).

[79] Based on the estimates provided by Downtown Cleveland Alliance, conversations with the owners of co-working spaces, and measurements of each structure Cuyahoga county GIS mapping system (2018). Source: http://myplace.cuyahogacounty.us/

Table 2. Co-working Spaces in Cleveland MSA

Name	Type of Space	City
Beauty Shoppe	Co-working	Cleveland
Cleveland Co-Labs	Co-working (social mission)	Cleveland
CUBE	Office Space	Cleveland
CUBE	Office Space	Cleveland Heights
CUBE	Office Space	Lakewood
CUBE	Office Space	Mentor
CUBE	Office Space	Solon
CUBE	Office Space	Woodmere
Launch House	Co-Working	Highland Heights
Limelight	Co-Working	Cleveland
Office Space Coworking	Co-Working	Akron
Office Space Coworking	Co-Working	Canton
Regus	Office Space	Beachwood
Regus	Office Space	Cleveland
Regus	Office Space	Independence
Regus	Office Space	Westlake
Spaces & Co.	Co-Working	Cleveland
STARTMART	Co-Working	Cleveland
Tech Hub Hudson	Co-Working	Hudson
The Dealership	Co-Working	Shaker Heights
Tenk West Bank	Co-Working & Event Space	Cleveland

Source: Cleveland State University, Center for Economic Development

When talking to co-working operators, they reiterated that it is not the physical space that is most important to tenants. Instead, tenants value the community created and fostered within the space. There have been broader discussions surrounding building relationships between co-working spaces. Topics of discussion within the community include the possible establishment of a council or other group to study and understand market segments so individual spaces could target specific demographics rather than trying to appeal broadly to all types of clientele.

Todd Goldstein, the founder and CEO of Cleveland-based co-working space LaunchHouse, feels that the city's unique features might help determine the shape of most competitive co-working facilities, noting:

> *Cleveland is still a major player in food, engineering, and manufacturing, and the best co-working spaces and entrepreneur systems will embrace those industries just as much as technology…To promote economic development, cities should find ways to support entrepreneurial ecosystems like co-working spaces.*[80]

Appendix C outlines the feasibility of establishing a 40,000-square-foot upscale co-working space in Downtown Cleveland, given the growing demand for at least 26,000 workers in the area. This co-working space will have a positive return on investment under different scenarios.

Analysis of Office Rents vs. Co-Working Spaces Supply

Linear regression was run on the relationship between square footage of total co-working space in selected metropolitan areas (MSAs) and the average rent per square foot for Class A office space in the same markets to analyze the supply for regional co-working space.[81] Regression analysis generates an equation for the line of best fit based upon the relationship between the variables.

The square footage of co-working spaces, normalized by the American Community Survey's five-year estimates for population ages 18 to 64, was used for each metropolitan area. As a result, the measure created as "square feet of co-working space per person aged 18-64" for each metropolitan area was used as a dependent variable in the regression. The sample of MSAs is limited to data available in the source listed above. These relationships are positively correlated and statistically significant, illustrating that high office rents increase co-working space availability. Linear regression R-squared of 0.47[82] indicates that the 47% of the variation of co-working space availability across MSAs is explained by levels of office rents in these regions. The positive correlation coefficient of 68.3% further confirms that higher office rent is associated with high total co-working square footage.

Figure 2 shows a scatter plot of MSAs reflecting relations of the total space of co-working places per working-age population to the costs of office rent. The horizontal axis shows the metropolitan area's average Class A office rent per square foot in the Central Business District (CBD), while the vertical axis shows the number of square feet of co-working space per person aged 18-64 in the metropolitan area. The trend line reflects an estimate of average

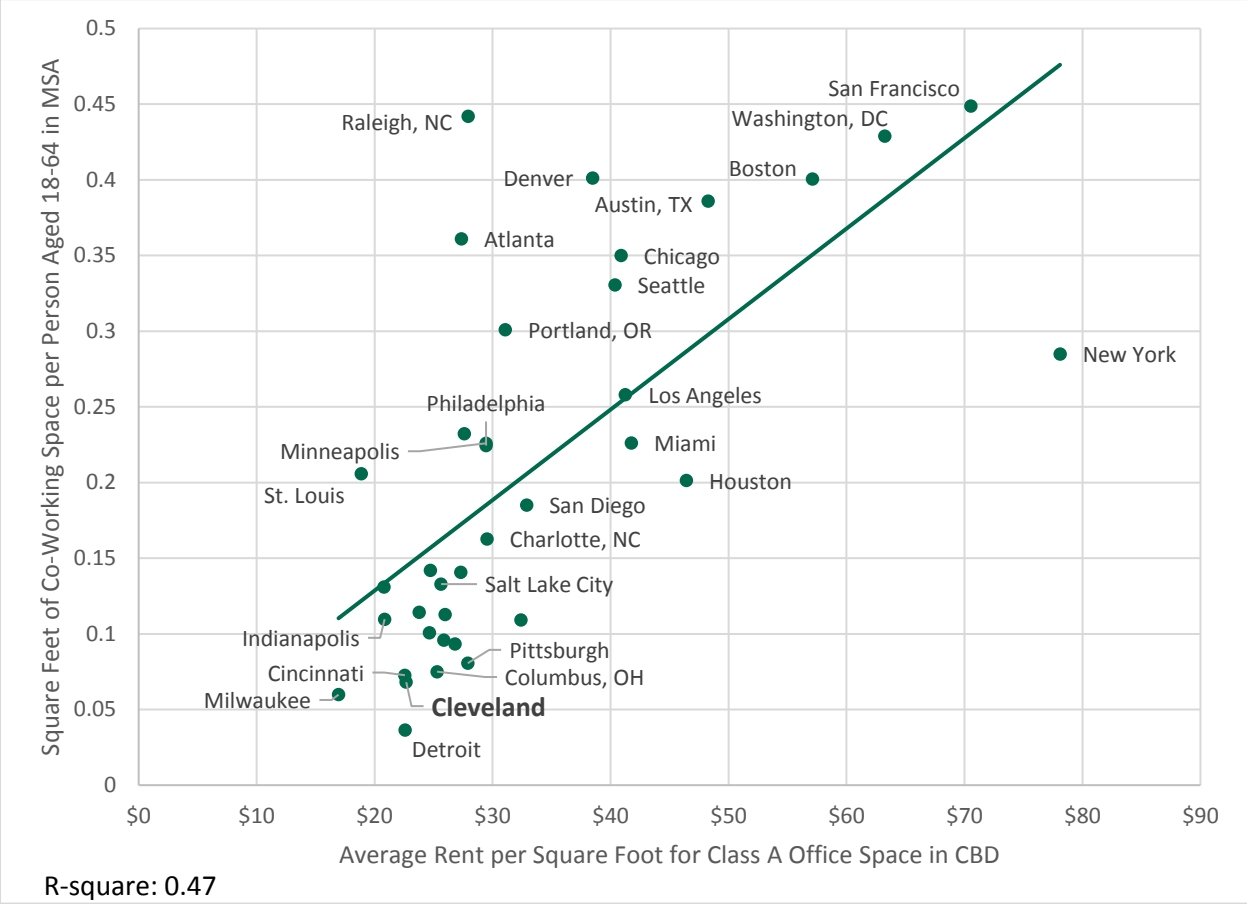
[80] Goldstein, T. (2018, May 21-27). Lessons from 10 years in the coworking space. *CRAIN'S Cleveland Business*.

