

Engaging Millennials in The Corporate Workplace: Implications of Flexible
Interior Design Strategies

by

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ABSTRACT

In today's competitive work environments, employee engagement is an essential element of a company's success. Literature states that engagement can be measured through how positively and productively an employee achieves a task (Cook, 2008; Brill et al., 2000). However, as generations have transitioned through the workplace, there has never been a more disengaged generation than the millennials (born 1980-1999). More specifically, a Gallup (2018) reported that only 29% of millennial employees are engaged at work, 16% are actively disengaged, and the majority, 55% of millennials, are not engaged. Based on these current statistics, it is evident that not all workplaces are developing to support millennials' workplace values. This topic is important to understanding as millennials are currently growing to be the largest working generation in history and are affecting company costs resulting from low retention rate and high turnovers. Workplace design that supports millennials can have a significant impact on employee, attraction, retention, and overall revenue growth for companies (Markos & Sridevi, 2010). This thesis study investigates the interior design strategies to enhance millennial employee engagement through understanding their work values. Methodological triangulation was used to identify key themes from the literature review, interviews, and precedents. Key findings show that millennials value flexibility, specifically in work-style and work-life. Further, this thesis presents suggestions for employers, designers, and strategists to that enhance engagement for millennial employees to improve current and future workplaces.

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CHAPTER 1 | INTRODUCTION

Employee engagement is an important topic in the interior design of workplaces, more so than ever before. The newest and largest working generation are millennials (born 1980–1999) and they are also the most disengaged employees in history (Truspace, 2017). The millennial population includes approximately 80 million people within the U.S who have joined or are preparing to join the workforce. This generation is predicted to make up 75% of the global workforce by 2025 (U.S. Bureau of Labour Statistics, 2017; Deloitte, 2016; Pew Research, 2015). As this generation becomes a growing part of the workforce, businesses must understand what drives their engagement with their work. At the same time, interior designers are seeking to better understand what role the design of workplace environments can play.

Although largely intangible and difficult to address directly, employee engagement can be supported through the interior design of an organization's workplace. Research has shown that interior design strategies that focus on workplace flexibility can influence high job productivity and satisfaction for millennial employees (Adkins & Rigoni, 2016; Augustin, 2013; Gilbert, 2011; Gensler, 2017; HoK 2017; Deloitte, 2018; CBRE, 2014). The benefit of engaged employees increase a company's performance outcomes, such as employee retention, profitability, customer loyalty, and safety, and to lead to revenue growth exceeding the industry average (Markos & Sridevi, 2010). Paying attention to interior design strategies specifically by investigating millennials life experience and characteristics, and how it aligns with their values is essential for keeping millennial employees engaged at work.

Millennial norms and expectations of workplace interior design are significantly different compared to previous working generations. These norms and expectations affect how millennial

employees view their workplace or potential workplace. Despite these new norms and expectations, workplaces still struggle to understand how interior design strategies promote employee engagement. Ninety percent of millennials say they plan to stay with their job for less than two years (Smalley, 2017). John Hester's (2013) article "The High Cost of Employee Turnover" revealed that the cost of replacing an employee could vary from 30% of an employee's annual salary if they are a lower-skilled entry-level worker, up to 50% for a highly specialized position. More specifically, the cost per employee, when considering the cost of recruitment, evaluation, interviewing, onboarding, and lost productivity, is estimated at \$500,000 per millennial employee, and \$30.5 billion annually for a total millennial turnover cost within the U.S workforce (Markos & Sridevi, 2010; Bogosian & Rousseau, 2017). It is critical to lower these costs for companies by supporting millennial valued interior design strategies.

Workplaces with engaged employees have an advantage over workplaces with disengaged employees. Moreover, there is a significant opportunity to shape millennial employee engagement, considering the hours' millennials spend in the workplace. A study performed by ManPower Group surveyed 19,000 millennials across 25 countries, and the results showed that 73% of millennial employees are working more than 40 hours per week (Manpower Group, 2016). By seizing this significant opportunity and implementing valued design strategies with the flexibility that addresses millennials' expectations of the workplace, the creation of new workplace may shift this generation from being the most disengaged to the most engaged generation in the workforce.

1.1 | RESEARCH GOAL AND OBJECTIVES

Existing research finds that employees are highly motivated and engaged when their work aligns with their values. This thesis explores the theory that millennial employee engagement appears to be higher in workplaces with interior design that supports flexibility because these environments align best with their work values.

This study has two key objectives: first, to establish the degree of importance of flexibility in millennial employees' work values and expectations a review of relevant sources is explored. Secondly, to show whether flexible design increases millennial employee engagement by examining the levels of design satisfaction and productivity in existing flexible workplaces based on third-party post-occupancy evaluations, design reviews, and interviews with designers of these environments. This study may contribute to current and future workplace design by increasing awareness of common issues related to millennial employee engagement. Interior designers, workplace strategists, and employers could all benefit from an increase in knowledge regarding effective, flexible interior design strategies for engaging millennial employees.

1.2 | RESEARCH QUESTIONS

Three research questions were created to guide this thesis research:

1. What design strategies engage and disengage millennial employees in the workplace?
2. What do millennial employees' value in the workplace?
3. What are the current workplace design strategies directed towards millennials?

Question one focuses on interior design strategies that engage millennial employees for productivity and satisfaction. This thesis explores why each of these interior design strategies is particularly well-suited to millennial employees, compared to other working generations.

Research suggests that workplaces that align with employees' values are more motivating. Question two centers on understanding the relationship between what millennial employees consider to be necessary, or value, and the new norms and expectations involving the workplace. This question forms the foundation of this thesis investigation into understanding the millennial generation's physical, social, and emotional connection to the workplace. Moreover, the development of millennials' values concerning their workplace is investigated through their life experiences and characteristics.

Question three is about investigating current interior design strategies that contribute to millennial employee attraction, retention, and engagement and then highlighting the effectiveness of each strategy. Another aspect of this question is to identify flexible interior design strategies that can suit companies ranging from large corporations to start-ups.

1.3 | SCOPE AND LIMITATIONS

This study was conducted in Canada, with a focus on North American workplaces. The precedent analysis and interviews center on Canada and the United States of America. The literature review, however, incorporates an international perspective, which strengthens the potential global applications of this thesis's findings.

I have also been fortunate enough to work for design and architecture firm, Gensler, as a workplace consultant for four months, and one of my co-workers is also someone I interviewed for this study. Potential bias of interviews is balanced by including other participants and viewpoints from other design firms. The opportunity working at Gensler gave me hands-on experience with the design of workplaces for millennials that helped to inform my analysis and findings; however, the precedents used in this study are not designs by Gensler.

Part of the reason I wanted to investigate this topic is that I am a millennial myself. However, this does mean I am also part of the group being investigated. To minimize this bias, I adhered to an ethical plan that included a review of the interview questions, as well as conducting pilot interviews. This strategy reduces the risk of researcher bias and increased reliability (McMillan, 2001). Additionally, given I am a millennial, added insight in discussing the study findings may prove valuable for future employers and design strategists when implementing this thesis's key findings.

1.4 | DEFINITION OF KEY TERMS

The following is a list of definitions of the key terms used in this investigation. It is understood that these terms may have other meanings; however, the following definitions are used for the purpose of this study.

Employee Engagement: Two definitions define employee engagement in this thesis. First, architectural theorist Michael Brill identifies productivity and job satisfaction as the two most powerful design determinants of employee engagement (Brill et al., 2000). Second, Sarah Cook (2008), a management development consultant, defines employee engagement as “the degree to which employees perform their role positively and productively” (Cook, 2008, p. 3). Therefore, engagement is measured in this thesis through employee productivity and satisfaction in the workplace.

Flexibility: Flexibility in workplace design is not limited to working remotely. It is a multi-faceted concept of providing options and choices that accommodate work-styles and work-life integration with ease.

Retention: For this study, retention does not focus on keeping the employee at work during the work day, but implies retaining a millennial employee at the same company for an extended period of years (more than two years).

Attraction: Referred to the hiring, and the desire to work within a certain workplace.

Millennial: Persons born between 1980-1999.

Baby boomers: Persons born between 1946 and 1965.

Generation X: Persons born between 1965 and 1980.

Digital Native: “The term digital native does not refer to a generation. Instead, it is a catch-all category for children who have grown up using technology like the internet, computers and mobile devices” (Techopedia, 2016).

Generational Diversity: Individuals born around the same time who share distinctive social or historical life events during critical developmental periods (Pînzaru et al., 2016).

Work Values: How employees perceive work through motivation, job satisfaction, organizational commitment, decision-making, employee turnover, career choice, team dynamic, and organizational citizenship behaviour (Kuron et al., 2015).

Extrinsic Work Values: Material values that may be caused by the modern development of careers that are more boundary-less and self-directed than traditional careers (Kuron et al., 2015).

Intrinsic Work Values: Psychological satisfaction in working, such as interesting work, a challenge, variety, and intellectual stimulation (Kuron et al., 2015).

Social/Altruistic Work Values: Relationships with the individuals in the workplace, such as co-workers or supervisors (Kuron et al., 2015).

Prestige Work Values: Status, influence, and power in the workplace (Kuron et al., 2015).

Leisure Work Values: Relate to forms of freedom such as free time, vacation, and working independently (Twengen et al., 2010).

Workplace: It is understood that a workplace can be any setting in which an individual can perform a task. However, for the purpose of this study, the workplace is explicitly associated with a corporate office setting.

Objects: For this study, objects are defined as systems, furniture, and technology implemented in a workplace setting.

Amenities: A desirable space within a workplace that supports both employees personal and professional lives as well as provides opportunity for employees to socialise.

Biophilic design A nature-based design feature. For example, materials or features that express elements of nature (water, wood, plants, stone), connection to natural light, and connection to nature or green space.

1.5 | DOCUMENT OVERVIEW

The following is an overview of each chapter in this thesis.

Chapter 2 is an explanation of the research methodology, including literature reviews, precedent analysis, and semi-structured interviews. The population sample and data analysis process are also described in this chapter.

Chapter 3 surveys literature that focuses on millennials as a generation, and workplace design, both past and present. Millennials are described, and their life experiences and characteristics are presented. An understanding of how millennials are significantly different from previous generations is recognised. An overview of the development of workplaces and design strategies over time is also presented. This chapter makes it possible to understand the strategies presented in chapter 4.

Chapter 4 is a critical chapter that identifies, through literature review, the interior design strategies that support job productivity and satisfaction within the workplace for a millennial employee. A framework is developed, revealing that flexibility is the key design strategy to implement for the millennial generation. This chapter then breaks down flexibility in terms of its practical implication for workplaces and highlights the significance of each strategy to support millennial employee engagement.

Chapter 5 includes analysis of six precedents; workplaces that have implemented successful design strategies. The strategies are individually identified and analyzed to determine how they aid in enhancing millennial employee engagement.

Chapter 6 presents the findings of the semi-structured interview questions conducted with workplace designers and strategists. Three themes are identified and explored. This chapter also identifies issues that were not mentioned in the literature review (Chapters 3 and 4).

Chapter 7, is a discussion chapter that addresses the three research questions presented in Chapter 1. Findings of the three investigations (Chapters 4 – 6) are brought together to identify the key interior design strategies for improving millennial employee engagement, and the values used to rank them. The triangulation of the findings of this thesis investigation identifies key values and an overarching millennial value that signifies the importance of each interior design strategy. In addition, a list of questions is provided for employers, interior designers, and design strategists to elicit questions to ask their millennial employees, which may help reveal practical implications that best suit a specific workplace.

The conclusion chapter provides a summary of this thesis, along with limitations, and suggestions for future research.

CHAPTER 2 | METHODOLOGY

2.1 | CHAPTER OVERVIEW

This chapter describes the methodology used in this study, including literature reviews, precedents, and semi-structured interviews. Procedures for data analysis, ethical considerations, and limitations are also presented.

2.2 | LITERATURE REVIEW

Reviewing the literature on millennial employee engagement in current workplaces determined the topic relevance, insight, and identified knowledge gaps in the research to contribute to the knowledge base (Creswell, 2014; Merriam et al., 2016). According to Creswell (2014), the literature review: (1) shares results of other studies that are related to the one being undertaken, (2) relates to the ongoing dialogue within literature to fill gaps for future studies, and (3) provides a framework for establishing importance of the study, while creating a foundation for comparing results in other findings. I compared previous studies' findings on millennials in the workplace to establish the key themes and a framework for my thesis.

The literature review includes national and international information drawn from professional journals, academic sources, and government sources. The resources were obtained using Google Scholar, academic monographs, and databases such as EBSCOhost, ProQuest, and Sage. This thesis also included a review of practice-based white papers produced by design firms such as Gensler, Hok, and Truspace, and professional services firms such as Deloitte, CBRE, and PwC. Studying the existing research helped to provide a historical overview of how different

generations experienced workplace (Chapter 3), and identify the current theories about how to design for millennials in the workplace (Chapter 4).

The keywords searched are: *characteristics of millennials, millennial work values, generational difference in the workplace, engaging millennial employees, millennials in the workplace, millennial workplace design strategies, engaging design strategies, factors of a disengaged millennial employee, modern workplace designs strategies.*

2.3 | PRECEDENT ANALYSIS

In design, the term precedent means “a prior or past design solution that has some interesting architectural or engineering formal, structural, syntactic, semantic or systematic features that may provide partial or total exemplars of new design solutions” (Eilout, 2009, para. 1). Each precedent reviewed in my thesis highlights current workplace interior design strategies intended to engage millennial employees. The main purpose of the precedent analysis is to explore the successes and failures of each workplace in order for designers to better understand which interior design strategies potentially improve worker engagement.

