

Corporate Partners Program

Open Concept Office: Good for Business?



Amanda Wagner, D.Env 2021

Anna Nordstrom, BA 2019

Corporate Partners Program



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Introduction

Offices are constantly trying to find ways to increase workplace productivity and promote worker health. Altering the design of an office is one way to influence these attributes ¹. Businesses are increasingly using “open concept” office spaces to increase opportunities for social interaction, which they believe lead to innovation and improved decision making ². The idea is that if you are working close to colleagues then you can bounce ideas off them or learn more about projects going on in the office. In the tech field, this sort of collaborative innovation seems ideal, and companies like Facebook and Samsung are already implementing open concept office designs. But is there a benefit to worker health and to productivity by increasing social interaction through redesigning workplaces? We explored the current literature and found that increasing social interaction in the workplace is beneficial for workers and the company and can be achieved with innovative designs including shared workspaces.



Figure 1: Open concept office at WeWork Los Angeles¹



Figure 2: Open Concept office at WeWork New York City²

Open concept plans and designing to increase social interaction



Figure 3: Traditional Office Design³

Office buildings have traditionally been designed with closed, cellular offices that prioritize privacy and do not encourage collaboration. However, in the last decade there has been a shift away from this design. By having more collaborative spaces and an open layout that encourages social behavior, employees have more opportunities to increase their interaction with coworkers ³. If workers are closer together they are more likely to interact than if they are alone in their own office. Researchers Sailer and McCulloh mathematically studied building design and social interaction, calculating the difference between cellular and open office

¹ Figure 1: WeWork Los Angeles <https://www.wework.com/buildings/vine--los-angeles--CA>

² Figure 2: WeWork New York <https://www.wework.com/buildings/dock-72-at-the-brooklyn-navy-yard--new-york-city--NY>

³ Figure 3: Holos for Getty Images https://www.huffingtonpost.com/2014/04/21/how-your-office-may-be-beha_n_5161469.html


buildings. They found that open floor plans did in fact mean that people were actually closer to each other, often requiring only 1-4 steps to reach another employee⁴. Shared work spaces make it more likely to have unplanned face to face meetings, which can encourage innovation⁵. Innovative office buildings are becoming more popular and researchers and businesses have been trying to figure out how to best design them.

Researchers from Eindhoven University of Technology conducted an in-depth study on knowledge sharing within the workplace due to social interactions at a multi-floor office building⁵. They found that building design, worker inter-visibility, and proximity were significantly associated with knowledge sharing. Specifically sharing a room and overhearing other employees helped increase knowledge sharing. They found that employees spend about 45 minutes of their day sharing knowledge in unplanned meetings. 78% of unplanned meetings happened at a workspace, and 72% of unplanned meetings happened because an employee walked over to another or because their workspaces were within talking distance from each other (7 meters). Employees discussed either a shared problem (45% of the time) or a problem just one of them had (40% of the time) when having these unplanned knowledge-sharing events. Employees sitting within 30 meters of each other, within walking distance, shared significantly more knowledge at their workspaces than employees farther away. But all is not lost if you have a segmented office, the study found that for employees in separate rooms, knowledge sharing occurred in hallways or at a coffee station⁵. So ‘traditional’ office layouts can still facilitate these interactions so long as there is some degree of shared space or social congregating areas.

45 
Minutes in unplanned meetings per day

72% 

Due to nearby coworkers

78% 
Unplanned meetings occur at workspace

Researchers from the U.K. used a large dataset of workers and workplaces to look at the differences in social interaction between a variety of workspaces: open plan, cellular, alternative workspaces (e.g. breakout spaces), meeting rooms, and miscellaneous spaces. They found that most interaction happened in meeting rooms, alternative spaces, and open plan workspaces. Open plan workspaces had twice the number of interacting employees than cellular workspaces and alternative workspaces had roughly three times the interaction levels⁶. Therefore, to create workspaces that will be effective hubs of social interaction, businesses should design open and alternative workspaces. This can mean a change as small as creating a lounge with circular couches and chairs, or a communal coffee station.

Researchers from the Wroclaw University of Science and Technology studied the implementation of office design for an IT project management team⁷. To achieve a

more productive office space design, the researchers altered the workspace to make it more 'open' in the following ways:

- Locating all team members in one office
- Eliminating walls or barriers to ensure visual connectivity
- Locating every employee near a window or artificial window⁴
- Arranging desks in a circular fashion
- Adding one additional social space

Three weeks after implementing the new office design employees responded positively; proper office design yielded improved project management and efficiency (see testimonials below).⁷

"I have been feeling more a part of the team; previously I had poor access to information... I did not really understand why I'm doing my tasks. Now I have better contact with the other members of the team and...the flow of information is more convenient and faster ..."