[81] Because of data availability, assessment of 2016 total square footage of co-working space was taken from the report "Shared Workspaces" by JLL. JLL tracked submarkets in several large metropolitan areas separately. Therefore, co-working space square footage had to be summed for various submarkets to calculate the MSA total. For example, Washington, DC, Northern Virginia, and Suburban Maryland submarkets' co-working square footage was summed to reach a total for the Washington, DC MSA. The Central Business District or urban rents were used to approximate office space rents; this variable is assessed as of quarter 1 of 2016. Shared Workspaces. (2016). JLL. Retrieved from http://www.us.jll.com/united-states/en-us/Research/US-Shared-workspace-2016-JLL.pdf?d478ddcf-db29-4ee9-93f7-efc2b96db04c.

[82] R-squared is a statistical measure that identifies the goodness of fit for a given regression. The R-squared in this example is .47 indicating that 47% can be explained by the model.

relationships between the cost of office rent and total space of co-working places in selected MSAs.[83]

Figure 2. Office Rent vs. Co-Working Spaces Supply



Compared to the cohort of MSAs, the Cleveland MSA is placed at the lower left quadrant of the graph with relatively low 2015 rents ($22.68/square foot) and a small amount of co-working space (0.07 square foot/population 18 to 64). Most of Cleveland's peer regions occupy the same part of the chart, with Cincinnati, Columbus, and Detroit showing comparable results. St. Louis stands out as a peer region, with 2015 rents slightly lower than Cleveland's ($18.87/square foot), yet three times the amount of co-working space (0.21 square foot/population 18 to 64). Raleigh, North Carolina stands out as a comparable metro area, with as much co-working space per person aged 18 to 64 as San Francisco, even though rents in 2015 were less than $30 per square foot. Strong markets, such as San Francisco, Boston,

[83] This graph provides a very basic reflection of the relationships between the cost of office rent and co-working space. More research is needed to confirm and improve the scientific nature of these relationships, including factors that reflect the structure of regional economy, level of entrepreneurship, attractiveness of regional market to entrance by large companies, and others. Moreover, a lag between the cost of office rent and space availability as a leading factor will be plausible.

Washington, DC, and Austin, TX have some of the highest co-working space availability per person aged 18-64 in the entire country.[84]

Approximately 52,000 additional square feet of co-working space would make Cleveland equivalent to the level of co-working space available per person aged 18 to 64 in Indianapolis. Meanwhile, 173,000 square feet of additional co-working space would make Cleveland equivalent to St. Louis, a metropolitan area that strongly outperforms the norm for its level of Class A rents. Finally, around 478,000 additional square feet of co-working space would make Cleveland equivalent to San Francisco, the national leader in co-working space per person aged 18-64. Economic impacts of these various scenarios will be studied later in this report.

Beyond the examination of rents compared to co-working space, a multilinear regression was run of average rent per square foot for Class A office space in CBD and the percentage of individuals who work from home[85] on the square footage of co-working space per person aged 18 to 64 in the metropolitan area. The number of individuals working from home is an additional predictor of co-working square footage in an MSA. Overall, adding this additional variable improves the model's fit, with Adjusted R-Square 0.655. The model shows that a 5.5% increase in individuals working from home will result in a ten-square-foot increase in co-working space.

Both regression models show strong fit levels between average rents in an MSA and the number of co-working spaces, indicating that co-working is a function of office prices. This association is in alignment with other information gathered on co-working: namely, that individuals seek flexible office space with the opportunity to meet others at a low price.

[84] It should be noted that the co-working square footage data is from the first quarter of 2016, and consistent with current trends, additional space has likely come onto the market in nearly all metropolitan areas.
[85] U.S. Census Bureau, American Community Survey 5-Year Annual Estimates.

ECONOMIC IMPACT OF EXISTING AND POTENTIAL CO-WORKING SPACES IN CLEVELAND

This section of the report presents the economic impact of the already established co-working spaces in the Cleveland MSA over the span of eleven years, from 2018 to 2028. To satisfy the increasing demand of co-working spaces, we project two scenarios of co-working supply growth: (1) the increase in the number of co-working spaces required to satisfy one-third of future demand, and; (2) the increase in the number of co-working spaces required to satisfy two-thirds of future demand.

The economic impact of Cleveland co-working spaces' construction and operation on the city of Cleveland, Cuyahoga County, the Cleveland MSA, and the state of Ohio over this period is examined. The economic impact is measured by five indicators: *employment* (number of jobs), *labor income* (household earnings), *value added* (output less the value of intermediary goods—often used as a proxy for GDP), *output* (total value of goods and services produced in the region), and *taxes*. Tax impact calculates the impact of federal, state, and local taxes not including tax incentives or any other economic development incentives. Each of these components is composed of *direct*, *indirect*, and *induced* impacts. For more information about our methodology, see Appendix D.

The researchers found similar results across different regional models. This similarity in results is due to concentrations in the co-working spaces' supply chains in the geographic region. For consistency with other data analyzed in this report, we discuss the results of economic impact for the entire Cleveland MSA. The results of the economic impact of existing and projected co-working spaces on the city, county, and state are presented in Appendices E (Tables E-1-E-6), F (Tables F-1-F-6), and G (Tables G-1-G-6), respectively.

Economic Impact from Construction of Existing Co-Working Spaces

Construction of the existing co-working spaces in the Cleveland MSA had an overall employment impact of 74 annual full-time and part-time jobs (Table 3).[86] These are new and existing jobs supported by the construction projects necessary to refit existing buildings to house co-working office space. These jobs are situated primarily in construction and construction-related industries. Of these total jobs, 70% of jobs were directly involved in the co-working spaces' construction during the 2015–2017 period. Additionally, construction activities generated a total labor income impact of $9.4 million, a value-added impact of $13.2 million, an output impact of $20.1 million, and a state and local tax impact of $1.7 million.[87]

[86] Average employment is reported because same people have continuous employment through multiple years.
[87] Although co-working spaces may qualify for tax incentives, our models do not account for the resulting changes in tax revenues.

Co-working construction projects were supplied by companies in such industries as *Retail Electronics and appliance stores*, *Maintenance and repair construction of nonresidential structures*, *Retail—Furniture and home furnishings stores*, *Real estate*, and *Wholesale trade.* Based on the indirect impact estimates for employment, labor income, value added, and output, we determined that the sectors most affected by co-working spaces were *real estate, wholesale trade, Retail—health and personal care stores, truck transportation,* and *architectural, engineering, and related services.*[88]

Table 3. Economic Impact of Construction of Existing Co-Working Spaces on the Cleveland MSA, 2015-2017

Impact Type	Average Annual Employment[1]	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	51	$6,176,615	$7,156,192	$10,132,869	$1,167,280
Indirect Effect	8	$1,230,949	$2,258,289	$3,794,592	$214,696
Induced Effect	15	$2,003,288	$3,823,903	$6,274,762	$366,007
Total Effect	**74**	**$9,410,852**	**$13,238,384**	**$20,202,223**	**$1,747,983**

Note: (1) Average employment is reported because some people have continuous employment through multiple years.