The selection criteria for the precedents reviewed in this thesis are based on a survey conducted by the Millennial Career Survey from the National Society of High School Scholars (NSHSS) in 2016 for large corporations. The NSHSS study consisted of 13,000 millennials, both students and young professionals that were asked about workplace preference (Thurman, 2016). The findings revealed that the millennials’ ranked jobs in technology companies above all others (Thurman, 2016). Furthermore, millennials will make up 75% of the technology sector workforce by 2025 globally (Dib, 2016). Based on these findings, the precedents are primarily technology companies: Amazon, Microsoft, and Slack. I also included two examples of smaller corporations,

a start-up company and co-working company: 3M and WeWork. These precedents were chosen based on each company's growth and their success in retaining millennials.

The results of the precedent analysis are presented in Chapter 5. For each precedent, the design strategies are described, and then analyzed by the themes that emerged from my literature review (Chapters 3 and 4). The purpose of the analysis is to form an understanding of how each interior design strategy met the needs of the millennial employee. Where available, post-occupancy evaluation studies and reviews of the precedent are used to help understand the effectiveness of the strategies implemented. Based on this analysis, a framework for interior design strategies to support engagement was developed.

2.4 | SEMI-STRUCTURED INTERVIEW

Semi-structured interviews use open-ended questions to encourage participants to express their views while also providing concrete and narrative information (Cohen & Crabtree, 2006; Given, 2008). In addition to questions, this method also uses a variety of questions that elicit further information from the participant (Given, 2008). In this thesis, semi-structured interviews are used to provide a deeper understanding of design strategies that encourage engagement in the workplace. The interviews explored real-life design processes and experiences of professional designers and strategists working to engage millennial employees. The interviews allowed for opportunities to uncover trends and reasons for workplace disengagement by millennials and explore solutions that current workplaces were implementing.

The interview questions were formulated to test new themes drawn from the literature review (Chapter 4). While the literature review revealed substantial findings, it can be argued that a designer's process is not effectively captured in academic literature. Therefore, the semi-

structured interview provides an opportunity to understand not just “what” is designed but also “how”; the decision-making process that leads to a particular design solution.

2.4.1 | SEMI-STRUCTURED INTERVIEW FORMAT

Each interview covers themes pertaining to the three research questions listed in Chapter 1. An interview guide (see Appendix E) was created in advance to provide accuracy throughout the interview. It presents a list of general topics and questions to be covered that is used as a prompt for the interviewer (Taylor et al., 2015, p. 105). The interview guide developed is general enough so that it is suitable for different kinds of workplace experts (i.e. designers and strategists).

Depending on the location of the participant, interviews were conducted in person or by telephone. The interviews were audio-recorded to facilitate transcription, increase reliability, and subsequent coding and theme identification. Transcribing involved playing back each interview from the recording device and typing each word spoken into Microsoft Word. Once transcribed, the recording was replayed to provide accuracy of the participants’ words. Each interview transcription was coded using Microsoft Excel (see also Section 2.4.6 Data Analysis).

Several measures were taken to ensure that this study met the ethical and professional research standards, according to The University of Manitoba Research Ethics Board (REB). The University of Manitoba Research Ethics Board approved the interview instrument on January 18, 2018 (see Appendix A and B).

2.4.3 | PILOT STUDY

Once the semi-structured interview questions and data analysis approach were established, two pilot interviews conducted with participants with interior design backgrounds. The pilot

interviews were crucial in refining the interview method. Refinements included: (a) re-wording confusing questions, (b) re-ordering questions, and (c) removing irrelevant questions (Merriam et al., 2016). The new questions aligned better with the research questions this study focuses on and encourages expanded responses. The strategic re-ordering of the questions improves flow.

2.4.4 | INTERVIEW QUESTIONS

The questions for the semi-structured interviews (see Appendix E) inform the three research questions of this study. Assumptions and ambiguity were avoided by screening for questions that would be rejected, double-barrelled, or were leading questions for interviews and questionnaires. To maintain interest, the questions were designed to be straightforward and short. The interview questions are particularly useful in getting a better understanding of client requirements and each participants' workplace design process.

2.4.5 | POPULATION AND SAMPLING FRAME

I used a purposive sampling strategy, which is an approach that focuses on participants who meet the specific requirements of the study (Boardman & Ponomariov, 2014). The purposive sampling technique allowed me to choose participants who would be most knowledgeable regarding current workplace design and millennial engagement. For example, as this thesis focuses on millennial employee engagement strategies, the interview participants were designers and strategists that specialize in workplace interiors and within the corporate design field.

Participants for the interviews were identified through design publications, credible design firms, my thesis committee, and my knowledge gained from seven years of knowledge in the interior design field. Once contact information was obtained, an invitation letter was sent

out via email (see Appendix C). The first four interviews of this study were with corporate interior designers that have experience working for companies that attract and retain a high rate of millennials, such as Google and Facebook. The other two interviews were with workplace strategists that are knowledgeable in innovative furniture solutions in the corporate workplace. There was no specific characteristic of this population of participants that made them especially vulnerable or required extra precautions.

2.4.6 | DATA ANALYSIS

The transcribed interviews were coded by tagging descriptive words and putting them into sections to highlight emerging themes and better understand the commonalities (Wilson, 2012). The key themes found were related to flexible interior design strategies within the workplace that ignite a strong company culture. The codes were established digitally using colour coding of *conceptual codes* to identify key elements, *relationship codes* to identify links between elements, and *participant perspective codes* to identify positive and negative elements (Vaismoradi et al., 2016). I was then able to categorize each conceptual code into themes and key concepts. The coding process allowed me to break down the large amounts of data into more manageable blocks of data (Vaismoradi et al., 2016). The process of examining similarities and differences between values and flexibility formed a triangulation of data, which enhanced the quality of codes from reoccurring patterns (Vaismoradi et al., 2016). Triangulation of data is a holistic approach towards making the data and introduced differences and similarities of the findings.

Once reoccurring patterns were identified, a summary of themes was generated. Conclusive statements were made, and a rationale was formulated. The results were then organized into a strategic design framework for creating engagement for millennial employees,

which was verified by cross-referencing to current literature. Although ten interviews were planned, saturation was reached after six interviews, at which point the key themes and statements were being repeated by participants. The results of the interview are presented in Chapter 6.

Data analysis for the interview process was supplemented with the use of analytic memos. Analytic memos are short write-ups of the information gathered during and after data collection and evaluation (Tobacco Control Evaluation Center, 2012). This process allowed me to unveil the concepts and key findings discussed in this thesis. Memoing ensures the retention of ideas and “enables the researcher to engage with the data to a depth that would otherwise be difficult to achieve” (Birks et al., 2008, p. 69). Memoing was very useful to my investigation as the process stimulated and highlighted shared themes and explored meaning from the insights of the different interview participants.

CHAPTER 3 | LITERATURE REVIEW: DEFINING GENERATIONS IN THE WORKPLACE

3.1 | CHAPTER OVERVIEW

Chapter 1 introduced millennials as a generation that are challenging to engage in the workplace and that it is important to address this disengagement, as they are the largest generation in the workforce which can affect revenue loss for companies. The literature reviewed in this Chapter (3) and the next (Chapter 4) provides an overview of research from workplace strategists, interior designers, and academic sources. Chapter 3 begins by further introducing millennials and their life experiences, characteristics, and addresses why it is difficult to engage this generation. The latter half of Chapter 3 gives an overview of the history of workplace design and signifies the generational differences in the current workplace. Overall, this chapter provides insight into the changes that have been made over time to enhance employee engagement and the strategies that have changed to suit the modern workplace.

3.2 | INTRODUCTION TO MILLENNIALS

An understanding of millennials as a generation must be looked at first to study how companies can more effectively engage millennial employees. For this thesis, millennials were defined as those born between the years 1982-1999 (Twenge et al., 2010). The precise start and end dates that define this generation varies, as does its name. Millennials are identified using a variety of terms, such as: “Nexters,” “Echo-Boomers,” “Thumb Generation,” “MySpace Generation,” “NetGeners,” and “Digital Natives” (Pinzaru et al., 2016). While there are many names given to the members of this generation, the literature consistently showed that distinctively different characteristics from other generations influence their workplace expectations.

Perhaps the most intriguing pattern in the literature examined is the identification of the millennial characteristics. The characteristics are unique from the generations before them and are the foundation that affects today's work values, needs, and expectations. A study by Credit Suisse identified key characteristics of millennials that affect the workplace. The studies identified that millennials are (1) digital natives, (2) collectively responsible, (3) global, (4) post-modern generation, and (5) they value fun, health, and leisure (Saussier, 2017). These five characteristics were seen to be repeated in literature, most notably on millennials key expectations towards new ways of working (Pew Research Center, 2010; Fraser et al., 2015; Tapscott, 2009; Gilbert, 2011; Truspace, 2017). These characteristics are fundamental to understand generational diversity and the relation to millennials' values in the workplace.

Mobile technology is a key influencer that has shaped the five characteristics of this generation. The use of technology is no longer an addition to the workplace; it is something that millennials expect. As millennials are the first cohort to grow up with the internet and were exposed to technology at a young age, they prefer to work with the latest technologies (Maier et al., 2015; Bannon et al., 2011). By being immersed in multimedia, millennials have developed a reliance on and addiction to technology, which resulted in physical changes in this generation's lifestyle (Fraser, 2013; Joyce et al., 2018). Their reliance on and addiction to technology created a need for new environments to support this dependency. More specifically, millennials seek continual affirmation in the form of text messages and social media notifications (Teknion, 2017; Joyce et al., 2018). This need for social affirmation has made them the most social, team-oriented, collaborative, and always-connected generation to enter the workplace, thus giving them an alternative name, also seen in the literature: "the digital native" (Payton, 2015). Given

that social, team-oriented, and collaborative situations are of high priority to millennials, designers, strategists, and employers have the opportunity to enhance engagement by utilizing tools and environments that support these core traits.

Many millennials' childhoods' focused on collaboration and group experiences and this has led to designers placing importance on the teamwork and leisure within the workplace (Suh and Hargis, 2016; Pyöriä et al., 2017; Saussier, 2017). As workplaces become less traditional and more digital, *integrating* work and life is becoming the norm. Researchers such as (Smith & Turner, 2015) state that to increase engagement it is now essential for workplaces to embrace work-life integration by allowing millennials to be connected to their professional and personal lives at work. This is also about offering the millennial employees a choice of when and where to work or socialize in the workplace.

3.2.2 | OBSTACLES IN RETAINING MILLENNIALS

Understanding employee retention within a company helps to uncover positive or negative factors that affect employee engagement, stability, and revenue. Yang et al., (2012) revealed that the top five reasons why millennials leave a job were due to: salary and benefits, emotional conditions, industry workstyle, responsibility, and work content. Like all generations, major life events shape the millennial's individual character and expectations for their working life. When expectations are not met, it is obviously difficult to retain an employee.

The millennial generation was exposed to certain acts of terrorism on a more frequent occurrence than previous generations at a young age, which lead them to fear a lack of security. Events such as the Oklahoma City bombing, the Columbine High School massacre, and the terrorist attack in New York City Twin Towers on September 11, 2001, placed a higher value on

job satisfaction, security, and quality of life, and less concern about traditional ways of living than previous generations (Bogosian, 2017). At this time the oldest millennial was 19, and the youngest was 1. Millennials also experienced the 2007 economic recession, which focused on downsizing employees (Whelan & Carcary, 2011). This recession occurred while millennials began to enter the workforce after they graduated from college, which was why they experienced difficulty in attaining positions (Thompson & Gregory, 2012). The lack of retention and loyalty stemmed from millennials experiencing companies' downsizing, making them think differently than other generations with less attachment to a workplace and more risk-taking in job exploration (Froese, 2013). Thus, millennials are less concerned about the traditional ways of living and have higher instances of risk-taking in changing jobs and want positive life experiences that are included within their workplace.

The recession also contributed to millennials' preference to work for shorter periods at a company. As mentioned previously, Smalley (2017) suggested that 90% of millennials prefer to work for companies for two years at a time. This finding reveals millennials attachment to short commitment, which also aligns with freelance work that is becoming the norm rather than the exception. As of 2018, 34% of the workforce is made up of freelance workers; this number could climb as high as 50% within five years, which has the potential to affect the attraction and retention rate of millennial employees within a workplace (Man Power Group, 2016). Freelance work aligns with workplace flexibility, as the worker has the freedom to have work-life integration and employee choice of where to work, which many current workplaces lack. Freelance work was anticipated to create more job flow in the labour force leading up to 2025, resulting in millennials having more power regarding where and for whom they work (Smalley,

2017). These growing numbers may make it difficult for companies to compete if the freedom, work-life integration, and work-style of freelance work are not adapted in the design strategy of the current and future workplaces.

Another significant obstacle in retaining millennials includes the reduced importance of job security. This reduced importance contrasts with other generations such as the baby-boomers, who generally prefer to stay in a particular company for the majority of their career. Millennials have new job opportunities with new roles as technologies advance, and as a result, more jobs are created, and roles change, promoting fluidity rather than the security of positions within companies. Moreover, there are more jobs available. According to the U.S. Bureau of Labour Statistics (2017), employment is projected to increase by 11.5 million more people over the decade of 2016–2026 in the U.S. alone. At the same time, 4 million baby-boomers retire each year, with approximately 10,000 baby-boomers retiring each day (Kessler, 2014; Cackett 2018), creating even more job opportunities and options for millennials. Therefore, the rise in job opportunity is seen to be heavily contributing to the difficulty in retention (Whelan et al., 2011; Thomson & Gregory, 2012; Froese, 2013; Bogosian, 2017). Essentially, millennials are interviewing the employer as much as they are being interviewed, and they have significantly changed norms of what was recognized to drive employee productivity and satisfaction from past workplaces.

3.3 | HISTORICAL OVERVIEW OF THE WORKPLACE

The office has played an important role in history that has led to the modern workplace of today. The timeline in this section discusses the first known establishment of a workplace around 400 A.D. to the modern workplace of the 21st century. This timeline also shows the various economic

factors, as well as cultural influences on the development of workplace design strategies. This section reveals the different interior design strategies that were used to enhance productivity and engage workers while also revealing what lowered productivity and disengaged workers. The section will continue to highlight the key strategies that were used in today's workplaces to align with millennials life experiences and characteristics.