"I appreciate this change. All the persons with whom I work every day are in my neighbourhood. When I have a question I don't need to get up from my chair to get access to them. I just have to turn around and drive to him/her on my chair..."

As these studies illustrate, the layout and design of an office space to be more open can have positive impacts on the degree of coworker interaction. In the next section we describe in greater detail how that increased social interaction translates to improvements in worker health, productivity-- and consequently company bottom-lines.

⁴ For more information on the benefits of natural light on worker productivity, please review "The Workplace Biome: Biophilic design strategies for a productive and healthy office ecosystem" - another Corporate Partners Program Green Paper.




Benefits of social interaction in the workplace

Office settings are not always the most favorable to our health. In the workplace, researchers found that the combination of job strain and social isolation increases rates of cardiovascular disease ⁸. 11 million workers in the U.S. have reported high levels of mental stress at the workplace. High stress in workers results in physical symptoms such as headaches, chest pain, problems sleeping, and other negative health impacts ⁹. Stress in the workplace can also lead to more sick days and workers' compensation claims, which can be costly to a company. The American Institute of Stress reports that an estimated 1 million workers call in sick every day due to stress; this winds up costing companies about \$602 per

employee per year ¹⁰. They also report that job stress costs U.S. employers about \$300 billion each year due to absenteeism, employee turnover, lowered productivity, accidents, workers compensation, and other medical, legal, and insurance costs.



So, it's in every employer's best interest to determine ways to lower worker stress. One demonstrated way to do this is increasing social interaction ¹¹. The National Institute for Occupational Safety and Health recommends increasing social interaction to help workers cope with stress ¹². Health benefits of socializing include living longer, better physical health, and better mental health.

<ul style="list-style-type: none"> A 50% increased likelihood of survival from people with strong social relationships regardless of age, sex, or initial health status; indicating that social relationships positively influence mortality ¹⁴ <p>Live Longer </p>	<ul style="list-style-type: none"> Healthy behaviors were enhanced by workplace social interactions ¹⁵ <p>Improved Physical Health </p>	<ul style="list-style-type: none"> Improve psychological wellbeing and reduce depression ¹⁶ Feeling more social support, reducing the impact of stress and increasing mental health ¹⁷ Lower risk of dementia and better performance on memory and cognitive skill tests ¹⁸ <p>Improved Mental Health </p>
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The layout of the workspace and communication patterns in the workplace has a positive effect on comfort, health, satisfaction, and productivity of office workers ²¹. Designing an innovative workplace also yields improved mood from workers that appreciate the attractive layout and the freedom to choose a workstation, and increased communication between colleagues ¹⁸.

have positive benefits for workers. Social networking has been shown to improve employee morale, increase productivity, and result in innovation ²⁰. Employees that telework feel included, reducing social isolation within the company. Therefore, social networking provides a good alternative for businesses who do not have the means to redesign their physical office space

The benefits of social interaction extend into the virtual space; social networking can also

With the positive health effects that social interaction brings, monetary benefits may

arise. Earlier in the paper we outlined avoided costs such as decreased sick days. But social interaction can also yield increased productivity and innovation which improves the volume and quality of company's product. By increasing social interaction in the workplace, you can increase opportunities for innovation. As offices become more open, the opportunity for collaboration on projects increases dramatically. Groups can freely move through working spaces to ask questions and contribute to projects in other departments or teams within the office. Simply by joining an overheard colleague's conversation, knowledge within a company can increase ⁵. This can help share team developments, changes in company policy, and troubleshoot roadblocks faster than, for example, a weekly scheduled meeting can.


This very logic is what many companies in Silicon Valley rely on ². Google, Facebook, and Samsung are already employing the open concept office layout.


Downsides to increasing social interactions

Though social interaction provides benefits to office environments, there are many potential downsides to having such an open and collaborative office space. According to social facilitation theory, the presence of an audience will elicit the dominant response of the performer. If someone is working on an easy or well-rehearsed task, the presence of an audience will enhance their performance in that activity. If they are performing a new task, or a more challenging activity, the presence of an audience will diminish their performance ²². Having increased social interaction in an office may inhibit the performance of individuals who are learning

particularly difficult tasks or innovating a new idea.