Economic Impact from Operation of the Existing Co-Working Spaces

Existing co-working spaces in the Cleveland MSA will have an annual employment impact of 105 annual full-time and part-time jobs (Table 4).[89] Many of co-working spaces employ one or few full-time employees, and many part-time employees work for few hours per week. During years 2018–2028 of operations, the direct economic impact measured in labor income is projected to receive $2 million annually.[90] In addition, during these years, $7.9 million of indirect economic impact and $14.9 million of the induced economic impact of labor income will be received annually. The total economic impact measured in labor income will be $4.1 million per year; this additional labor income is received as direct, indirect, and induced impacts by employees of co-working spaces, employees of the supply chain companies, and through the spending pattern of co-working space members, employees, and employees of the supply chain companies.

[88] These are industries from IMPLAN sectoring schemes. Each sector in IMPLAN has its own spending pattern. IMPLAN sectoring schemes are based on the North American Industry Classification System (NAICS). Source: https://implanhelp.zendesk.com/hc/en-us/articles/115009674428-IMPLAN-Sectoring-NAICS-Correspondences

[89] The *IMPLAN* estimates of jobs follow the same definition as Bureau of Economic Analysis Regional Economic Accounts (BEA REA) and Bureau of Labor Statistics Covered Employment and Wages (BLS CEW) data, which is full-time/part-time annual average.

[90] Corresponding low annual income ($3,110) for the average co-working space (in the continuum between WeWork and small non-profits) reflects that employees of co-working spaces are contractors or part-timers. A big portion of co-working maintenance costs is in real estate and technology/internet services.

Operation of co-working spaces will also create about $6.1 million annually in direct economic impact measured in value added, $8.2 million measured in output, and $0.6 million assessed in state and local taxes. Together with the spending activities in the supply chain, the operation of the co-working spaces will create $9.5 million in value added, $14 million in output, and $0.9 million in state and local taxes each year as a *total annual economic impact*.

The typical supply chain companies servicing operations of such a co-working space are classified in the following sectors: *Real Estate, Retail - Electronics and appliance stores, Employment services, Electronic and precision equipment repair and maintenance, Advertising, public relations, and related services, Wired telecommunications carriers,* and many others. The most affected sectors in this supply chain are *Employment services, Real estate, Services to buildings, Maintenance and repair construction of nonresidential structures, and Wholesale trade*.

Table 4. Economic Impact of the Operations of Existing Co-Working Spaces on the Cleveland MSA, 2018-2028

Impact Type	Average Annual Employment[1]	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	58	$21,995,208	$60,874,787	$81,659,593	$5,970,193
Indirect Effect	16	$7,859,752	$15,382,497	$25,386,439	$1,105,479
Induced Effect	31	$14,885,748	$28,413,802	$46,619,755	$2,722,134
Total Effect	**105**	**$44,740,708**	**$104,671,086**	**$153,665,787**	**$9,797,806**

Note: (1) Average employment is reported because some people have continuous employment through multiple years.

Scenarios of Co-Working Spaces Expansion

While the construction and operation of existing co-working spaces in Cleveland is already impacting the regional economy, the economic impact could be significantly larger if the Cleveland MSA could create more co-working spaces to accommodate existing demand and future growth in demand for shared working space. The research team assessed the potential demand for co-working spaces in the Cleveland MSA, coming from approximately 26,000 customers, and created two scenarios of potential growth that would place the region on a map in terms of innovative regions in the co-working market.

Scenario 1 of Co-Working Spaces Expansion

The first expansion scenario for co-working spaces (Scenario 1) envisions the construction of an additional 461,000 square feet of co-working space to grow inventory in Cleveland to 698,000 square feet. Based on an average space-per-customer ratio of 75 square feet in existing co-working spaces, this growth in inventory would accommodate about one--third of the total demand calculated earlier in this report. To calculate the economic impact of the potential growth, we multiplied additional co-working space that can be built due to growth in demand by average expenditures per square foot based on patterns of expenditures in existing co-working spaces. The impact of construction for 461,000 additional square feet is measured over 2018–2019, and the impact of operations for the total space is measured over 2018–2028. For

the economic impact of operations under these scenarios, the total operation of all 698,000 square feet is used.

Economic Impact from Construction of Additional Co-Working Spaces under Scenario 1

The total economic impact of the construction of additional co-working space, measured in employment, will yield 212 jobs each year (Table 5). Of these jobs, 146 (69%) will be the result of a direct impact, an additional 23 jobs (11%) will be created in industries supplying construction efforts, and 44 (21%) jobs will be created throughout additional spending by local households. Construction of co-working spaces will also have a total economic impact of $18.07 million in labor income, $25.4 million in value added, $38.6 million in output, and $3.4 million in state and local taxes.

Table 5. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the Cleveland MSA under Scenario 1, 2018–2019

Impact Type	Average Annual Employment[1]	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	146	$11,872,619	$13,741,150	$19,349,184	$2,252,301
Indirect Effect	23	$2,351,243	$4,316,584	$7,250,963	$409,654
Induced Effect	44	$3,846,676	$7,342,587	$12,048,682	$702,800
Total Effect	**212**	**$18,070,538**	**$25,400,321**	**$38,648,829**	**$3,364,755**

Note: (1) Average employment is reported because some people have continuous employment through multiple years.

Economic Impact from Operation of Additional Co-Working Spaces under Scenario 1

The increase in employment due to the operation of existing and new co-working spaces under Scenario 1 will result in an average annual of 164 (56%) direct, 45 (15%) indirect, and 86 (29%) induced jobs (Table 6). The total number of new and existing jobs resulting from the operation of co-working spaces under Scenario 1 will be 295 jobs per year. Total labor income created due to these employees working at existing and new co-working space and their supply chain will add up to $126 million from 2018 to 2028. This labor income annually is about $11.5 million per year. The cumulative value-added impact will total to $294 million, output impact to $432 million, and the tax impact to $27.5 million.

Table 6. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the Cleveland MSA under Scenario 1, 2018-2028

Impact Type	Average Annual Employment[1]	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	164	$61,798,133	$170,948,790	$229,301,734	$16,771,679
Indirect Effect	45	$22,071,262	$43,196,006	$71,289,660	$3,104,423
Induced Effect	86	$41,809,341	$79,805,354	$130,940,102	$7,645,609
Total Effect	**295**	**$125,678,736**	**$293,950,150**	**$431,531,496**	**$27,521,711**

Note: (1) Average employment is reported because some people have continuous employment through multiple years.

Scenario 2 of Co-Working Spaces Expansion

The second scenario for potential expansion of co-working space in the Cleveland MSA (Scenario 2) envisions the construction of an additional 1,163,000 square feet of space, resulting in a 1,400,000 square feet of total inventory. Based on a space-per-customer ratio of 75 square feet per co-working customer, this represents two-thirds of total potential demand in the region. To calculate the economic impact of the potential growth under Scenario 2, we multiplied additional co-working space that can be built due to the growth in demand by average expenditures per square foot based on patterns of expenditures in existing co-working spaces. The impact of the construction of 1,163,000 additional square feet is measured over 2018–2020, while the impact of operations of the existing and new co-working space is measured over 2018–2028. For the economic impact of operations under the scenarios, the total operation of all 1,400,000 square feet is used.