3.3.1 | THE DEVELOPMENT OF THE OFFICE

Offices began approximately 800 years ago as simplistic and impersonal places (Oswald et al., 2013). Although the office developed hundreds of years ago, there are still fundamental elements that are used in a modern workplace. The three elements that defined the office were a book, table, and space, previously called the writing room from the emergence of the professional writer (Oswald et al., 2013). Soon after, chairs were normalized from thrones to everyday objects and became a dominant element in the working world (Duffy et al., 1991). These four elements are still important in workplaces today. However, they no longer define the workplace due to the impact of mobile technology. In the year 1560, the first design of the office was established, followed by department offices and large banks (Oswald et al., 2013). The office interiors included long rows of office desks in a linear sequence, which tied down workers (Rassia, 2017). This layout does not align with the importance millennials place on health and leisure, as workers lack alternative seating, and the long rows make it difficult for collaboration to occur. "Real work" was viewed as was work done on farms, mines, and at sea, until the end of the nineteenth century (Duffy, 1997). It was not until the Western world saw the development of a managerial level that controlled manufacturing and distribution that workers started to perform dull, repetitive tasks that were mainly paper-based (Duffy, 1997). This transition incorporated

strategies that consisted of controlling employees to be as efficient as machines, as the machines were viewed as the real work.

3.3.2 | THE 20TH CENTURY

Architects Louis Sullivan and Frank Lloyd Wright shaped workplace design in the twentieth century. Concurrently, engineer Frederick Taylor and psychologist Fran Gilbreth developed methods for workplace efficiency. Their workplace efficiency methods focused around strategies “to reduce movement required at the workplace, acting on the assumption that humans were like machines” (Oswald et al., 2013, p. 21). The methods translated into crowded open plans that were aligned in a grid structure (see Figure 3.1), with private offices above for efficiency and control (Gutnick, 2007). The office created by Frank Lloyd Wright, the Larkin building in 1904, influenced by the Taylor layouts, set the standard for the office of the 20th century (see Figure 3.1). The Taylor layouts emphasize order, hierarchy, supervision, and depersonalization (Duffy, 1997). However, these layouts discouraged productivity and generated disconnect amongst employees (Gutnick, 2007). Taylor layouts are also seen as ineffective to modern workplaces as millennials prefer to be treated with equaity to form a positive work environment rather than a traditional hierarchy. Duffy (1997) highlighted the lack of employee morale within this century’s workplaces, stating “Concern for what ordinary office workers might wish to choose in determining their working environments was low on both the landlords’ and developers’ lists of priorities” (p. 22). The Taylor layouts were used for more than half a century and by the end of the 20th century, office work began to be an appealing occupation as the office shaped human thought, action, and perception (Oswald et al., 2013; Rassia, 2017). In modern workplaces, this implication may seem inhumane; however, the layout is still being replicated in some modern

workplace. The 1930s was also when the traditional office, which featured a cellular office layout, was implemented (Anton, 2015). This layout was a large floor plan of individual offices with permanent walls, which also imposed a hierarchy on employees and lowered collaboration. Figure 3.2 floor plan shows an inflexible and non-collaborative environment as the entire workplace is enclosed.

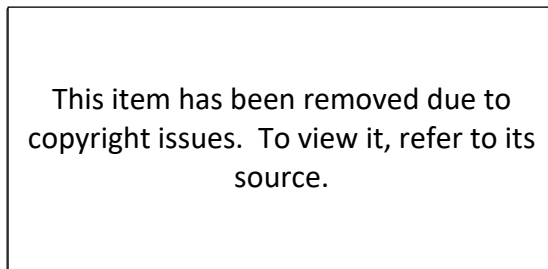


Figure 3.1: Duffy, F. (1997). 1900s Taylor Layout [Photograph]. In the new office

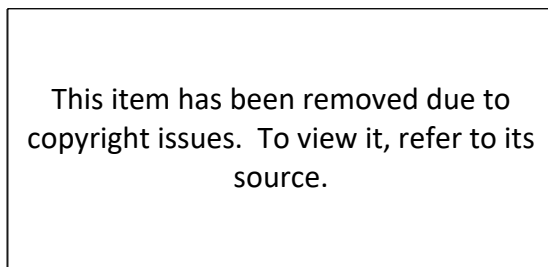
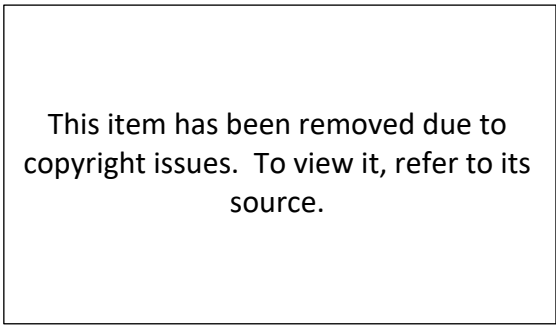


Figure 3.2: Anton, K. (2015). 1930s Cellular Office Layout. [Drawing]. Retrieved From <https://www.politesi.polimi.it/bitstream/10589/103923/3/Book%20%20History%20of%20the%20Office.pdf>

In the 1960s a variety of new specialists began to populate the workforce, such as programmers, paralegals, marketing managers, and designers (Duffy, 1997). However, the workplace's structures did not suit the different and diverse spatial needs for performing their various tasks. This realization was made when architects and interior designers began to work independently from each other (Duffy, 1997). The Seagram Building, built in the late 1960s, featured a diverse, open layout that accommodated different needs (Duffy, 1997). This

development marked a real advance in space planning. Open floor plans were then consistently used throughout the office in the 1960s to reconnect employee and enhance collaboration.

However, after a few years, it became evident that open-plan offices had disadvantages for the worker, such as lowered concentration due to noise, less opportunity to adapt light and temperature, and little privacy (Oswald et al., 2013). Thus, in the 1970s and 1980s, privacy was brought back into office with cubicles, which was a fully furnished four-meter square room. The intention of the cubicle was to improve communication while still fostering privacy. However, the implementation turned into a “cubical farm” of linear rows of cubes for maximum efficiency (see Figures 3.3 and 3.4) (Klein, 1982; Bencivenga, 1998; Open Workspace Design, 2016). This layout also resembled the grid structure of the Taylor layouts but with more personal and private space. Employees were more crammed in spaces when technology was first introduced. There was no modification to the environment, and employees worked in awkward and constrained positions (Kaplan & Aronoff, 1996). At this time, it was not only office tools that were changing, but office spaces too.



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copyright issues. To view it, refer to its
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Figure 3.3: Saval, N. (2014). “Cubicle Farm” Image. [Photograph] Retrieved from <https://www.wsj.com/articles/a-brief-history-of-the-dreaded-office-cubicle-1399681972>

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Figure 3.4: Anton, K. (2015). 1970 - 1980 Cubicle Office Layout. [Drawing]. Retrieved from <https://www.politesi.polimi.it/bitstream/10589/103923/3/Book%20%20History%20of%20the%20Office.pdf>

A turning point was discovered when architect Michael Brill completed a study, *Office Environment on Productivity and Quality of Working Life* (BOSTI Study, 1982). In Brill's findings, he discovered there was a strong desire to be with others, which had a direct relationship with job performance (Klein, 1982). The main element that was missing in both highly used layouts in each century was a human connection. Group office (see Figure 3.5) was developed in the early 1980s, which was a further development of the open plan that supports spatial organization and communication and accommodated flexibility of working in a space with technology, which transitioned to the 1990s "casual office" (see Figure 3.6). The casual office was pioneered by Silicon Valley software firms and included highly personalized workspaces for a worker to spend long hours at work (Anton, 2015). Many workplaces were open 24 hours to enable flexible work schedules; however, this made it difficult to control the work of employees (Anton, 2015). Figure 3.6 shows an open floor plan with a flexible and collaborative environment with amenities like a basketball court.

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Figure 3.5: Oswald, A. (2013). 1980s Group office. [Drawing]. In *Offices*, Berlin: DOM Publishers

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Figure 3.6: Anton, K. (2015). Casual office. [Drawing]. Retrieved from <https://www.politesi.polimi.it/bitstream/10589/103923/3/Book%20%20History%20of%20the%20Office.pdf>

The workplace of the 20th century also marked when baby-boomers started entering the workforce. Specifically, the oldest baby-boomers entered in 1962, and by 1979, all 75.8 million members of this generation were no longer part of the youth population (Sincavage, 2004). Baby-boomers grew up in a culture where there was tense political environment surrounding the Vietnam War; a recession, when many started seeking jobs; and widespread access to television (Clark, 2007; Santos, 2000; Cackett, 2018). Research had highlighted that these events caused baby-boomers to value privacy and personal space within a workplace, along with working towards a corner office (Clark, 2007; Cackett, 2018). These highlights are in marked contrast to current millennial workplace values—in a low hierarchy work environment that promotes communal spaces and more collaboration.

3.3.3 | THE 21ST CENTURY

The 21st century has been the most progressive in relation to workplace performance and employee's morale. Layouts have transformed from previously mentioned floor plans with the employer being the top priority with the priority now focused on the physical, mental, and emotional needs of the employee. Large tech companies of the 2000s were the first to recognize the need for a change of environment in workplaces. Tech companies like Google, Facebook, and Apple implemented strategies that accommodated the modern worker of the 2000s by embracing community building through available services such as amenities and collaborative spaces in their workplaces (Belton, 2015, Cackett 2018). These strategies include employees as being a higher priority than in the previous century.

The early 2000s is also when the virtual office (see Figure 3.7) of hot-desking (working without a dedicated desk) and teleworking (working from a remote location) were utilized with the advancement of implementing mobile technology in the workplace. Figure 3.7 illustrates multiple work areas connecting remotely to the main workplace (floor plan shown). Employees were free from their cubicles and were able to work in environments such as a café or home. However, the design then formed a blurred line between work and social life, decreasing productivity from lack of integration and created isolation (Anton, 2015). Interestingly, millennials prefer work-life integration, which has been demonstrated to *increase* employee productivity (Smith & Turner, 2015). The increase may be the result of millennials' shared life experiences, specifically with the development of the internet, mobile technology, and social media, caused millennials to have more experience working in more social and integrated environments. This decrease is in contrast to the baby-boomers, who started working in private

cubicles and were then abruptly given more opportunity for an integrated workplace. The quick contrasting transition in workplace dynamics may have contributed to the downfall in productivity of boomers and other older generations, who did not grow up with technology. This downfall also may be a factor as to why many employers who are baby-boomers prefer to have more traditional work environments in today's workplaces, as they experienced a loss in productivity when given workplace freedom.



Figure 3.7: Anton, K. (2015). 2000's Virtual Office. [Drawing]. Retrieved from <https://www.politesi.polimi.it/bitstream/10589/103923/3/Book%20%20History%20of%20the%20Office.pdf>

The 21st century was also when millennials started to enter the workforce. The first millennial college graduates started entering the workforce in 2004. Strategies that are shown to be preferred by millennials support their collaborative nature through the implication of flexible interior design strategies. Successful workplaces are embracing millennials' collaborative needs by using layouts that include hoteling, co-working spaces, free address, unassigned seating, and flexibility. Millennials drive co-working spaces, and they are the largest cohort using this new way of working (Zuo & Zhao, 2014). Co-working spaces are also different in size and are meant for independent and mobile workers to come together. An example of well-planned co-

working spaces is shown in Figure 3.8. The figure is a larger co-working space; however, the floor plan shows the key areas and the potential of a space to be multifunctional for not only workspaces but also community group events. Co-working spaces additionally can transition after-hours to community spaces for events such as social mixers or guest speakers. These community type spaces make an ideal space to support a modern, flexible worker, such as the millennial employee.

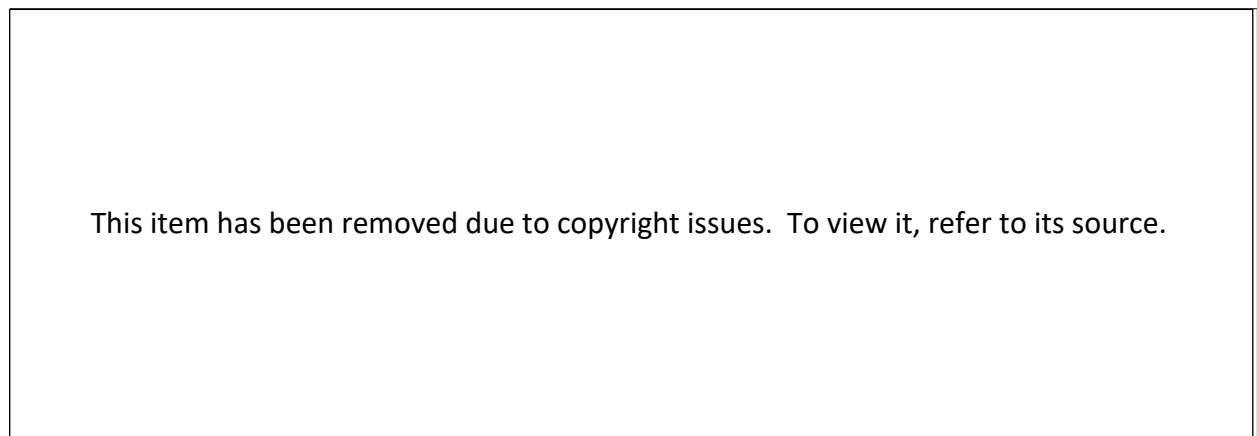


Figure 3.8: Hoskins, R. (2019). 2010s Co-working Layout. [Drawing].

Retrieved from <https://crowdfundingpr.wordpress.com/tag/co-working-space-floor-plan/>

Desking options seen in the 21st century were primarily benching or flexible seating to accommodate several tasks (Walsh, 2015). Benching is simple in layout and consists of a large table that has no territory elements such as vertical supports, such as fixed side screens, to increase collaboration (Walsh, 2015). In addition to benching, the 21st-century workspace also supports unassigned desking or seating options.