According to *Harvard Business Review*, the amount of people who report not being able to concentrate at their desk has increased by 16% since 2008, and the number of people who do not have access to quiet places at work has increased by 13%. This may indicate a swing too far in the direction of collaboration. Working together has many benefits, but with the increased connectivity of technology, too much interaction can be distracting. One recommendation from the *Harvard Business Review* is creating a multi-zoned office space, with areas for open collaboration, and other areas for private concentration. It recognizes the benefits of the collaborative business model, but also understands the need for focus and privacy ²³. See [Appendix A](#) for hybrid floorplans.

16% 
Increase in people who report not being able to concentrate at their desk

13% 
Increase in people who don't have access to quiet places at work


With 70% of offices designed with low or no partitions in 2017, the effectiveness of this design trend has been heavily scrutinized. Raising concerns about many of the same downfalls the *Harvard Business Review* did, *The Baltimore Sun* also emphasized the negative impacts of a lack of privacy for calls, and the feeling to be “on” all the time because everyone is watching. This may lead employees to take less risks, for fear of everyone in the office witnessing their failure. Another concern raised in this article is the loss of work-life balance. With everyone collaborating in the same space, no one wants to be the first one to leave for the day, or last to arrive in the morning, because everyone monitors their choice.

Their recommendation for the ideal office space is an activity-based workplace design (see “energy zones” in WeWork case study). This office design marries the desire for collaboration and social interaction, and the need for privacy and a space to concentrate. It balances a place for introverts and extroverts to thrive and keeps the office place running to its best capacity ²⁴.


Additionally, not every social interaction in the workplace is beneficial. Researchers from the University of Central Michigan found that social interactions, while generally beneficial, actually increase stress if the interaction draws attention to the worker’s stress ¹⁹. Their research also showed that when an employee receives unwanted help, it increases their emotional stress. This is because the employee is made to feel inadequate which increases their feelings of strain.


Open office plans also impact the transmission of colds ²⁵. The spread of disease increases with increased social interaction in an open office space. Researchers from the National Research Centre for the Working Environment in Denmark found that taking sick days was significantly related to sharing an office.

Their study of 2,403 employees found that workers who had an open plan office, with greater than 6 people, had 62% more sick days than workers who had a cellular office ²⁶.

62% 
More sick days for open office plans with more than 6 people.

This problem can be counteracted if an office-wide vaccination program is implemented. By vaccinating a certain percentage of the workers, the whole workplace will benefit, a phenomenon known as herd immunity. Even without considering the herd immunity impact, vaccination in the workplace has been shown through modeling to be very cost effective ²⁷. A clinical trial done in North Carolina showed that a vaccination program saved employers \$22.36 per work day, due to the employees not getting sick and taking a sick day. The employers saved \$2.58 per dollar spent on the vaccination program ²⁸.

\$22.36  31
Saved per work day

\$2.58 
Saved per dollar spent

Case Study: WeWork

WeWork is a company that provides open concept office space for small businesses and entrepreneurs. It prides itself on creating a work environment that fosters community, comfort, and productivity. In a recent interview, their Creative Director Devin Vermeulen talked to Robin at *Work*, an online office and productivity blog, about the ideas behind WeWork and the way in which their office design positively impacts their workers²⁹. With over 67 co-working office spaces, WeWork has successfully enticed many small businesses and entrepreneurs to work in their office spaces. Their office spaces have a mix of open desk space, couches, and private individual spaces. By placing printers and coffee near each other they ensure people run into each other which sparks natural conversation, even if those people work for separate companies.

Vermeulen is aware of the downsides of lack of private spaces, so he created what he calls “energy zones”: *shared space* has loud music and people talking, *desk space* is quieter but there are still people around, and *quiet solo spaces* like nooks and phone booths provide privacy. Each are found in the same office space at WeWork. The idea is that throughout the day, workers can move from place to place, from energy zone to energy zone, depending on their needs.

Vermeulen even designed a multi floor office space with an open concept staircase to maintain connectivity at their headquarters. The staircase has three platforms that each serve as meeting spaces, surrounded by plants and greenery.

Vermeulen works there and says “it goes a

long way to making us feel more connected even though we are split up.” Although WeWork is a coworking space with many small businesses, their concepts and design principles can be applied to a larger office building for one company. The ideas of having open spaces balanced with quiet solo working spaces can be implemented within a large company to help leverage the benefits of increasing social interaction, but also avoid the downsides of lack of privacy.