Economic Impact from Construction of Additional Co-Working Spaces under Scenario 2

The overall employment impact of additional construction on the Cleveland MSA under Scenario 2 would be 355 annual jobs (Table 7). There would be 345 jobs with new co-working spaces created as the result of direct impact. In addition, construction would create and support 38 indirect jobs and 73 induced jobs. The construction of these new co-working spaces would generate a cumulative labor income impact of $45.5 million, a value-added impact of $63.9 million, an output impact of $97.2 million, and a tax impact of $8.5 million.

Table 7. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the Cleveland MSA under Scenario 2, 2018-2020

Impact Type	Average Annual Employment[1]	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	245	$29,900,805	$34,599,458	$48,666,401	$5,676,621
Indirect Effect	38	$5,914,111	$10,859,070	$18,239,890	$1,030,186
Induced Effect	73	$9,685,723	$18,488,238	$30,337,933	$1,769,612
Total Effect	**355**	**$45,500,639**	**$63,946,766**	**$97,244,224**	**$8,476,419**

Note: (1) Average employment is reported because some people have continuous employment through multiple years.

Economic Impact from Operation of Additional Co-Working Spaces under Scenario 2

Total employment impact due to operations for existing and new co-working spaces under Scenario 2 amounts to 6,189 jobs, which is equivalent to 563 jobs per year (Table 8). The total labor income impact would be $240 million. Of this total, $118 million (49%) will result from the direct labor income impact. The cumulative value-added impact of existing and new co-working spaces will be $561 million from 2018 to 2028, or $51 million per year. The cumulative output impact will total to $824 million and the tax impact to $53 million.

Table 8. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the Cleveland MSA under Scenario 2, 2018-2028

Impact Type	Average Annual Employment[1]	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	314	$118,026,817	$326,335,414	$437,701,978	$32,027,725
Indirect Effect	86	$42,132,341	$82,457,565	$136,088,385	$5,926,262
Induced Effect	164	$79,825,166	$152,369,674	$249,999,534	$14,597,500
Total Effect	**563**	**$239,984,324**	**$561,162,653**	**$823,789,897**	**$52,551,487**

Note: (1) Average employment is reported because some people have continuous employment through multiple years.

If the Cleveland MSA creates additional co-working space under Scenario 1, it will be grouped with the Denver-Aurora-Lakewood, Colorado MSA in terms of total square footage of co-working spaces.[91] If additional co-working spaces are created in the Cleveland MSA according to Scenario 2, the region will compare with the San Francisco-Oakland-Hayward, California MSA by the same measure. Creating additional co-working spaces will conservatively create the economic impact discussed in this section. Additionally, economic impact will likely grow as a result of higher productivity achieved by workers being accommodated by work environments of their choice, potential new products, and working teams that could lead to the inception of new companies or output growth at existing companies, as well as new large companies potentially entering and expanding in the new regional market.

[91] As of Q1 2016 data. It should be noted that additional space has likely come onto the market in nearly all metropolitan areas.

APPENDICES

APPENDIX A: TRADITIONAL LEASE VS. CO-WORKING SPACE COST COMPARISON

Overall, the benefit for tenants of co-working spaces is that they provide friendly, well-functioning office environments with flexible lease rates. Co-working spaces also save on costs for tenants compared to traditional office leasing. In a traditional office environment, office leases range anywhere from 7 to 12 years, and tenants often bear some of the cost of outfitting the office space for their needs as well as furnishing the space for their tastes. In co-working arrangements, the co-working space operator has already built and furnished the space and lease commitments are far shorter. Typical co-working commitments are 1 to 2 years long, with month-to-month arrangements often available for a premium.

The following comparison is between a co-working space and a private office space renting at $500 per month per employee. A requirement of space for ten employees was used. For Class A and Class B leases, this equates to 1,500 square feet (150 square feet per employee).
Table A-1 shows that annual costs are higher in co-working spaces over private offices. However, because co-working spaces offer customers far lower initial investment costs and far shorter commitments for space, private offices in co-working spaces are an attractive alternative for growing companies and start-ups unsure of their long-term needs or unable to commit to a long-term lease. Private offices in co-working spaces are also ideal for companies testing new markets for expansion. For example, the social networking website LinkedIn used private offices in one of Detroit's WeWork locations for several years before deciding to lease a permanent office in the city.

Table A-1. Traditional Lease vs. Co-Working Space Cost

	Traditional Lease Class A	Traditional Lease Class B	Co-working Space
Rent	$36,000[A]	$28,500[D]	$60,000
Tenant Fit-Out	$45,000[B]	$22,500[E]	$0
Furniture, Fixtures, & Equipment	$48,000[C]	$39,000[F]	$0
Year 1 Costs	$129,000	$90,000	$60,000
Yearly Costs after Year 1	$36,000	$28,500	$60,000

Note: Assumed 1,500 Sq. Ft. office for Class A & B
[A] Assumed $24 per Sq. Ft.; [B] Assumed $30 per Sq. Ft.; [C] Assumed $32 per Sq. Ft.; [D] Assumed $19 per Sq. Ft.; [E] Assumed $15 per Sq. Ft.; [F] Assumed $26 per Sq. Ft.

Additionally, when dedicated-desk memberships or hot-desk memberships are used instead of private office spaces, annual co-working fees are $36,000 or $24,000 respectively, on par with local rents for traditional leases and still requiring no initial capital investments. Therefore, budget-conscious small businesses and start-ups could opt for dedicated desk memberships, taking advantage of substantial savings while still providing employees with personal workspaces.

APPENDIX B: METHODOLOGY FOR ESTIMATING THE DEMAND FOR CO-WORKING SPACES IN THE CLEVELAND MSA

Estimates for the demand for co-working spaces in the Cleveland MSA was derived from several publicly available data sources. First, we employed data on the distribution of co-working members' professions in the 2016 U.S. Co-working Survey published by *Deskmag*, an online magazine about co-working and co-working statistics. From the *Deskmag* survey, three professions constitute nearly half of co-working space members: *Information Technology* (software engineers, web developers) – 27%; *Consulting* – 15%; and *Design* (graphic, web, product, game) – 7%.[92] Other occupations include *PR and Marketing* (5%); *Journalists and Writers* (5%); *Educators* (5%); *Managers* (5%); *Event Project Management* (4%); *Research Science and Analytics* (4%); *Business Developers including Founders* (3%); *Artists* (3%); and *Others* (16%).

Second, we utilized employment data from the Occupational Employment Statistics published by the U.S. Bureau of Labor Statistics. The survey covers all full-time and part-time wage and salary workers in non-farm industries. All workers are classified into one of 867 detailed occupations according to their Standard Occupational Classification (SOC) code.[93] Based on occupations that corresponded to the professions from the *Deskmag* Survey, 52 occupational codes were selected in the SOC system (Table B-1).