Unassigned seating was introduced in the 21st century as employers searched for design strategies that lowered real-estate and square footage. Approximately 52% of a survey with 138 employers revealed that by 2021 they would replace open plans with first-come, first-served desk layouts, and include more shared spaces such as touchdown space (Shellenbarger, 2018). For

example, a Minneapolis architecture firm, Perkins + Will, changed their workplace to be 100% unassigned seating. The Post Occupancy Evaluation (POE) of the office reported that 88% of employees were satisfied with the transition of unassigned seating, compared to 39% of the old space (Wolkoff & Prosser, 2017). Each employee had a personal locker and there was a shift towards digitizing their standing files (Shellenbarger, 2018). Unassigned seating can foster higher levels of collaboration as employees have more opportunities to work in different areas throughout the day and optimize space throughout the workplace.

Workplaces of the 2000s were designed to best suit their workstyles of the baby-boomers that inhabited them (Birkman, 2016). However, the notion of unassigned seating can be seen to be taking place without intentionally implementing unassigned seating as a corporate workplace strategy. A report from CBRE revealed that, on average, 20–40% of traditional desks were unoccupied because employees worked remotely (Shellenbarger, 2018). In other words, workplaces of the 21st century were progressing towards shared and remote working. Unless they want to have offices full of empty desks, today's companies need to recognize that traditional design strategies suited towards baby-boomers need to be replaced with flexible solutions that match how the millennial works in and outside of the office.

3.3.4 | SUMMARY OF KEY STRATEGIES

Section 3.3 outlined a general understanding of some of the main factors that have shaped the workplace of today, based on lessons learned from past workplace strategies. Office design has focused primarily on productivity and hierarchy of the physical workplace and lacked in creating elements to support employee engagement. However, in recent years workplaces have progressed to focus not only on productivity but also on the importance of integrating

environment for employees that support a flat hierarchy and remote working. Table 3.1 presents a summary of the key layouts used, along with the pros and cons of each strategy implemented. A consistent “pro” within the table is increased collaborations, while a consistent “con” is lack of flexibility. Figure 3.9 also illustrates the common desking options that were mentioned in this chapter to clarify interpretations of arrangements.

Table 3.1: Summary of key strategies, by Tasha De Luca

	LAYOUT	PROS	CONS
1500s	-Monastery	-Collaboration	- Lack of flexibility
1800s - Early 1900s	-Taylor layouts (open plan)	-Low cost -Increased supervision	-Long rows of office desks -Depersonalize -Lack of staff morale -Crowded -Increased noise and lack of privacy -High hierarchy -Lack of flexibility
1930s	-Cellular layout	-Increased privacy -High level of concentration	-High hierarchy -Low flexibility -Lack of collaboration
1960s	-Open office	-Lowering of hierarchies -Increased collaboration -Flexibility	-Lack of privacy
1970s- 1980s	-Cubicle farm	-Degree of privacy	-Lack of flexibility -Blocks daylight -Disconnect amongst employees
Late 1980s- 1990s	-Group office -Casual office	-Personalized workplace -Flexible work schedules -Increased collaboration	-Difficult to control employees
2000s	-Virtual office	-Flexible work schedules -Mobile workplaces -Remote working	-Blurred the line between work and social life

2010s	<ul style="list-style-type: none"> -Co-working -Unassigned seating 	<ul style="list-style-type: none"> -Workplace community -High motivation -High staff morale -Optimized spaces -Increased collaboration -Remote working -Flexibility of work-style and work-life integration 	<ul style="list-style-type: none"> -Lack of privacy -Can be crowded -No personalized workstation
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Figure 3.9: Walsh, J. (2015). Summary of common layouts: (from the left layout) Private office, cubicle, open planning, Leaner planning, collaborative planning. [Drawing]. Retrieved from <https://arrow.dit.ie/cgi/viewcontent.cgi?article=1005&context=designpart>

3.4 | GENERATIONAL DIFFERENCE IN THE WORKPLACE

There was disagreement in the literature on the significance of generational differences. However, survey data collected from Gilbert (2011), included information from over 3,500 millennials and baby-boomers, and ten qualitative interviews showed that when it comes to employee engagement, generational differences did exist. In modern society, the two largest generations that form the current workforce were baby-boomers and millennials (Lapoint & Liprie-Spence, 2017). The gap between these generations created an employee age range of 22 to 73 years of age. Within this gap, it was relevant that different values and needs were not addressed, causing stress and resentment among employees. As discussed earlier, each generation was distinguished by a unique set of shared values that were influenced by life

experiences, such as parenting, peers, media, critical economic and social events, and popular culture (Twenge et al., 2010; Pînzaru et al., 2016). These experiences were seen to be most influential in the earlier childhood and early adolescence years of an individual's life, which formed each generation of specific values within a workplace. Differences exist between generations, and although values remain similar, the priority for specific values is what creates generational differences (Pînzaru et al., 2016; Birkman, 2016). In other words, it has been known that both generations value flexibility in the workplace; however, baby-boomers prefer flexible work-life balance, whereas millennials prefer flexibility in work-life integration. Also, baby-boomers have been shown to prefer working in a hierarchical, fixed environment, whereas millennials prefer to have flexibility within their work environments to accommodate their teamwork-styles. Table 3.2 presents a summary list of key strategies of generational diversity within the workplace discussed in this chapter. The table also highlights different values of each generation and their common preference in floor plan layouts and work-styles seen thorough out the literature.

Table 3.2: Summary of generational diversity, by Tasha De Luca

SUMMARY OF GENERATIONAL DIVERSITY	
BABY-BOOMER (1946–1964) Working Population: 74.8 million (Sincavage, 2004)	MILLENNIAL (1980–1999) Working population: 80 million (U.S. Bureau of Labour Statistics)
- 39% cared about the aesthetic in a workplace (PRNewswire, 2017)	- 76% cared about the aesthetic in a workplace (PRNewswire, 2017)
- High engagement in the workplaces created in the 2000s	- Low engagement in the workplaces created in the 2000s
- Sought work-life balance (Gilbert, 2011)	- Sought work-life integration (Gilbert, 2011)
- Preferred to work in private	- Preferred to work in teams or alone together (group setting)
- Stayed at one job for the majority of their career	- Stayed with the same company for less than two years
- Familiar and comfortable with corporate hierarchies (Gilbert, 2011)	- Sought low hierarchy environments (Gilbert, 2011)
- Cellular	- Open plan
- Cubicle	- Co-working
	- Unassigned seating
- Valued working towards a corner office	- Valued experiences
- Leadership Roles	- Expected to be rewarded/ praised with recognition (Gilbert, 2011)

3.5 | SUMMARY OF FINDINGS

There was little academic literature research based on generational difference related to the physical workplace. Regardless, this chapter highlighted not only challenges of engagement for millennials, but in engagement of previous generations as well. It was evident from the layouts presented that workplaces have been evolving with time and progressed centred on users' productivity levels. It was also apparent that past layouts, such as the Taylor layout (with workers tied down to their desk), did not embody current work-styles and technologies that may support unassigned seating and working remotely in modern workplaces. It was critical to understand that, as time progresses, there are new standards and expectations towards how an employee works. As each new generation enters the workplace, there may be a conflict between

expectations. The lack of flexible interior design strategies was consistently reported in the literature and is seen as a primary factor contributing to millennials being the most disengaged generation in history. To make a workplace comfortable to suit all ages, providing a variety of work-styles, essentially merging features of both past and present layouts may achieve various generational needs.

CHAPTER 4 | LITERATURE REVIEW: MILLENNIAL WORK VALUES

4.1 | CHAPTER OVERVIEW

Chapter 4 reports on the effects millennial work values have on their productivity, satisfaction, and motivation in the workplace. The purpose of this chapter is to stress the importance of translating millennial values to interior design strategies to form high levels of millennial engagement in the workplace. Each design strategy presented is intended to provide interior designers, workplace strategists, and employers with the means to achieve engaging environments and meet the values and expectations of this generation for a modern workplace.

4.2 | MOTIVATION IN THE WORKPLACE & WORK VALUES

In order to achieve productivity and engagement in the workplace, employers must understand what motivates employees. Motivation is considered to be the main factor behind individuals engaging in any activity (Singh, 2016). According to research (Twenge et al., 2010; Kuron et al., 2015; Singh, 2016; Maier et al., 2015), alignment of work with values was a critical factor for employee motivation and attitude towards their work environment. However, not all motivation was the same for each generation. Motivation varies from generation to generation based on life experiences, characteristics, demographics, and educational levels. Researchers (Singh, 2016; Twenge et al., 2010; Gilbert, 2011; Ros et al., 1999 – see also Table 4.1) showed that millennials had distinctly different values than previous generations. For example, millennials ranked leisure as the highest value, whereas Boomers ranked it as the lowest (Table 4.1). It is essential, therefore, to consider (1) what millennial work values are, and (2) how work value

differences may influence millennial workers' level of motivation and engagement within a workplace.

Table 4.1: Importance of Work-Related Values by Generation

Value	Boomers	GenX	Millennials
Leisure	3	2*	1*
Extrinsic	3	1*	2*
Intrinsic	1	2	3*
Altruistic	1	2	3
Social	1	2	3*

Source. Based on Twenge et al., 2010

Note: Values of 1-3, where "1" indicates most important. The work-value "altruistic" showed no significant difference among generations. * $p < .05$. ** $p < .01$. *** $p < .001$.

4.2.1 | GENERAL VALUES

Broadly, values are a part of an individual's choices that shape their future daily life, which also applies to the workplace. Design that incorporates millennial values demonstrates a connection between the employer and employee and raises engagement levels as a result. Values are defined as "the beliefs that people have about what is right, wrong, and most important in life, business, etc. which control their behaviour" (Cambridge Business English Dictionary, 2018). This definition of value also aligns with other academics findings, which conclude that values provide the highest potential towards understanding human behaviour (see Maslow, 1970; Milton Rokeach, 1974; White, 2006; Maier et al., 2015). Therefore, understanding key millennial values and incorporating those in the design, will influence their outlook on and connection with a space, which drives behaviours of how they utilize the space.

4.2.2 | WORK VALUES

Values contribute heavily to an employee's positive or negative interpretation of their work environment. Lyons et al., (2010), refer to the values that are pertinent to an individual's work-

life as work values. Other academics also see the significance of understanding work values. For example, Maslow, (1970); White, (2006); Kuron et al., (2015); Maier et al., (2015), studies have shown that work values have been adapted from constructs that include how people place importance on work through motivation, job satisfaction, organizational commitment, decision-making, employee turnover, career choice, team dynamic, and organizational citizenship behaviour. Work values explain how each value relates to employees' behaviours in the workplace. Each work value also reveals the importance millennials place on each value to determine areas of focus for employee engagement within this thesis.

Four work values, drawn from the theories of Kuron et al., (2015), Twengen et al., (2010), and Ros et al., (1999) are the most relevant to interior design of a workplace:

1. Leisure values (Twengen et al., 2010)
2. Intrinsic values (Ros et al., 1999)
3. Extrinsic values (Kuron et al., 2015), and
4. Prestige or status values (Kuron et al., 2015)

Leisure is the importance placed on freedom, such as free time, vacation, and working independently (Twengen et al., 2010). Leisure contributes to work-life integration, which contributes to employee freedom. Intrinsic values refer to the psychological satisfaction of working, such as interesting work, challenge, variety, and intellectual stimulation (Ros et al., 1999). Supporting intrinsic values in terms of interior design means providing spaces that contribute to the personal growth of employees and their forming purpose in the organization, as well as more opportunities for collaboration and mentorship. Extrinsic value relates to the material aspect of the workplace, such as technologies or amenities (Kuron et al., 2015). Extrinsic

values also correlate to social work values. Social or altruistic values pertain to the social relations of individuals within the workplace, such as co-workers or supervisors (Kuron et al., 2015). Social values contribute to satisfaction in the workplace. By providing an opportunity for social interactions within a workplace, space planning can enhance interactions with employees to create a strong workplace culture and ignite inclusiveness. The last value, prestige or status, relates influence and power in the workplace (Kuron et al., 2015). Prestige values also contribute to pride in working for the company and creating meaning in the workplace. The remainder of this chapter explores these work values in relationship to millennial workers in more detail; leading to the formation of a strategic workplace design framework (see Table 4.2).

4.2.3 | MILLENNIAL WORK VALUES

The lack of engagement in current workplaces might be the result of failing to adapt to, or perhaps fully not understanding, millennial values, and expectations in a workplace. According to a large millennial study (Smith & Turner, 2015) “this demographic wants to work in a culture that encourages voice, work-life integration, and flexibility; develops leadership skills; offers mentoring support and demonstrates core values aligned with their own” (p. 70). The study also stated that “anything that they perceive as unfair, unreasonable, or unmanageable will cause them to leave” (p. 70). These findings highlight how crucial it is for workplaces to include flexibility that allows millennials to connect to employees and their personal lives when needed. When this strategy is not applied millennial retention loss occurs. Millennials being a global generation and digital natives formed the norms of connection as well as their comfort with voicing their opinions at any given time. It is relevant to mention that millennials know their values and expect these values in their workplace.

Suh and Hargis's (2016) investigation of what physical characteristics of a work environment millennials considered important revealed 13 values, which included (not in priority order): acoustical privacy, natural light, view, fun, open, collaboration, flexibility, personalization, visual displays, technology, colour, furniture, and ambient conditions. Each physical characteristic identifies the motivational values that create a satisfying and productive work environment for millennials. As discussed in Chapter 3, many of these 13 values mentioned were absent in traditional workplaces.

According to Bogosian and Rousseau (2017), an organization that includes the aforementioned 13 values within a workplace will have the highest likelihood of millennial employee retention. These findings are consistent with other studies. Table 4.2 contains the fundamental values consistently mentioned throughout my review of the literature on millennial work values. The rankings and groupings are based on studies by companies that specialize in workplace strategies (Gensler, 2014, 2017, 2018; Hok, 2013, 2016; Truspace, 2017; PwC, 2011; CBRE, 2014; Deloitte, 2016, 2017, 2018). "Flexibility" is identified as the overarching and most important millennial value in a workplace, the focus of each subsequent value served as a connection between the other listed.