Figure 4: WeWork in Santa Monica, California⁵



Figure 5: WeWork offices in Florida⁶



Figure 6: WeWork shared space in Florida⁷

⁵ WeWork building exterior in Santa Monica, California

⁶ WeWork office in Florida <https://www.wework.com/buildings/south-of-fifth--miami--FL>

⁷ WeWork office in Florida <https://www.wework.com/buildings/security-building--miami--FL>

Conclusion

Through the analysis of open workspaces in the office setting, we found many benefits of a collaborative and social environment for employees. This includes improved communication and knowledge sharing, improved mental and physical health, lower stress, and decreased sick days. These health and wellness benefits translate directly into productivity and thus financial benefits for the company itself. Though downsides could include distractions and loss of privacy, this can be overcome by implementing a hybrid model with shared spaces and private spaces for quieter work. The hybrid model would ensure that employees had spaces for social interaction and privacy for concentration, which employees value ¹⁸. Open workspaces are not just a fad of the shared office but have a grounding in real science and health benefits. As the demand from workers for increased sustainability grows, we encourage companies to implement design strategies that facilitate social interaction and therefore all the benefits that come along with it.

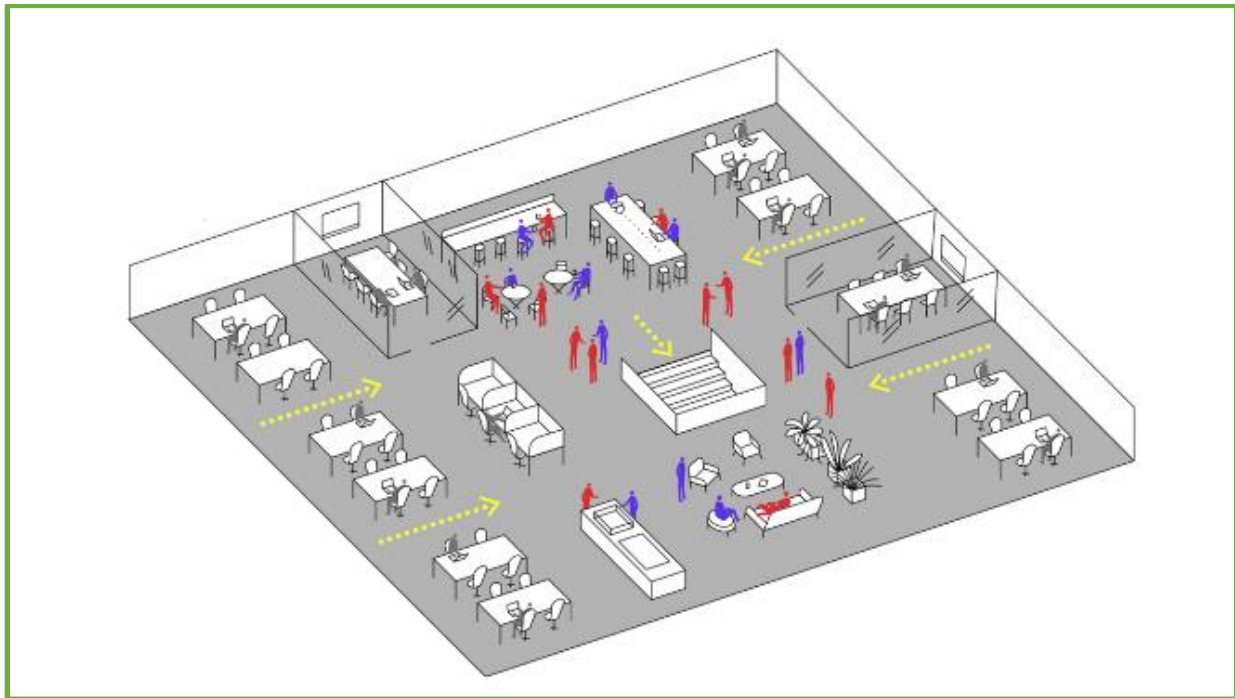


Figure 7: Hybrid office floorplan⁸. For more floor plans see Appendix A.

⁸ Hybrid office floorplan, designed by Brookings Institute. https://www.brookings.edu/wp-content/uploads/2017/04/cs_20170404_innovation_spaces_pdf.pdf

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Appendix A



Figure 8: Floor plan for Young Research Library, UCLA



SevilPeach Architecture+Design Nutmeg House 20 Garsfield Street London SE1 2NF T +44 (0) 20 7557 8056 info@sevilpeach.co.uk www.sevilpeach.co.uk	REV	DATE	DESCRIPTION	PROJECT	ORIGINATOR DATE	ISSUE DATE	PROJECT No.
				VITRA - WEIL AM RHEIN OFFICE - REFURBISHMENT	10.12.09	10.09.10	2090-D
				DRAWING TITLE	DESIGN	SCALE	GRAPHIC No.
				GENERAL ARRANGEMENT PLAN - NEW	GAT	1:100	A 001
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Figure 9: Vitra office floor plan⁹