Two categories of potential users were not reflected by the SOC: self-employed individuals and professional services employees beyond those fitting into SOC occupations. Self-employed individuals were noted in the literature as an important share of the demand for co-working spaces; therefore, we added a self-employed category using the national share of self-employed in total U.S. employment. To include self-employment by SOC for the Cleveland MSA, we multiplied the national ratio of occupational self-employment in 2016[94] by total occupational employment in the Cleveland MSA. To include additional workers in professional services, we used industries' employment of NAICS 54 - *Professional, Scientific, and Technical Services* sector, preliminarily decreasing it by the numbers of employees coded in NAICS 54's SOC occupations.[95]

[92] Co-working in the USA 2016 – GCUCALL 2016. Deskmag 2016. Retrieved from https://www.slideshare.net/carstenfoertsch/co-working-in-the-usa-2016

[93] The Standard Occupational Classification (SOC) system is a federal statistical standard used by federal agencies to classify workers into occupational categories for collecting, calculating, or disseminating data. *Bureau of Labor Statistics. 2018.* For more information: https://www.bls.gov/soc/

[94] 2016 data was used because of data availability

[95] We used the two-digit NAICS code of *Professional, Scientific, and Technical Services* (NAICS 54) to derive self-employment data for Business Developers and Consultant professions identified in the *DeskMag* Survey. This methodology was used because these occupations are not captured by any SOC code.

Table B-1. Co-Working Members' Professions in the Cleveland MSA Linked to the U.S. BLS Occupational Employment Statistics Survey

SOC Code	Professions of Co-Working Tenants
11-1011	Higher Management
11-2021	PR, Marketing, Sales, Advertising
13-1111	Research (Scientist, Analyst, Researcher)
13-1121	Project Management (Events, Communities, Culture)
13-1161	Research (Scientist, Analyst, Researcher)
13-2031	Research (Scientist, Analyst, Researcher)
13-2041	Research (Scientist, Analyst, Researcher)
13-2051	Research (Scientist, Analyst, Researcher)
15-1121	Research (Scientist, Analyst, Researcher)
15-1122	Research (Scientist, Analyst, Researcher)
15-1131	IT (Software Engineer, Web Developer)
15-1132	IT (Software Engineer, Web Developer)
15-1133	IT (Software Engineer, Web Developer)
15-1134	IT (Software Engineer, Web Developer)
15-1141	IT (Software Engineer, Web Developer)
15-1142	IT (Software Engineer, Web Developer)
15-1143	IT (Software Engineer, Web Developer)
15-1151	IT (Software Engineer, Web Developer)
15-1152	IT (Software Engineer, Web Developer)
15-1199	IT (Software Engineer, Web Developer)
15-2031	Research (Scientist, Analyst, Researcher)
19-1012	Research (Scientist, Analyst, Researcher)
19-1031	Research (Scientist, Analyst, Researcher)
19-1099	Research (Scientist, Analyst, Researcher)
19-2021	Research (Scientist, Analyst, Researcher)
19-2032	Research (Scientist, Analyst, Researcher)
19-2041	Research (Scientist, Analyst, Researcher)
19-2042	Research (Scientist, Analyst, Researcher)
19-3022	Research (Scientist, Analyst, Researcher)
19-3099	Research (Scientist, Analyst, Researcher)
19-4061	Research (Scientist, Analyst, Researcher)
27-1010	Art (Filmmaker, Painter, Photographer, Music, etc.)
27-1020	Design (Graphic, Web, Product, Game)
27-2010	Art (Filmmaker, Painter, Photographer, Music, etc.)
27-2022	Education (Coaching, Training, Teaching)
27-2023	Education (Coaching, Training, Teaching)
27-2030	Art (Filmmaker, Painter, Photographer, Music, etc.)
27-2040	Art (Filmmaker, Painter, Photographer, Music, etc.)

Table B-1 (continued). Co-Working Members' Professions in the Cleveland MSA Linked to the U.S. BLS Occupational Employment Statistics Survey

SOC Code	Professions of Co-Working Tenants
27-2099	Art (Filmmaker, Painter, Photographer, Music, etc.)
27-3023	Writing (Journalist, Writer, Copywriter, Blogger)
27-3031	PR, Marketing, Sales, Advertising
27-3040	Writing (Journalist, Writer, Copywriter, Blogger)
27-4021	Art (Filmmaker, Painter, Photographer, Music, etc.)
41-3021	PR, Marketing, Sales, Advertising
41-3041	PR, Marketing, Sales, Advertising
41-3091	PR, Marketing, Sales, Advertising
41-9090	PR, Marketing, Sales, Advertising

Source: U.S. Bureau of Labor Statistics and 2016 *Deskmag* U.S. Survey.

APPENDIX C: REAL ESTATE PRO-FORMA AND COST COMPARISON

This appendix presents the financial feasibility of establishing a co-working space in Cleveland. To do this, the researchers examined the costs to run and operate a co-working space in the Cleveland real estate market. The model is established based on industry trends from large market players (i.e., WeWork and Industrious).

Assumptions

Commercial real estate brokers use a three-class system to categorize office space. Buildings are ranked according to criteria such as age, size, location, technology, security, prestige, aesthetics, food courts, gyms, and other amenities. Class A buildings are the highest end of the cost spectrum because of amenities, Class B buildings occupy the middle range of rents, and Class C buildings are typically older buildings that serve tenants who desire an economical, no-frills office space.

WeWork opened two 40,000-square-foot locations in Detroit in 2017[96] (1449 Woodward Avenue[97] and 1001 Woodward Avenue[98]). Because Detroit is a weak-market, low-rent city like Cleveland, Detroit co-working spaces were the most comparable to assess the feasibility of a co-working space in Cleveland. Since Cleveland and the Metropolitan Cleveland area are smaller than Detroit and Metro Detroit, this report will examine the feasibility of one 40,000-square-foot co-working space in Cleveland. Moreover, as there is empty office space available in Cleveland, this study considered opening a co-working space inside an existing office building, as opposed to new construction.

Building and Rent

The buildings that house WeWork's Detroit locations were constructed in 1915 and 1965, indicating a Class B or Class C office building. We will, therefore, use the same assumption in the Cleveland model with the co-working facility located in a Class B facility. This financial feasibility analysis assumes the co-working space will be opened in the Central Business District (CBD) of Cleveland in a Class B office building. The average rent for a Class B office space in the CBD of Cleveland is roughly $19 per square foot for 2018.[99, 100] Based upon knowledge of the Cleveland commercial real estate market, leases for offices in commercial office buildings are typically seven to twelve years. The financial feasibility analysis in this report assumes the co-

[96] Pinho, K. (2017, September 27). WeWork leases 80,000 square feet in Gilbert-owned buildings. *Crain's Detroit Business*.
[97] Bedrock - 1449 Woodward Ave. (n.d.). Retrieved from http://www.bedrockdetroit.com/property/1449-woodward-ave/
[98] Bedrock - 1001 Woodward Ave. (n.d.). Retrieved from http://www.bedrockdetroit.com/property/1001-woodward-ave/
[99] Batson, A., & Miller, J. (n.d.). Cleveland Office Outlook, Q1 2018. JLL.
[100] Orgovan, M., & Hoover, N. (n.d.). Q1 2018 Cleveland Office Market Report. Newmark Knight Frank. Retrieved from http://www.terrycoyne.com/

working space will sign an 11-year lease on 40,000 square feet and pay $19 per square foot per year, inflated at 2% annually.