Note. Table 4.2 secondary values are identified with letter labelling, such as (a, b, c), and tertiary values are identified with bulleting (-).

Table 4.2: Summary of Millennial Work Values, by Tasha De Luca

The Corresponding Work Value Categories	Secondary and Tertiary Millennial Work Values	Primary Millennial Work Values	
Social, Status, Intrinsic	(a) Space Planning (CBRE, 2014; Augustin, 2014; McCarthy & Barrett, 2018; Herman Miller, 2018; Truspace, 2017) - Low Hierarchy (Suh & Hargis, 2016; Gensler, 2017; Deloitte, 2016) - Collaboration (Smith & Tuner, 2015; Payton, 2015; ManPower Group, 2016; Gensler, 2018; Hok, 2013; Truspace, 2017; Herman Miller, 2018; Deloitte, 2016)	2. Work-styles	1. Flexibility
Social, Extrinsic	(b) Technology - Free address (Martin, 2018; Redwood et al., 2017; Maier et al., 2015; Bannon et al., 2011; Fraser, 2013; Joyce et al., 2018; Dell, 2016; Foster & Sullivan, 2016; Kuron et al., 2015; Schwartz et al., 2017; Barrett, 2012; Smith and Turner, 2015; Gensler, 2017; Webster, 2018; Deloitte, 2016)		
Extrinsic, Status	(c) Personal Control - Ergonomics (Truspace, 2017; Kaplan & Aronoff, 1996; Augustin, 2013; CBRE, 2014; Augustin, 2014; Simone et al., 2017; Augustin, 2014)		
Social, Extrinsic Leisure Status	(d) Amenities (CBRE, 2014; PwC, 2018; Augustin, 2014; Gensler, 2017; Richardson, 2017) - Experiences (Gensler, 2017; Smith & Tuner, 2015; PwC, 2011) - Company culture (Deloitte, 2016; Smith & Tuner, 2015; Cataldo, 2011; Truspace, 2017; Kuron et al., 2015)	3. Work-life integration	
Social, Intrinsic	(e) Personal Growth (Deloitte, 2018; Suh & Hargis, 2016) - Mentorship (Kratz, 2013; Costa et al., 2018; Lykins & Pace, 2013; Deal et al., 2010; Brack et al., 2012; Newman, 2010) (f) Wellness (PwC, 2018; Timm et al., 2018) - Biophilia (Kellert et al., 2008; Truspace, 2017; Richardson, 2017; McClary, 2016; Sanchez et al., 2018)		

Reviewing the literature on millennial values revealed that implementing different work-styles and work-life integrations were at the core of flexible workplace design. These two primary values created a three-tier ranking for the remaining secondary and tertiary values in Table 4.2. For example, values forming work-styles correlating to secondary values were space planning, technology, and personal control, whereas work-life integration values showed secondary values of amenities, personal growth, and wellness. The grouping for each secondary value then transitions from strategies into interior design implications, which are shown to be the tertiary values. Work-styles tertiary values consist of low hierarchy, collaboration, free address, and ergonomics, and for work-life included experiences, company culture, mentorship, and biophilia. By categorizing each secondary value, Table 4.2 highlights and groups millennial's core characteristics and life experiences through interior design strategies. For a further summary of this chapter, refer to Appendix F for the reference of ranking indication shown in Table 4.2. The connection towards the flexibility of work-styles and work-life are further explained in section 4.4: Flexibility and Workplace Design.

4.3 | IMPORTANCE OF FLEXIBILITY

As shown in Table 4.2, flexibility was the highest-ranked millennial work value and was the foundation of the other values presented. Millennials experience in their personal lives and education from where, when, and how their work transitioned into their workplace where they expect the same flexibility. Workplace researcher Webster (2018), also found this need for flexibility accurate as his findings reported that millennials represented the highest working cohort that sought the flexibility of where, when, and how they worked. Further, Deloitte's (2016) Global Survey found that millennials valued flexibility as they believe it supported their

engagement levels regarding productivity by being able to incorporate their personal growth while at work. This belief was shown to be accurate from a survey by LPA Inc. revealed that employees were more productive when given a variety of spaces that accommodated different work-styles (Sullivan et al., 2014). Productivity from flexibly in a workplace was also highlighted in predictions from Knight and Westbrook (1999), which revealed that over 9 million employees who had flexibility in their work arrangements could contribute as much as 10% annually to a company's growth. These predictions of growth were confirmed In 2015 in the Gallup's annual Work and Education poll which showed an increase of about 30% (9% in 1995 and 37% in 2015) (Webster, 2018). Flexibility is repeatedly seen to be a primary facilitator that supports millennial attraction, retention, and engagement in work environments by enabling accommodating work-styles and work-life integration that include millennials values. Therefore, the importance of understanding flexible design implications that appeal to millennials is critical towards a successful workplace for the millennial generation to increase productivity and job satisfaction.

4.4 | FLEXIBILITY AND WORKPLACE DESIGN

Defining flexibility in workplace design is not limited to working remotely. It is a multi-faceted concept of providing options and choices that accommodate different tasks and work-styles with ease. Flexibility was not merely the ability to have a flexible work schedule but embedded in the work culture and floor plan — definitions of flexibility that are relating to workplaces in literature highlight employee choice. For example, Hill et al., (2008) defined flexibility as “the ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks” (Hill et al., 2008, p. 152). The definition highlights the importance of environments to provide different work-styles to achieve the task at hand. Hill et al., (2008) furthered workplace

flexibility relating it to individual characteristics, home and family characteristics, workplace characteristics, and community characteristics, which is also seen as values of work-life integration throughout this thesis. Flexibility is discussed in this thesis as consisting of two fundamental values as it pertains to Hill's definition, which included work-styles and work-life values. Work-styles are applied through space planning, technology, and personalization, and the work-life integration application is specific to personal growth, amenities, and wellness as mentioned in Table 4.2.

4.5 | FLEXIBLE WORK-STYLES: SPACE PLANNING

Although there is literature suggesting that millennials have different work values and expectations compared to other generations, many workplaces still struggle to adapt design strategies to support the millennials' diverse ways of working. The most substantial influence on job satisfaction and performance at both individual and team level, according to Augustin (2014), included environments that support (1) the ability to do individual work without distractions and with support for unplanned discussions, and (2) team areas that allowed groups to work without distractions from non-group members. Augustin (2014) continued to explain that both work environments should include workstation comfort, including ergonomic support and space for work-related tasks. These environments highlight the importance of space planning for collaborative or focused work to achieve a task efficiently in a supportive setting.

The need to apply different work-styles is shown also in a CBRE (2014) report, which revealed millennials prefer choice and a mix of work environments that consist of three work-styles. The study showed that 52% of millennials preferred a mix of mobile work, 41% preferred to work mainly in the office, and 7% mainly from mobile (CBRE, 2014). These three work-styles

are also identified in McCarthy and Barrett's (2018) findings: soloist-style, mixed-style, and mobile mixed-style (Figure 4.1 – 4.9). These three styles are essential to explore as they significantly affect how an employee uses a space, thus, affecting the space planning of a workplace.

A soloist-style worker spends 60% or more of their time on a task that requires focussed work (McCarthy & Barrett, 2018). Areas that support this type of worker are semi-private spaces, private rooms, nap rooms, modular phone booths, or solo spaces created using furniture alone (Truspace, 2017). Table 4.3 shows the design planning for this style with a focus on flexibility and privacy.

Table 4.3: Soloist Style Space Planning Options

WORK-STYLE	SOLOIST-STYLE
Description	- Spends 60% or more at their desk performing more focused work (McCarthy & Barrett, 2018).
Need	- Place higher needs on ergonomics, personalization, technology, and flexibility to have focused, heads-down work and problem-solving with team members (McCarthy & Barrett, 2018). - Private work without distraction for tasks that are cognitively demanding and to take restful breaks.
Adjacencies	- Quiet spaces - Near workstations

Designers have several options to support a soloist style worker. For example, a small one-person enclosed private room or booth (see Figure 4.1) eliminates auditory distractions for focus work but still has a visual connection (Truspace, 2017). The multiuser layout (see Figure. 4.2) might include an enclosed room for problem-solving with team members and alternative seating postures for ergonomic support and tasks (Timm et al., 2018). Another layout option (Figure 4.3) allows an employee to do focused work within an open concept, and still use privacy partitions for semi-openness with acoustic and visual barriers for problem-solving with team

members (Temprell, 2017; Timm et al., 2018). To have effective focused work, it is best to place soloist spaces near quieter traffic areas that do not involve socializing or are highly collaborative.



Figure 4.1: Williams, G. (2019). Individual enclosed room - focus work. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/ideal-settings/>. Reprinted with permission.



Figure 4.2: Williams, G. (2019). Problem-solving and alternative posture - focus team Work. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/whymagazine/ideal-settings/>. Reprinted with permission.



Figure 4.3: Williams, G. (2019). Privacy partitions - focus teamwork. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/ideal-settings/>. Reprinted with permission.

A mixed style worker spends 60% or more of their time away from their desk, performing a mix of focus and collaborative work (McCarthy & Barrett, 2018). Design layout options that support this worker are team environments such as benching workstations, touchdown areas for debriefing, and amenities such as a lounge or café. Table 4.4 shows suggestions of how to space plan for a mixed-style worker.

Table 4.4: Mixed-Style Space Planning Options

WORK-STYLE	MIXED-STYLE
Description	- Spends 60% or more away from their desk performing a combination of focused and collaborative work (McCarthy & Barrett, 2018).
Need	- Spend more time collaborating and does not need a full workstation but rather small personal areas they can still store material and have quick conversations.
Adjacencies	- Collaborative spaces - Amenities - Optional privacy (movable whiteboards or partitions acting as visual barriers)

In the mixed-style, design layout options could provide enclosed spaces for focused and collaborative work (see Figure 4.4) or touchdown areas that allow for debriefing and amenity space for presentations (see Figure 4.5 (Thompson, 2011). Another layout option, open benching with storage, supports open collaboration yet allows for mobility and storage of useful items (see figure. 4.6) (Walsh, 2015). To enhance support for this style of worker, it is best to place these areas near medium traffic areas that allow for spontaneous collaboration to occur.

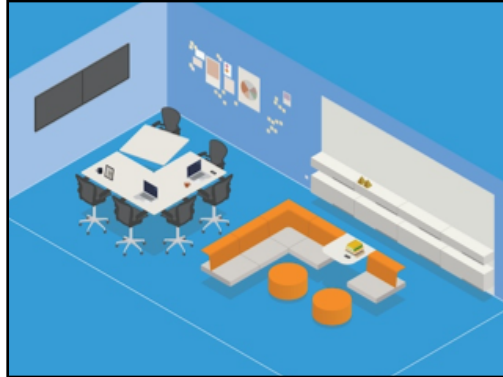


Figure 4.4: Williams, G. (2019). Enclosed focus work and collaborate - team collaboration. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/whymagazine/ideal-settings/>. Reprinted with permission.

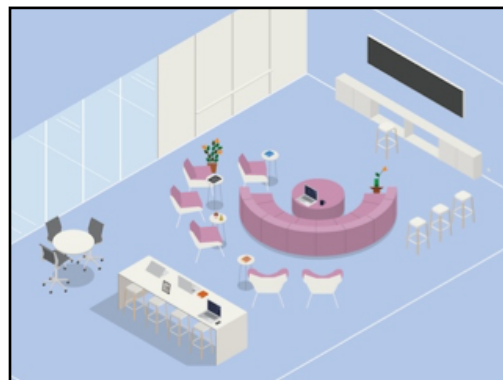


Figure 4.5: Williams, G. (2019). Touchdown space and presentation - team collaboration. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/ideal-settings/>. Reprinted with permission.



Figure 4.6: Williams, G. (Artist). (2019). Open benching with storage - focus teamwork/ Collaboration. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/ideal-settings/>. Reprinted with permission.

Workers that are mobile-mixed style spend less than 40% of their time at their desk and perform more collaborative work (McCarthy & Barrett, 2018). Therefore, touchdown stations, storage lockers to secure personal items when away from the office and digital tools that support their mobility are needed — with amenity spaces for lounging and debriefing (see Figure 4.7) (Shellenbarger, 2018). Table 4.5 shows suggestions to support a Mobile Mix-Style worker with a focus on flexibility and collaboration.

Table 4.5: Mobile Mixed Style Space Planning Options

WORK-STYLE	MOBILE MIXED-STYLE
Description	- Spends less than 40% of their time in the office performing more collaborative work (McCarthy & Barrett, 2018).
Need	- Higher needs for technology and flexibility, and they do not require a workstation. - Touchdown areas are preferred to do focused and collaborative work.
Adjacencies	- Collaborative spaces - Amenities - Corridors - Storage room/area - Locker room/area

Simple touch-down areas (see Figure 4.8) allow for quick or spontaneous meetings (Cataldo, 2011). Hoteling area locker options support mobile workers while also still providing them with a desking option when at work (see Figure 4.9) (Shellenbarger, 2018). These spaces can also be utilized in amenity spaces such as lounge or café spaces, near collaborative areas or locker areas to have less travel distance to their desking option.



Figure 4.7: Williams, G. (2019). Amenity space for lounging and debriefing – team Collaboration. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/whymagazine/ideal-settings/>. Reprinted with permission.

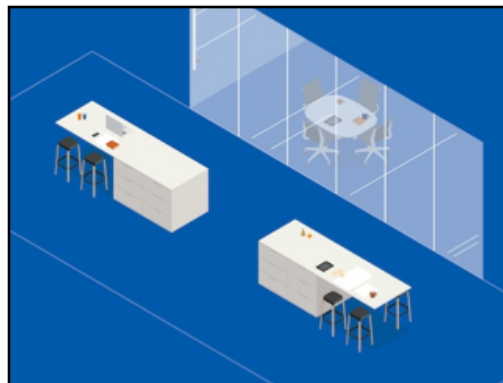


Figure 4.8: Williams, G. (2019). Touch down areas - team collaboration. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/idealsettings/>. Reprinted with permission.