⁹ Vitra office floor plan. SevilPeach Architecture + Design. <https://www.vitra.com/en-us/corporation/designer/details/sevil-peach>

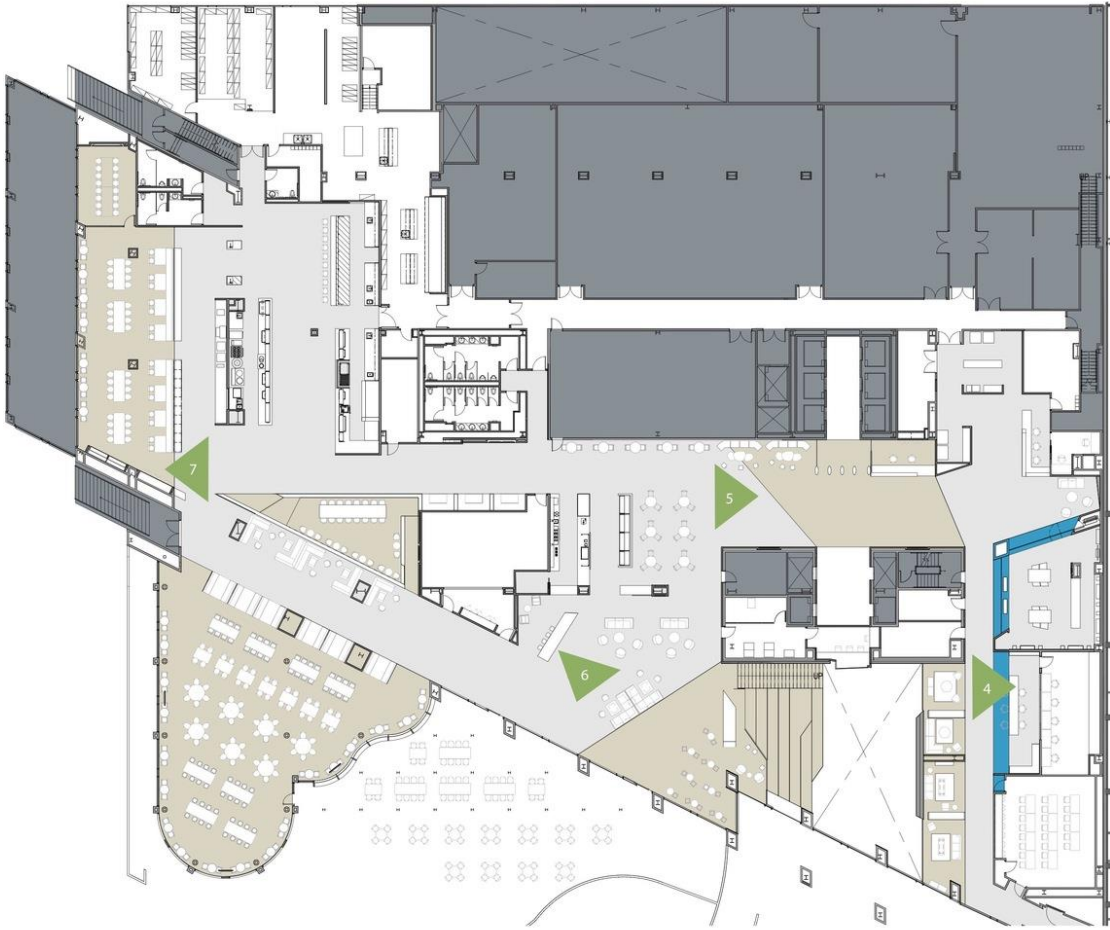


Figure 10: Adobe Headquarters Renovation - West Tower/Second floor plan¹⁰

¹⁰ Adobe Headquarters Renovation floor plan. <https://www.archdaily.com/889925/adobe-headquarters-renovation-gensler/5a977189f197cc86830001c5-adobe-headquarters-renovation-gensler-west-tower-second-floor-plan>



Figure 11: JWT Headquarters/Clive Wilkinson Architects floor plan¹¹

¹¹ JWT Headquarters/Clive Wilkinson Architects floor plan. <https://www.archdaily.com/182354/jwt-headquarters-clive-wilkinson-architects/501662b328ba0d14160007ac-jwt-headquarters-clive-wilkinson-architects-plan>