Capital Investment

While tenant fit-out costs for Class B office space in Cleveland average around $15 per square foot, most upscale co-working spaces include amenities and finishes that are beyond typical Class B office space. The feasibility analysis like this assumes fit-out costs more typical of Class A office space, which is $30 per square foot. Similarly, the analysis assumes furniture, fixtures, and equipment costs of $32 per square foot, typical of Class A space in Cleveland (Table C-1). For a 40,000 square foot co-working space, total construction costs are $2,480,000. The feasibility analysis performed in this report assumes the co-working space operator has adequate cash to pay for construction without financing.

Table C-1. Assumed Cost Per Square Foot

	Cost Per Sq. Ft.	Cost for 40,000 Sq. Ft.
Tenant Fit-Out	$30	$1,200,000
Furniture, Fixtures, & Equipment	$32	$1,280,000
Total Cost	**$62**	**$2,480,000**

In the financial feasibility analysis, the $30 per square foot fit-out costs were depreciated as 15-year property, by IRS rules and using IRS depreciation tables.[101] The $32 per square foot furniture, fixtures, and equipment costs were depreciated as 7-year property, by IRS rules and using IRS depreciation tables.

Membership and Occupancy

Co-working spaces have many types of membership and options for tenants to use. The first is a day pass to the facility, which allows a person to use the co-working space when visiting or on business. The second is a "hot-desk" type of occupancy, which includes unlimited access to the co-working space and the use of its facilities, but no dedicated desk. The "hot-desk" membership necessitates that tenants sit down at a table or shared common space, conduct work, and then leave. The third type of occupancy includes a dedicated desk for a member, traditionally a small desk or cubicle that a member rents monthly as his or her dedicated workspace. Lastly, there are private-office occupancies, which include all the amenities of a co-working space, but add a personal office with a door for the member to use. This financial analysis assumes that half of the co-working space's 40,000 square feet (20,000 square feet) will be set aside for private offices, with the remaining space used for a mix of hot and dedicated desks.

[101] Internal Revenue Service. (2017). *Publication 946: How to Depreciate Property*. Retrieved from https://www.irs.gov/pub/irs-pdf/p946.pdf

Traditional offices currently house an estimated one person per 150 square feet, while private offices in co-working spaces make do with fewer square feet per individual. Market leaders in the co-working industry typically fit each customer into about 75 square feet. The financial feasibility analysis performed in this report assumes private offices within the co-working space are slightly roomier, with 90 square feet per customer. Throughout the 11-year financial feasibility analysis, the 20,000 square feet of private office space is assumed to be 85% occupied, equating to approximately 189 private office members.[102] We also assume an average of 125 hot-desk members, 200 dedicated-desk members, and five daily visitors during 250 days of operation. Table C-2 displays membership estimates along with cost per person. Spread over 40,000 square feet of total space, the 519 members each have an average of 77.1 square feet of workspace, consistent with the typical model of 75 square feet per customer. [103]

Table C-2. Membership Level and Costs

Membership Level	Membership	Cost Per Person
Hot Desk	125	$200/month
Dedicated Desk	200	$300/month
Private Office	189	$500/month
Daily Visitors	5	$50/day
Total Average Membership	**519**	**- - -**

Projected Revenues

The financial feasibility analysis was performed over a theoretical 11-year period. Based on the memberships and prices described in the previous section, the first four years of projected revenues are shown in Table C-3.

Table C-3. Projected Revenues by Membership Level

Membership Level	Year 1	Year 2	Year 3	Year 4
Private Office Revenue	$1,133,333	$1,156,000	$1,179,120	$1,202,702
Hot Desk Revenue	$300,000	$306,000	$312,120	$318,362
Dedicated Desk Revenue	$720,000	$734,400	$749,088	$764,070
Daily Workspace Revenue	$62,500	$63,750	$65,025	$66,326
Total Revenue	**$2,215,833**	**$2,260,150**	**$2,305,353**	**$2,351,460**
Total Revenue per Sq. Ft.	**$55.40**	**$56.50**	**$57.63**	**$58.79**

Note: All prices are inflated at 2% annually

[102] 20,000 square feet, 85% occupied at 90 square feet per customer equals about 189 private office members.
[103] Flexible Office Space. (2018). JLL.

Projected Operating Expenses

Deskmag's 2017 Global Coworking Survey of co-working spaces all over the world[104] identified the following expenses for co-working spaces (Table C-4):

Table C-4. Typical Operating Expenses of a Co-Working Space

Expense	Percentage of Total Expenses
Rent	40%
Operating Costs	15%
Wages for Staff	16%
Maintenance	6%
Wages for Owners	5%
External Marketing	5%
Equipment	6%
Food and Drink	5%
Other	2%

Source: Carsten Foertsch (2017, September). *Profitability of Coworking Spaces - 2017 Global Coworking Survey*.

As mentioned previously, rent for a hypothetical co-working space in Cleveland is estimated at $19 per square foot per year on 40,000 square feet, plus annual inflation. The $19 per square foot rent figure and the percentages in Table C-4 were used to estimate annual amounts for all of the other expense categories. Table C-5 displays the first four years of projected expenses.

Table C-5. Projected Operating Expenses by Expense Category

Expense	Year 1	Year 2	Year 3	Year 4
Rent	$760,000	$775,200	$790,704	$806,518
Operating Costs	$285,000	$290,700	$296,514	$302,444
Wages for Staff	$304,000	$310,080	$316,282	$322,607
Maintenance	$114,000	$116,280	$118,606	$120,978
Wages for Owners	$95,000	$96,900	$98,838	$100,815
External Marketing	$95,000	$96,900	$98,838	$100,815
Equipment	$114,000	$116,280	$118,606	$120,978
Food and Drink	$95,000	$96,900	$98,838	$100,815
Other	$38,000	$38,760	$39,535	$40,326

Note: All prices are inflated at 2% annually

Note that Tables C-4 and C-5 offer a broad picture of operating expenses across all types of co-working spaces, and not all expenses would correspond exactly to expenses for a high-end co-working space in Cleveland. However, these expenses still represent a reasonable approximation of average expenses required to operate the space.

[104] Carsten Foertsch, C. (2017, September). Profitability of Coworking Spaces - 2017 Global Coworking Survey - …. Retrieved from https://www.slideshare.net/carstenfoertsch/profitability-of-coworking-spaces-2017-global-coworking-survey-deskmag

Projected Financial Results

Net Operating Income

Net operating income (NOI) represents the co-working space's income before taxes, debt service, and depreciation. It can be understood as a space's inherent operational viability, before considering how the project would be financed and how taxes would affect profits. These operating results assume the co-working space is fully occupied and financially stable immediately upon opening, with operating incomes ranging between $300,000 and $400,000 annually.

According to the Detroit News, the first WeWork Detroit location was fully occupied within six months of opening,[105] so it is reasonable to assume that a similar location in Cleveland will not have major problems attracting customers. Table C-6 displays the total operating revenues, operating expenses, and net operating income for an 11-year lease period of a co-working space in Cleveland.