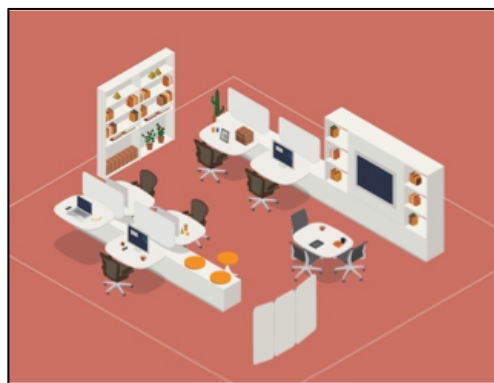


Figure 4.9: Williams, G. (2019). Hoteling areas locker options - focus teamwork/ collaboration. [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/ideal-settings/>. Reprinted with permission.

4.5.1 | LOWERING HIERARCHY SPACE PLANNING

A common space planning strategy is to provide a low-hierarchy environment to achieve soloist, mixed, and mobile work-styles (see Figure 4.1 to 4.9). For example, less hierarchical environments might use highly prized corner offices as a shared meeting space, instead of reserving it for a CEO. Suh and Hargis (2016) found that millennials preferred less formal environments. Further, less formality means workplaces that are “transparent” or open with glass partitions but can also describe organizational culture, such as how well an organization communicates with its employees. Suh and Hargis’s (2016) millennial survey showed that about 59% of respondents valued transparency in communication, as they believed it was critical to achieving their organization’s goals. Creating a transparent environment allows millennials to connect, to see the organization goals being achieved, and to feel valued as they are partaking in the company’s mission. Moreover, when millennial employees feel they are valued and have a connection to the goal of the company, it creates the feeling that is part of a team and equals (Gensler, 2017; Deloitte, 2016). Implementing these strategies of inclusiveness through transparency not only creates equality in the workplace but can improve the company culture by allowing employees to collaborate and build a relationship within their work environment.

4.5.2 | COLLABORATIVE SPACE PLANNING

Collaborative space planning strategies are also important when designing for millennials. Specifically, 71% of millennials prefer team environments (see Figure 4.10 & Table 4.6), compared to 28% of non-millennials. Based on the Smith & Tuner study (2015) [3,726 respondents]. Each illustration presented in this section, (Figure 4.10 – 4.15), are typical layouts that are applicable for many workplaces that support millennials’ team collaborative way of working. Each

illustration reveals different settings that support inclusion and collaboration and the tools needed to achieve these settings. The information in the tables, (see Tables 4.6 & 4.11), are suggestions based on studies and research within the review of literature in this chapter (Gensler, 2018; Hok, 2013; Truspace, 2017; Herman Miller, 2018; Deloitte, 2016). The purpose for Tables 4.6 to 4.11 is to give a general overview of collaborative space planning options that are commonly used by millennials, to signify tools and furniture needed to support the area, and the appropriate setting adjacencies to form a successful collaborative area that supports different tasks throughout a day. These illustrations were also chosen as they are simple layouts and tools that are attainable for workplaces to implement without being difficult or expensive to adopt.

A study completed by Kelton for Cornerstone OnDemand revealed that 60% of millennials would prefer to collaborate in person, while 34% favoured online collaboration, and 6% desired phone or video conference-based collaborative sessions (Payton, 2015). These statistics reveal that the physical design of a workplace needs to support these team environments for millennials to work productively and be satisfied in their workplace. The 60% of millennials in the study who preferred in-person collaboration required space planning to support their needs and the other 40% who favoured other collaboration methods needed environments to enable remote assistive technology (Payton, 2015). Examples of work settings that support collaborating in-person are shown in Figure 4.10 - 4.11 (see Table 4.6 - 4.7) and work settings that enable remote workers are shown in Figure 4.12 (see Table 4.8). Focusing on space planning that supports collaboration is necessary to facilitate connecting with co-workers and increasing social support.



Figure 4.10: Carlsten, D. (2019). Huddle [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/work-life/>. Reprinted with permission.

Table 4.6: Huddle Collaboration Option (1)

Action	Setting	Layout Option
- Team addressing an urgent issue or plan of action (Herman Miller, 2018)	- Touch down area, located in proximity to workstations	- A surface that supports technology, acoustical barriers

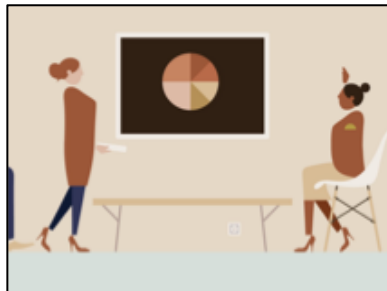


Figure 4.11: Carlsten, D. (2019). Show & Tell [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/work-life/>. Reprinted with permission.

Table 4.7: Show & Tell Collaboration Option (2)

Action	Setting	Layout Option
- Information is shared within teams or clients (Herman Miller, 2018)	- Townhall, semi-private, near amenities that accommodate multiple seats	- Internal staircase seating or flexible seating access, presentation screens, whiteboard screen

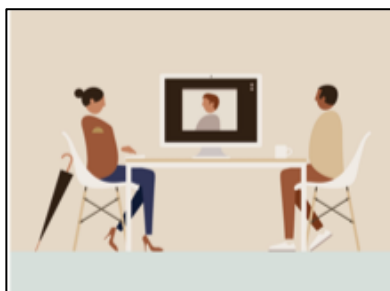


Figure 4.12: Carlsten, D. (2019). Converse [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/work-life/>. Reprinted with permission.

Table 4.8: Converse Collaboration Option (3)

Action	Setting	Layout Option
- Interaction to address a defined topic (Herman Miller, 2018)	- A formal, private environment	- Acoustical barriers, and technology to use screen sharing

Space planning for collaboration is comprised of a comprehensive, approachable atmosphere that supports brainstorming, teamwork, and belonging (Augustin, 2014). Layout examples of brainstorming, teamwork, and belonging are shown in Figure 4.13 - 4.14 and Table 4.9 - 4.10. These figures and tables present the tools needed in these settings such as digital or standard whiteboard, pin-up space, flexible lounge seating, and acoustical barriers to support a collaborative setting. According to design firm HoK (2013), workers connect and collaborate when they have more opportunity to see each other throughout the environment; for example, as previously mentioned above in section 4.5.1, implementing a flat hierarchy and transparency supported connection and collaboration of employees. Opportunities for spontaneous collaboration and opportunity for employee's interaction is shown in Figure 4.15 and Table 4.11. The need for different work-styles to support collaboration depends on the task at hand. In order to achieve successful collaboration, an understanding of the company culture, company goals, and tasks must first be determined.

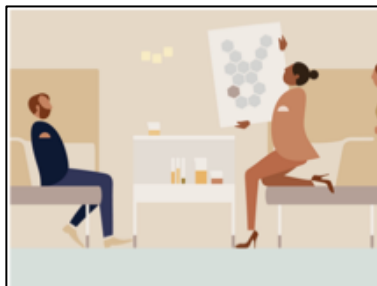


Figure 4.13: Carlsten, D. (2019). Co-Create [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/work-life/>. Reprinted with permission.

Table 4.9: Co-Create Collaboration Option (4)

Action	Setting	Layout Option
- To generate new ideas with a team (Herman Miller, 2018)	- Active engagement, conversation, content sharing, and creation	- Digital or standard whiteboard, pin-up space, flexible lounge seating

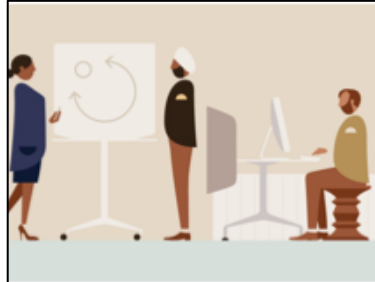


Figure 4.14: Carlsten, D. (2019). Dive & Conquer [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/work-life/>. Reprinted with permission.

Table 4.10: Divide & Conquer Collaboration Option (5)

Action	Setting	Layout Option
- A team working on individual components of a project to resolve an issue (Herman Miller, 2018)	- Spontaneous collaboration	- Digital or standard whiteboard, pin-up space, sit-stand surfaces, acoustical barriers

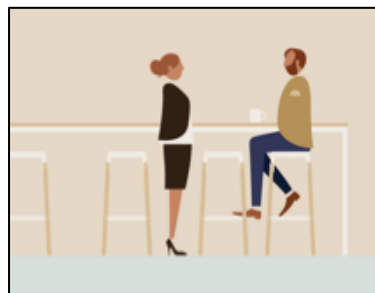


Figure 4.15: Carlsten, D. (2019). Chat [Drawing]. Retrieved from <https://www.hermanmiller.com/stories/why-magazine/work-life/>. Reprinted with permission.

Table 4.11: Chat Collaboration Option (6)

Action	Setting	Layout Option
- Impromptu interaction - Beings social then collaborative on an idea (Herman Miller, 2018)	- Away from workstations	- Flexible seating and surfaces placed to access natural light

4.5.3 | FLEXIBLE WORK-STYLES: MOBILE DIGITAL TECHNOLOGY

Mobile digital technology is the predominant driver for flexibility in work-styles and work-life. The technology tends to refer to screens, projection and spatial integration and has progressed to include augmented reality and virtual reality (Martin, 2018). For this thesis, I use a definition of digital technology provided by Richard Tyson, a lead design strategist consultant at Gensler:

[Digital Technology is] everything from what we can do on screens at the presentation layer, to how we connect people, places, and things in new ways that transform our traditional ways of getting work done—things such as mobility, social networking, meeting and collaboration, resource discovery, health and wellness, and learning and performance (cited in Martin, 2018, para. 7).

Tyson's definition highlights the multiple platforms that technology influences and how it affects work performance. Further, Redwood et al., (2017) definition of technology emphasizes that digital technology is fundamentally changing the 21st-century workplace, affecting how employees work, manage, organize, use products, and communicate. These two definitions emphasize that technology is a key method for how individuals connect to other people and is a useful tool to do work anywhere and anytime, which allows employees to manage their time to focus on their well-being. Well-being is achieved through the support of flexibility of technology as they can achieve a task faster, they can make more time for themselves either mentally or physically, or they can choose their work setting.

When adequate technology is not provided in workplaces, millennials do not feel valued and do not value the workplace. According to technology companies Dell (2016) and Intel Future Workforce (Foster & Sullivan, 2016), when deciding whether to accept a job offer more than 80%

of millennials specified that workplace technology would influence their decision. It is essential then to understand which technologies impact these decisions to increase company attractiveness. Dell's (2016) study also showed that more than 60% of millennials valued high-tech perks such as digital whiteboards, rather than low-tech perks like ping pong and free food. This preference for high-tech perks makes it evident that social media and emergent technology profoundly shape millennials, and workplaces must adapt. Academic sources also align with Dell's (2016) findings, such as Kuron et al., (2015) research showed the rise in a desire for mobile technology might be due to the modern development of careers that were more unbounded and self-directed than traditional careers. It may also be due to the fact that mobile technology also offers flexibility and freedom for employees.

One may think that as the use of technology is rapidly increasing, the usefulness of the employees is declining. This assumption is not necessarily valid; technology has heightened the importance of skills such as empathy, communication, persuasion, personal service, problem-solving, and strategic decision-making in the workplace (Schwartz et al., 2017). Findings in Schwartz et al., (2017), also revealed that combining the tools of cognitive computing and robotics with human skill has been seen to help create new jobs, boost productivity, and allow workers to focus on the human aspects of their work environment. Therefore, technology makes humans more valuable in the workplace while also presenting opportunities for enhancing employee and company productivity with the assistance of technology.

When discussing mobile digital technology, it is important to note that it is strictly not a question of material values; digital technology also contributes significantly to employee productivity and satisfaction which are ideal benefits to a company. Studies from Samsung and

Barrett (2012) are examples that support the connection of productivity from digital technology to employees. The study by Samsung [500 participants] found that mobile devices increased work productivity by 34%, innovation by 42%, and quality of work by 35% (Foster & Sullian, 2016). Samsung's findings are also reflected in academic sources such as Barrett, (2012) which revealed that tech perks such as digital whiteboards have also been seen to foster productivity by 25%. These digital tools are successful in raising productivity, as they make sharing information and collaboration more accessible, which aligns with the mode millennials value at work of connection and choice.

Mobile digital technology allows mobile and remote work, which means interior designers need to think about spatial utilization as the number of people working exclusively in one place decreases. Veitch (2018) predicts that future workplaces will be lowering spatial density to increase social density and reduce real estate costs. Design and architecture companies such as Gensler (2017) are also highlighting the importance of lowering spatial density to support different work modes for high-performance workplaces that include providing choice and balance of spaces. Some of the benefits of working remotely include working from virtually anywhere and accommodating different work-styles and the fullest possible work-life integration while allowing companies to downsize square footage. In contrast, a negative result of working remotely is a decline in natural collaboration amongst employees in the organization (Webster, 2018). Natural collaboration is seen where ideas are fostered, often leading to employees working more hours, rather than a collaboration that is forced or planned (Webster, 2018). With less natural collaboration, innovation and productivity are affected. Additionally, another potential negative includes employees working longer hours, as they are accessible through

technology from virtually anywhere. Technology offers freedom of work-style and work-life integration; still, more information is needed on the number of hours spent on work versus life, and the effects on quality of life to determine if technology affects employee well-being.

Below are two examples of the latest digital technology tools that support mobile working to support employee productivity. These examples align with the millennials' preferred ways of working either collaborating remotely or in person. These examples have been successful, as millennials prefer to collaborate in person and, as mentioned, these tools facilitate organizing information and allow team members to attend virtually while sharing the same screen. Moreover, movable whiteboards are preferred by millennials, as they give them a voice and encourage learning (Suh & Hargis, 2016). The Jamboard by Google, an interactive canvas for a team up to 16, who can collaborate from anywhere, is an example of this (see Figure 4.16).