Table C-6. Total Revenues, Expenses, and Net Operating Income

Year	Total Revenues	Total Expenses	Net Operating Income
1	$2,215,833	$1,900,000	$315,833
2	$2,260,150	$1,938,000	$322,150
3	$2,305,353	$1,976,760	$328,593
4	$2,351,460	$2,016,295	$335,165
5	$2,398,489	$2,056,621	$341,868
6	$2,446,459	$2,097,754	$348,706
7	$2,495,388	$2,139,709	$355,680
8	$2,545,296	$2,182,503	$362,793
9	$2,596,202	$2,226,153	$370,049
10	$2,648,126	$2,270,676	$377,450
11	$2,701,088	$2,316,089	$384,999

Note: All prices are inflated at 2% annually

[105] Steinberg, S. (2017, August 7). WeWork Attracts New Businesses, Suburbanites Downtown. *The Detroit News*.

Internal Rates of Return

Before taxes, the co-working space provides a 7.8% internal rate of return over the 11-year lease period. This rate of return represents the annualized total return on the initial investment over the 11 years. Put another way, these results are equivalent to 11 years of compound interest at 7.8% on the initial investment.

Taxable income was calculated by subtracting depreciation from NOI, and a 21% corporate income tax rate was applied to annual taxable income. After taxes, the space provides a 6.1% internal rate of return over the lease period. At the end of the lease period, it is assumed that significant additional investment will be required to continue operation.

Debt Financing (Leverage)

This analysis assumes the co-working operator has available cash to pay the costs of all initial required capital investment. However, financial leverage can enhance returns. We assume that the co-working space described above uses 20% of its equity and receives a $2,000,000 loan, which represents 80% of the total project costs. A ten-year 5% loan allows cash flows adequate to make all required debt payments.

Under this 80% debt/20% equity scenario, the co-working space would provide a 15% internal rate of return over the 11 years before taxes, and a 13% internal rate of return over the 11 years after taxes. In the case of WeWork, the company has already raised substantial amounts of capital through bond issuances and private investors, and a project-specific loan would not likely be required.[106]

Conclusion

Table C-7 summarizes internal rates of return over the 11 years, before and after taxes, both without leverage and with leverage ($2,000,000 loan) representing 80% of the project costs.

Table C-7. Internal Rates of Return

	Unleveraged Internal Rate of Return	Leveraged Internal Rate of Return - 80% Debt /20% Equity
Before Taxes	7.8%	15.0%
After Taxes	6.1%	13.0%

Because all the rates of return shown in Table C-7 are positive, the co-working space is profitable in all four of the above situations. Provided that estimated demand for such a facility is at 26,000 members in 2018, a 40,000 square foot upscale co-working space is financially feasible in Downtown Cleveland.

[106] Brown, E. (2018, April 25). A Look at WeWork's Books: Revenue Is Doubling but Losses Are Mounting. *The Wall Street Journal*.

APPENDIX D: METHODOLOGY FOR ECONOMIC IMPACT

Economic impact was conducted using IMPLAN Professional and IMPLAN Data Files. IMPLAN Professional® 3.0 is the latest economic impact assessment software system. Using the IMPLAN® Data Files, the user can develop sophisticated models of regional economies to estimate a wide range of economic impacts. The IMPLAN impact model is used by more than 1,000 public and private institutions.

Five economic impact measures were produced using this model. These measures are *employment* (number of jobs), *labor income* (household earnings), *value added* (output less the value of intermediary goods, often used as a proxy for GDP), *output* (total value of goods and services produced in the region), and *taxes*. Tax impact calculates the impact of federal, state, and local taxes. Each of these components is composed of direct, indirect, and induced impacts.

Direct impact refers to the initial value of goods and services used in the construction projects and the operation of the local businesses. These purchases are sometimes referred to as the first-round effect. Indirect impact measures the value of labor, capital, and other inputs of production needed to produce the goods and services being purchased at the initial round of spending, referred to as second- and additional-round effects. Induced impact measures the change in spending by local households due to increased earnings of employees at the businesses in the corridor and employees working in local industries who produce goods and services for them.

Economic impact was then measured based on existing co-working space in Cleveland as well as the two potential scenarios for the expansion of co-working space in the Cleveland MSA.

The estimated price of operations per square foot was $47.52. Of this, 40% was paid for rents. Other expenses were split between operating costs, wages for staff and owners, maintenance, marketing, food and drink, equipment, and others. The total cost of one square foot regarding construction and initial furnishing was $62.

Existing co-working space in the Cleveland MSA was measured at approximately 237,000 square feet. The economic impact for the construction of existing co-working spaces was estimated over the years 2015–2017, given that many co-working spaces have opened in this time. The economic impact of the operation of existing co-working spaces was projected over 2018–2028, the eleven-year period that corresponds to the length of the financial projection performed earlier in this report. It is assumed that after the eleven years, significant capital investment would be required to continue operation of the space and the cost of rent would need to be renegotiated and would likely increase.

APPENDIX E: ECONOMIC IMPACT OF CO-WORKING SPACES ON CLEVELAND[107]

Table E-1. Economic Impact of the Construction in Cleveland, 2015-2017

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	50	$6,550,958	$7,578,584	$10,132,869	$1,055,009
Indirect Effect	5	$749,606	$1,360,611	$2,360,582	$103,762
Induced Effect	5	$596,484	$1,152,243	$1,894,257	$94,618
Total Effect	**60**	**$7,897,048**	**$10,091,438**	**$14,387,708**	**$1,253,389**

Table E-2. Economic Impact of the Operations in Cleveland, 2018-2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	55	$22,759,164	$63,699,722	$81,659,593	$5,301,290
Indirect Effect	9	$4,768,693	$9,360,795	$15,376,392	$557,177
Induced Effect	10	$4,800,444	$9,277,023	$15,248,063	$763,920
Total Effect	**74**	**$32,328,301**	**$82,337,540**	**$112,284,048**	**$6,622,387**

Scenarios of Co-Working Spaces Expansion

Table E-3. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the city of Cleveland under Scenario 1, 2018-2019

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	144	$12,588,626	$14,547,319	$19,349,184	$2,036,249
Indirect Effect	14	$1,432,761	$2,602,638	$4,512,894	$198,027
Induced Effect	13	$1,145,524	$2,212,839	$3,637,848	$181,710
Total Effect	**171**	**$15,166,911**	**$19,362,796**	**$27,499,926**	**$2,415,986**

Table E-4. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the city of Cleveland under Scenario 1, 2018-2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	155	$63,943,906	$178,879,453	$229,301,734	$14,893,043
Indirect Effect	25	$13,391,868	$26,287,484	$43,181,354	$1,564,734
Induced Effect	28	$13,482,781	$26,055,933	$42,826,510	$2,145,584
Total Effect	**208**	**$90,818,555**	**$231,222,870**	**$315,309,598**	**$18,603,361**

[107] Note: (1) Economic impacts for the city of Cleveland are estimated at the zip-code level. (2) Average employment is reported because same people have continuous employment through multiple years.

Table E-5. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the city of Cleveland under Scenario 2, 2018–2020

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	241	$31,702,273	$36,626,901	$48,666,401	$5,132,378
Indirect Effect	23	$3,604,310	$6,548,320	$11,353,313	$498,011
Induced Effect	22	$2,884,452	$5,571,970	$9,160,170	$457,548
Total Effect	**286**	**$38,191,035**	**$48,747,191**	**$69,179,884**	**$6,087,937**

Table E-6. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the city of Cleveland under Scenario 2, 2018–2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	295	$122,123,803	$341,470,563	$437,701,978	$28,441,083
Indirect Effect	48	$25,565,356	$50,182,747	$82,434,105	$2,987,142
Induced Effect	54	$25,741,942	$49,747,177	$81,766,330	$4,096,442
Total Effect	**397**	**$173,431,101**	**$441,400,487**	**$601,902,413**	**$35,524,667**

APPENDIX F: ECONOMIC IMPACT OF CO-WORKING SPACES ON CUYAHOGA COUNTY[108]

Table F-1. Economic Impact of the Construction of Existing Co-Working Spaces on the Cuyahoga County, 2015–2017

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	50	$6,550,958	$7,578,583	$10,132,869	$1,136,165
Indirect Effect	7	$1,190,155	$2,187,263	$3,454,651	$197,810
Induced Effect	12	$1,622,136	$3,056,928	$4,905,691	$273,271
Total Effect	**69**	**$9,363,249**	**$12,822,774**	**$18,493,211**	**$1,607,246**

Table F-2. Economic Impact of the Operations of Existing Co-Working Spaces on the Cuyahoga County, 2018–2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	55	$22,759,163	$63,699,722	$81,659,593	$5,594,874
Indirect Effect	14	$7,174,529	$14,146,169	$22,566,349	$943,895
Induced Effect	23	$11,845,719	$22,321,078	$35,817,308	$1,997,932
Total Effect	**92**	**$41,779,411**	**$100,166,969**	**$140,043,250**	**$8,536,701**

Scenarios of Co-Working Spaces Expansion

Table F-3. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the Cuyahoga County under Scenario 1, 2018–2019

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	144	$12,588,625	$14,547,318	$19,349,184	$2,192,192
Indirect Effect	21	$2,274,093	$4,182,449	$6,604,946	$377,445
Induced Effect	34	$3,114,359	$5,869,035	$9,418,499	$524,655
Total Effect	**199**	**$17,977,077**	**$24,598,802**	**$35,372,629**	**$3,094,292**

[108] Average employment is reported because same people have continuous employment through multiple years.

Table F-4. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the Cuyahoga County under Scenario 1, 2018–2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	155	$63,943,904	$178,879,452	$229,301,734	$15,717,869
Indirect Effect	38	$20,148,336	$39,726,696	$63,374,263	$2,650,835
Induced Effect	65	$33,271,001	$62,693,085	$100,599,872	$5,611,578
Total Effect	**258**	**$117,363,241**	**$281,299,233**	**$393,275,869**	**$23,980,282**

Table F-5. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the Cuyahoga County under Scenario 2, 2018–2019

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	362	$31,702,271	$36,626,900	$48,666,401	$5,525,091
Indirect Effect	52	$5,720,441	$10,522,449	$16,616,615	$949,191
Induced Effect	85	$7,841,570	$14,777,503	$23,714,617	$1,321,017
Total Effect	**499**	**$45,264,282**	**$61,926,852**	**$88,997,633**	**$7,795,299**

Table F-6. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the Cuyahoga County under Scenario 2, 2018–2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	295	$122,123,798	$341,470,561	$437,701,978	$30,016,333
Indirect Effect	73	$38,463,928	$75,839,390	$120,985,391	$5,060,693
Induced Effect	125	$63,523,444	$119,698,255	$192,072,688	$10,714,034
Total Effect	**493**	**$224,111,170**	**$537,008,206**	**$750,760,057**	**$45,791,060**

APPENDIX G: ECONOMIC IMPACT OF CO-WORKING SPACES ON OHIO[109]

Table G-1. Economic Impact of the Construction of Existing Co-Working Spaces on the State of Ohio, 2015–2017

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	50	$6,077,242	$7,019,476	$10,132,869	$1,131,495
Indirect Effect	9	$1,293,221	$2,328,526	$4,217,103	$222,411
Induced Effect	17	$2,158,978	$4,073,155	$6,949,565	$401,884
Total Effect	**76**	**$9,529,441**	**$13,421,157**	**$21,299,537**	**$1,755,790**

Table G-2. Economic Impact of the Operations of Existing Co-Working Spaces on the State of Ohio, 2018-2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	61	$21,593,421	$57,598,092	$81,659,593	$6,138,330
Indirect Effect	17	$8,412,103	$16,006,761	$27,626,741	$1,214,293
Induced Effect	34	$16,122,970	$30,421,365	$51,895,882	$3,003,568
Total Effect	**112**	**$46,128,494**	**$104,026,218**	**$161,182,216**	**$10,356,191**

Scenarios of Co-Working Spaces Expansion

Table G-3. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the State of Ohio under Scenario 1, 2018–2019

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	145	$11,681,659	$13,478,399	$19,349,184	$2,183,342
Indirect Effect	25	$2,469,419	$4,448,014	$8,052,629	$424,267
Induced Effect	48	$4,145,191	$7,820,368	$13,343,015	$771,606
Total Effect	**218**	**$18,296,269**	**$25,746,781**	**$40,744,828**	**$3,379,215**

[109] Average employment is reported because same people have continuous employment through multiple years.

Table G-4. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the State of Ohio under Scenario 1, 2018–2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	172	$60,669,078	$161,749,595	$229,301,734	$17,243,339
Indirect Effect	48	$23,621,375	$44,947,392	$77,577,775	$3,409,865
Induced Effect	96	$45,283,807	$85,443,015	$145,757,458	$8,435,975
Total Effect	**316**	**$129,574,260**	**$292,140,002**	**$452,636,967**	**$29,089,179**

Table G-5. Projected Economic Impact of the Construction of Additional Co-Working Spaces on the State of Ohio under Scenario 2, 2018–2020

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	243	$29,419,905	$33,937,748	$48,666,401	$5,502,860
Indirect Effect	41	$6,210,975	$11,188,287	$20,253,632	$1,066,882
Induced Effect	81	$10,437,149	$19,690,852	$33,596,289	$1,942,823
Total Effect	**365**	**$46,068,029**	**$64,816,887**	**$102,516,322**	**$8,512,565**

Table G-6. Projected Economic Impact of the Operations of Existing and New Co-Working Spaces on the State of Ohio under Scenario 2, 2018–2028

Impact Type	Average Annual Employment	Cumulative Labor Income	Cumulative Value Added	Cumulative Output	Cumulative State & Local Tax
Direct Effect	328	$115,870,125	$308,778,869	$437,701,978	$32,927,197
Indirect Effect	92	$45,089,635	$85,797,874	$148,086,556	$6,509,106
Induced Effect	183	$86,457,946	$163,131,764	$278,286,907	$16,106,350
Total Effect	**603**	**$247,417,706**	**$557,708,507**	**$864,075,441**	**$55,542,653**