Another example is Microsoft's Surface Hub 2 (see Figure 4.17), which is also an interactive whiteboard; the main difference is that it has a screen that can be mounted on walls for conference room displays. Figures 4.10 to 4.14 provide options for integrating such tools into space planning modes appropriate for different environments. Examples of tablets, laptops, and cell phones, although they are common mobile technology, it will not be explored in this section, as they have already been adopted in many workplaces today and are shown as a norm within the literature.

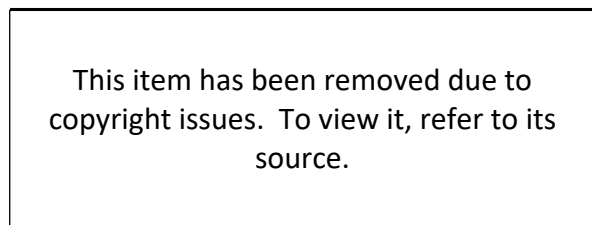


Figure 4.16: Gsuite. (2019). Jamboard by Google. [Photograph]. Retrieved from <https://gsuite.google.com/products/jamboard/>

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Figure 4.17: Panay, P. (2018). SurfaceHub 2 by Microsoft. [Photograph]. Retrieved from <https://blogs.windows.com/devices/2018/05/15/meet-surface-hub-2/>

The Jamboard and the Surface Hub show a glimpse of the norm of the near-future workplace. Executives explained that these tools would enable increased cross-cultural teaming, such as virtual teaming by 2020 (Deloitte, 2016). Sophisticated digital tools will be critical enablers, as in a recent survey 65% of executives revealed that they are planning to move away from e-mail as a primary form of communication (see Figure 4.18) (Deloitte, 2016). The impact of digital tools is found in small to large companies as per respondents in the Deloitte survey. Standard technology that supports communication such as e-mail is shown as less necessary towards productivity and employee satisfaction. Therefore, innovative technology such as digital whiteboards is becoming the new expectation throughout a variety of workplaces.

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Figure 4.18: Deloitte Technology Survey Findings. (2016). Deloitte Consulting LLP. [Drawing]. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/human-capital/ushuman-capital-transitioning-to-the-future-of-work.pdf>.

Essentially, as millennials value the freedom provided by the flexibility of technology, the implications of these tools include how important technology is to millennial employees, how it boosts productivity, and how it influences work-style to create freedom and form connection. The studies reviewed infer that technology is a leading factor in attracting, retaining, and engaging millennial employees, and that to achieve these three areas, high-tech perks must be implemented in the workplace. Workplace technologies vary depending on the task; however, providing the opportunity for accessibility and mobility is vital, as millennials prefer the flexibility of choice as to where and how they work.

4.5.4 | FLEXIBLE FURNITURE: PERSONAL CONTROL AND CHOICE

I define personal control in this thesis as having the ability to personalize a tool or piece of furniture to provide ease for the employee, leading towards a work experience that best fits an individual's needs. Millennials' value for personal control and choice align with flexibility and are critical in current workplaces, given that millennials spend most of their time in a static posture—hunched over a desk and staring at a screen—more so than any other generation (Truspace, 2017). It is necessary to implement personalization in work tools and furniture, as it promotes better well-being for the employee. Millennials are the largest generation spending hours a day hunched over a desk; however, depending on tools that assist them ergonomically, they can achieve their tasks with ease (Truspace, 2017). Providing employees with choice create benefits that result in employees working longer, as they experience less fatigue throughout the day, and boost engagement (Kaplan & Aronoff, 1996; Augustin 2013).

Further, CBRE's (2014) research showed that satisfaction levels increased 10–15% percent when a workplace provided a variety of choices. Therefore, companies may want to invest in

ergonomic furniture as the benefit is shown to support employee engagement and the ability to work longer through these mentioned findings. In contrast, employees who have the least amount of control and choice over their work environment are the most disengaged (Augustin, 2014). As employees spend 60% of their workday sitting, the goal is to highlight how the well-being of employees may be supported by implementing the flexibility of choice and control through ergonomic furniture and tools.

Providing choice and control of posture in the workplace was studied by Rietveld Architecture Art Affordances (RAAAF) and visual artist Barbara Visser. This study focused primarily on the millennial generation. Visser created an environment, called *The End of Sitting*, with no chairs and desk. Instead, she installed sculptures (see Figures 4.19 and 4.20) that provided working surfaces and several non-sitting postures, such as lying, standing, and leaning. Workers had the choice of different postures throughout the workday, allowing participants to work at many different heights and in positions that fit their body size and work-style.

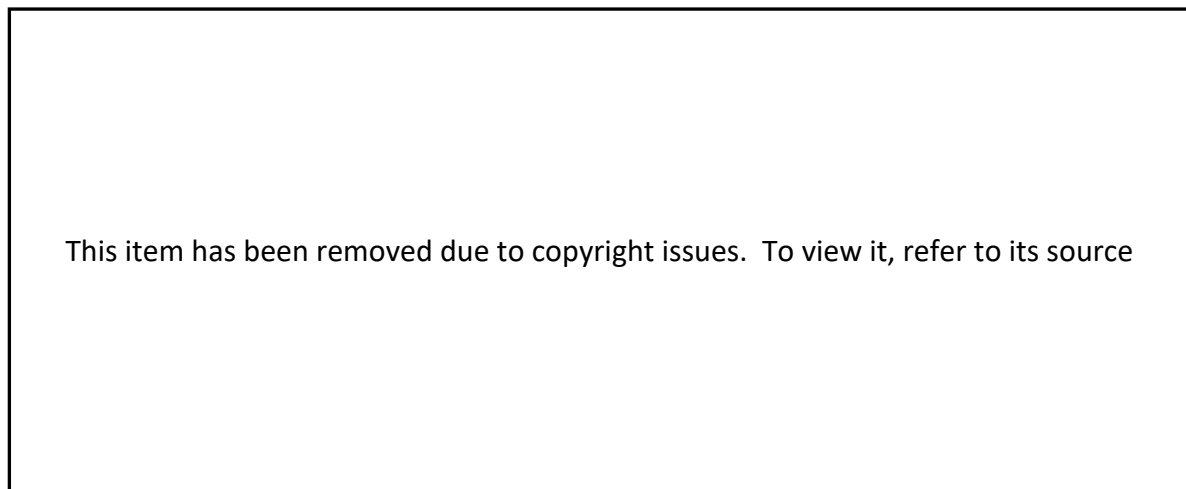


Figure 4.19: Simone, C &, Withagen, R. (2017). Different postures and collaboration (I). [Photograph]. Retrieved from <https://link-springercom.uml.idm.oclc.org/content/pdf/10.1007%2Fs40279-015-0448-y.pdf>.

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Figure 4.20: Rosen, D. (2016). Different postures and collaboration (II). [Photograph]. Retrieved from <https://3blmedia.com/News/End-Sitting-We-Know-It>

The findings of this study showed that 17% of participants worked in just one posture while working, 44% worked in two postures, 17% in three postures, and 22% in four postures (Simone et al., 2017). Therefore, 83% of participants worked in more than one non-seated-posture position (Simone et al., 2017). These findings support the idea that younger generations prefer personalization and choice for different tasks at work. The staggering figure of 83% of individuals who worked in more than one posture stresses the importance of having alternative postures in the workplace in order to create a satisfied and productive work environment. Specifically, the participants said that they had a more pleasurable experience, and they were more productive when working at The End of Sitting, as they had more choice in posture than in the conventional office (Simone et al., 2017). Participants also reported that they had significantly more energy and showed healthier behaviour, while conventional office employees reported feeling more tired (Simone et al., 2017). The RAAAF study showed high similarities to the research findings of Truspace (2017), Kaplan and Aronoff (1996), and Augustin (2014), as their methods were applied to the millennial generation with the same results. Therefore, the

flexibility of choice through workplace ergonomics is of high importance for employee productivity and satisfaction when designing to engage millennials and it is the employer best interest to invest in these strategies.

Other modern furniture alternatives that are primarily favoured by millennials and also to provide well-being include a product named Flux (see Figure 4.21), which is a desk that provides an in-between of sitting and standing, the second product is a sit-stand desk option (see Figure 4.22). Both of these products have the same qualities examined in the RAAAF study and are directed towards the same well-being and productivity benefits by providing personal control and choice over how and when to sit, stand, or something in-between.

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Figure 4.21: Teem. (2019). Flux alternative seating. [Photograph]. Retrieved from <https://www.teem.com/blog/how-ergonomics-in-the-workplace-helps-skyrocket-employeeeretention>

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Figure 4.22: Radius Office Ltd. (2019). Sit-stand desk. [Photograph]. Retrieved from <https://blog.radiusofficefurniture.ie/2018/06/07/office-design-trends-driven-by-millennials/>

4.6 | FLEXIBILITY OF WORK-LIFE INTEGRATION

When workplaces do not provide work-life integration as an option, it creates a work-life conflict for millennials as this generation places high importance on family, fun, and leisure. This conflict has shown to result in increased absenteeism, increased employee turnover, decreased career involvement, and decreased job satisfaction (Webster, 2018). Moreover, work-life conflict is connected to depression, substance abuse, hypertension, and overall poor physical health (Webster, 2018). Work-life integration brings choice to an employee by prioritizing what is important to them and enhancing personal fulfillment, which reduces work-life conflicts. Priorities and personal fulfillment are connected in this section through millennial values of amenities, personal growth, and wellness. Each of the environments discussed in this chapter is linked to the previous section (4.5), which also connects to space planning, technology, personal control, and choice of work-styles.

4.6.1 | AMENITIES

Millennials expect work perks such as amenities to be the norm rather than the exception of the workplace. According to CBRE (2014), meeting these expectations is vital to attracting and retaining young talent. As discussed in this literature review, millennials highly value tools and environments that support meaningful connection and well-being. A recent PwC (2018) highlights these values of connection and well-being by their survey of 2,000 millennials, which indicated that the amenities that are further needed in workplaces are rest areas, wellness facilities, green space, game rooms, convenience stores, and daycare facilities. The PwC (2018) study also showed that the amenities chosen by millennials “include finishes that resemble those seen in hotel lobbies, large public spaces to relax and plugin, multiple food options, high-end

fitness facilities, event space, roof decks, and outdoor spaces” (p. 70). These amenity spaces listed resemble features and layouts of which millennials are familiar within social settings and well-being spaces where they participate outside of work. These spaces allow staff to connect on a personal level, creating a sense of place, belonging, and comfort, while fostering creativity and team spirit as they are familiar with this type of setting (Augustin, 2014). The importance of amenity spaces is shown to allow millennials to connect their personal and professional lives in once setting.

Adaptation to foster the values of amenity spaces is taking place in the majority of headquarters and larger offices. For example, design and architecture firm, Gensler (2017), indicated that headquarters are now allocating 15–18% of space for amenities when in the past it was between 3–5%. Conversely, amenities are lacking in medium to small workplaces. According to a CBRE report, “about 36% of millennial workers want a gym at their place of work, but only 15% of offices have access to one” (Richardson, 2017, para. 6). Whether current companies are not adopting amenities spaces due to lack of funds or space, the correct space planning must be applied to allocate amenities to form a connection to employees through experiences that ignite a strong company culture. However, it is also important to note that location of a real estate such as near to a community center or gym facility can accommodate the lack of space for amenities within a workplace and also may reduce design costs, which will be further discussed in Chapter 5 precedent section (5.8).

4.6.1.1 | WORKPLACE EXPERIENCE

Workplace experience with design, according to the firm Gensler (2017), is a space that aims to engage and inspire an employee and to keep them coming back. Providing environments that

align with values further inspires employees, as it forms a community that is motivated to work towards the same mission. More specifically, Smith and Tuner's (2015) study [3,726 respondents] revealed that millennials were 35% more likely to focus on unique work experiences compared to other generations. Gensler's (2017) Workplace Experience report revealed five different modes that simplify workplace experiences to understand what an employee does during a specific mode. Gensler's (2017) report findings are listed below:

1. Task mode: An employee is focused on something specific they are trying to accomplish;
2. Discovery mode: An employee does not have a specific plan and wonders;
3. Entertainment mode: Employees are looking to be entertained;
4. Aspiration mode: An employee seeks to grow and become a part of a bigger purpose;
5. Social mode: Includes engaging with others and usually combining most of the modes.

I define workplace experience as a social model within this thesis, as it is a combination of all modes presented, and it has also been observed in a large study [4,000 respondents] that 85% of employees prefer social experiences (Gensler, 2017). To clarify, socializing is different from collaborating. Socializing is a form of connecting on a personal level, and collaboration focuses on working towards the goal of a task at hand (Gensler, 2017). As mentioned in section 4.5.2, millennial employees were more likely to leave a company if their collaboration needs were not met; this has been shown for social needs as well (PwC, 2011). When these values are met, they not only help in attraction and retention but also reveal higher levels of engaged employees. Specifically, Gensler's (2017) work experience study revealed that allocating company space to build community and connection within the workplace was proven to enhance employee engagement and performance. Therefore, designers must create amenity-rich spaces that

encourage social behaviours in order to provide unique work experience where employees not only collaborate on work but socialize and develop a connection with their co-workers.

4.6.1.2 | COMPANY CULTURE

Company culture, as defined by millennials in Deloitte's (2016) survey includes facilitating team making, collaboration, and professional growth amongst employees within a workplace. These interactions can be strategized in amenities spaces through unique employee experiences. The importance of adopting company culture is seen in Smith and Tuner's (2015) millennial survey which reveals that an inclusive culture boosted engagement to 83%, compared to 60% when the culture was not fostered in an organization. Company culture is also a deciding factor for attracting millennials. Specifically, two out of three millennials stated that their workplace's purpose is the reason they chose to work there (Deloitte, 2016). A design strategy to support company culture is to provide mentorship between employees. Providing spaces to support mentors and leadership for employees to interact will foster a culture of engagement and trust, while also increasing retention in a workplace (Cataldo, 2011).

Furthermore, millennials are known to be the "make a difference generation," valuing sustainability, innovation, and the drive for a better society, and they want to feel as if they are a part of something that is making a positive change; by connecting with other employees this value is addressed as they can form that connection (Truspace, 2017; Deloitte, 2016; Kuron et al., 2015). Interior design strategies can incorporate the aesthetics of a company culture that include making a difference such as sustainable design, community space, and healthy food options or exercise. One strategy to form company culture is to allow employees to understand and participate in the mission and vision of the organization and this can be achieved through a

space that provides opportunities for town hall meetings (Cataldo, 2011). Implementing amenity space for give-back programs (giving back to the community) and being environmentally responsible are also two main strategies that appeal to the younger generation (Gensler, 2017). It has been shown that company culture is ignited through collaboration; however, meaningful company culture for the millennial cohort is attained when collaboration is attached to a place or routine.

4.6.2 | PERSONAL GROWTH

Personal growth is referred to as the development of an individual. Further, it is a process of improving skills and increasing experience through a job (Cambridge Business English Dictionary, 2018). A recent Deloitte survey (2018) [10,455 respondents] found that 8 in 10 millennials found personal growth valuable in their workplace. As millennials have high educational backgrounds in comparison to other working generations, it is evident they see value in continuous learning and opportunities for growth. Similarly, Suh & Hargis (2016) found millennials value workplace environments where they can be supported through mentorship and have privacy to focus on their growth and learn. Environments that are seen to support personal growth are classrooms, training rooms, library space, and resource space. Figure 4.23 expands on these findings concerning individual personal growth, showing that training is a top priority, and continuous professional development (self-directed learning or self-paced learning) was also favoured by more than 80% percent of the group surveyed. It is evident based on these findings that personal growth is now essential to include in a workplace. Employers must accommodate this need, whether they form a designated space for personal growth, or provide a multi-use space for workplaces that do not have the funds or extra space. Spaces that have the potential to transition

into multi-usable spaces for personal growth can be collaborative areas, focus pods, or amenity spaces.

Percent who say these will be important in helping them perform their best

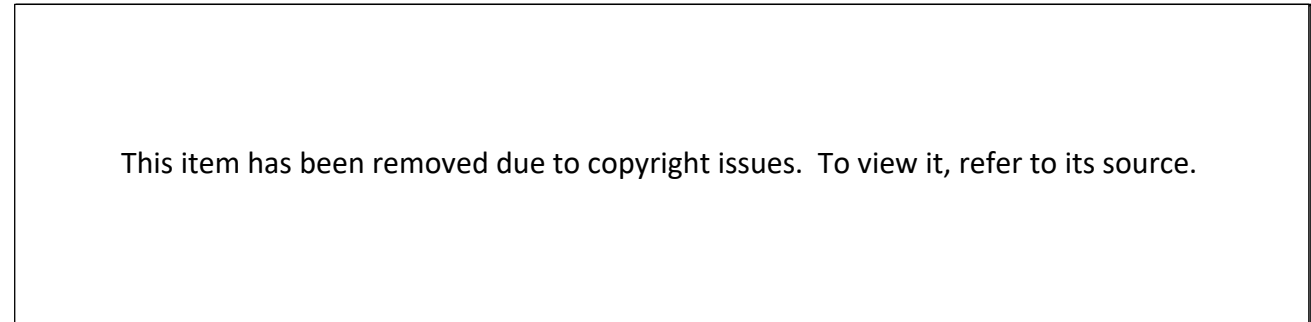


Figure 4.23: Deloitte Personal Growth Survey Findings. (2018). [Drawing]. Deloitte Consulting LLP. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/at/Documents/humancapital/at-Deloitte-millennial-survey-2018.pdf>.

4.6.2.1 | MENTORSHIP

Mentorship is the act of giving a younger or less experienced person help or advice over a period (Cambridge Business English Dictionary, 2018). Forming environments that support mentorship is critical in fostering this value for millennials. A study conducted by the University of North Carolina highlight the significance of these spaces revealing that 80% percent of millennials said they would prefer feedback in real-time rather than by traditional performance reviews (Kratz, 2013). Many researchers believe this is due to millennials' desire for constant feedback in order to advance quickly in their careers, as they received this attention in their childhood activities (Costa et al., 2018; Lykins & Pace, 2013; Deal et al., 2010; Brack et al., 2012; Newman, 2010). Using flexible interior design strategies of a flattened hierarchy, such as transparency and open layouts, discussed in section 4.5.1, provides fewer barriers to support mentorship and collaboration amongst millennial employees.

4.6.3 | WELLNESS

Implementing wellness in workplaces is not only beneficial for employees but is seen as a priority among millennials compared to previous generations. Repeatedly, the PwC (2018) survey confirmed that the three top amenities millennials prefer were rest areas, wellness facilities, and green space. Through this survey, and other studies, factors of wellness are becoming more vital to implement. For example, Timm et al., (2018), found that 75% of employees in the United States report that stress was their most significant health risk. Therefore, as stress increases in employees' workplaces need to invest in strategies to lower their stress levels. Suggestions of design implications to support wellness in a workplace, according to Timm et al., (2018), are listed in Table 4.12 (not in priority order).

Table 4.12: Workplace Wellness Strategies (Timm et al., 2018)

Physical well-being		Visual well-being
- <i>Accessibility</i>	- <i>Nourishment</i>	- <i>Beauty</i>
- <i>Air quality</i>	- <i>Comfort</i>	- <i>Lighting</i>
- <i>Biophilia</i>	- <i>Safety</i>	
- <i>Community</i>	- <i>Security</i>	Auditory well-being
- <i>Ergonomics</i>	- <i>Thermal comfort</i>	- <i>Acoustical comfort</i>
- <i>Fitness</i>	- <i>Water quality</i>	- <i>Layout</i>

Simply implementing a general strategy such as including a gym or fitness facility in a workplace may help in providing wellness, but it is not the only answer to employees' alarming rise in employee stress levels. The list in Table 4.12 was chosen because it includes well-being factors such as physical, visual, and auditory well-being. Implementing these applications not only improves employee health but has been shown to increase productivity by approximately 20% (Timm et al., 2018). Another possibility is implementing the WELL Building Standard, which is a tool for advancing health and well-being in buildings for employees. The WELL standard

includes a list of requirements that focus on human wellness through air quality, water, nourishment, light, fitness, comfort, and mind (International WELL Building Institute, 2019). If workplaces have a disadvantage financially to implement these strategies, it may in the employers' best interest to select one factor out of the three categories (physical, visual, and auditory comfort) to include. For example, this may include improving ergonomics, lighting, and acoustical comfort to support employee well-being.

4.6.3.1 | BIOPHILIC DESIGN

This chapter has discussed many of the factors in Table 4.12, such as community, ergonomics, fitness, layout, and comfort; however, the importance of biophilia (a nature-based design feature) was one of the main findings that millennials valued in the recent PwC (2018) survey. Biophilia is defined as "the idea that humans possess a biological inclination to affiliate with natural systems and processes instrumental in their health and productivity" (Kellert et al., p.3, 2008). This definition highlights that biophilia has a direct correlation to improving employees' well-being and lowering stress levels. The biophilic design addresses the human need for nature through design features in a built environment (Kellert et al., 2008). Biophilic features also were investigated in Sanchez et al., (2018) research, which revealed the most valued biophilic features by employees while working were natural light, indoor plants, and vivid colours. Implementing biophilic features such as daylight and greenery in a workplace has been shown to increase productivity and wakefulness by 25 points, and also shown to reduce employees' level of stress (Richardson et al., 2016; Sanchez et al., 2018). For example, biophilic design in a workplace has shown to shift employees' mood to more positive states, increase relaxation, feel more energized, restore attention, reduce long-term sick leave, and to lower negative emotions and

thoughts through a garden and nature-based interventions (Richardson et al., 2016; McClary, 2016; Sanchez et al., 2018). Therefore, implementing these biophilic design features within a workplace creates natural engagement amongst employees.

These implications not only benefit overall well-being for an employee but the overall workplace productivity as well. However, according to McClary (2016), so-called "green" or energy-efficient buildings are not enough; buildings must also benefit employee wellness and productivity. Therefore, the integration of biophilic design ignites key features of sustainability and wellness to create a meaningful work-life experience as millennials feel they are contributing positively towards their environment.

Although many millennials desire to have Biophilic elements in their building, this strategy is lacking in workplaces today. Biophilic design is described in the literature as a growing need. For example, Truspace (2017) reveals "millennials are leading the push to bring nature into our urban lifestyles—especially in our offices" (p.10), as a disconnection from nature is often a complaint. Moreover, "about 30% of millennial employees want green space in their building, but [only] 14% of employers provide it" (Richardson, 2017, para. 18). These findings signify the need and demand for biophilic design in current workplaces by millennials.

4.7 | CHANGE MANAGEMENT

In order to transition workplaces to be more flexible and millennial-friendly successfully, requires a change management process. Change management is a process that assists organizations in a transition towards a new level of operational quality and efficiency (Deloitte, 2019). Deloitte (2016) interestingly noted that most large change management strategies fail because they tend

to leave out the human element of the strategy thereby highlighting the importance of transitioning employees into their new workspace.

There is not a one-size-fits-all approach to change management. However, communication throughout an organization is a key strategy. Communication is formed when companies include the human element as part of the change management process. This communication allows employees to understand and adapt to the new design strategies that are implemented within their workplace. When companies are upfront and communicate their culture and policies, this may reduce the number of disengaged employees, as a millennial can then determine if the job and workplace environment will be a good fit for them (Deloitte, 2016). Through this process, it will save an employer time relating to employee productivity and hiring process.

Communication amongst employees allows them to address and be informed of any new challenges and responsibility that may take place when using the new space. To avoid resentment amongst employees, communication is necessary between the different generations (Jerome et al., 2014). Generational diversity needs regarding the workplace can be addressed by human resource departments training employers to address employees concerns while presenting the benefits to other employees on working with and adapting to millennial workplace preferences (Jerome et al., 2014). After the design of the workplace is complete, management should ask each employee questions regarding their satisfaction and productivity levels while working to ensure active engagement.

Note, although this thesis does not focus on change management, employers should consider including a change management plan when implementing new interior design strategies

within their workplace. It is also important to note that using an evidence-based approach that contains employees' values will reveal the core issue to be addressed.

4.8 | SUMMARY OF FINDINGS

It is evident from the research presented that millennials have many values and expectations of their workplace that must be met to form active engagement at work. This chapter's discussions confirm that millennials' productivity and satisfaction are significantly affected by their workplace environment. Employers can engage millennial employees by using interior design strategies that reflect millennial values and by incorporating flexible work environments that allow for work-style and work-life integration. Further, these interior design strategies have been shown to support an employee's physical, mental, and emotional well-being.

This chapter provided a review of studies from the professional design industry and academic sources; while the next chapter presents a review of workplace precedents that have been designed for millennials. In that review, I compare and contrast the differences between theory and practice.

See Appendix F for a summary of this chapter and highlights the significance of each value, the main functional role of each value, and suggestions for implications from the literature that has been reviewed.

Chapter 5 | PRECEDENT ANALYSIS

5.1 | CHAPTER OVERVIEW

The workplace precedents in this chapter include design strategies that are intended to align with millennials' work values and thereby increase engagement. Design strategies include: amenities, technologies, and a variety of work environments that support different work styles, collaboration and employee well-being.

This chapter is divided into six sections, one for each precedent. Each section provides an overview of the workplace's goals and the strategies implemented within their environments. After each overview, I provide an analysis of the workplace focusing on employee engagement. It is important to note that the precedent information is not taken from scholarly sources, but from professional or trade sources such as news websites, design websites and interior design firm websites. While these sources are not research-focused or peer-reviewed, the opinions expressed by the authors are directed towards the interests of design practitioners. My discussion of the precedents, informed by my literature review, serve as very useful away to illustrate and discuss the current interior design strategies that are being deployed in practice.

5.2 | IMPORTANCE OF DESIGN STRATEGIES

Millennials' engagement is seen to be low when faced with traditional office layouts, such as cellular or enclosed floor plans that have a high degree of hierarchy and low flexibility of work-styles and work-life, essentially not aligning with millennials' work values. These findings from Gallup (2018) and HoK (2013) highlight the need to explore effective flexible interior design strategies that support millennials values through current design implications to contribute to millennial employee engagement.

5.3 | OVERVIEW OF PRECEDENTS

The workplaces discussed in this chapter are primarily technology companies. Technology companies are particularly favoured workplaces for millennials (Truspace, 2017). As mentioned in Chapter 2, millennials will make up 75% of the technology sector workforce by 2025 globally (Dib, 2016). This high percentage is why tech companies, in particular, need to focus in on addressing millennial employee engagement.

The four technology company workplaces examined in this chapter were designed for Amazon, 3M, Microsoft, and Facebook. These are large companies that are seen as trendsetters who have made an attempt to adopt modern and necessary strategies to improve engagement within the workplace. The selection of these particular companies is based on the Millennial Career Survey (Thurman, 2016). Additionally, the workplace designs for two other companies; a start-up, and a co-working space, are included in order to highlight that design strategies that millennial's value can be implemented in smaller organizations as well. The start-up company is Slack, and the co-working company is WeWork; both have been recognized for their immense success in attracting, retaining, and engaging millennial employees. All the precedent designs are in North America.

The first precedent, Amazon (located in Washington State, Seattle), is an excellent example that includes unique employee experiences and biophilic design. The second precedent, 3M (located in Saint Paul, Minnesota), is an example of eliminating hierarchy. The third precedent, Microsoft (located in Redmond, Washington State), is an example of a small space embracing mobile working. The fourth precedent, Facebook (located in Menlo Park, California), was selected to compare the lessons learned from designing and constructing Building 20 and

then Building 21. The fifth precedent, Slack (located in Toronto, Ontario), shows company culture and the adaptability of implementing strategies in a simplistic form for start-up companies. Lastly, a co-working space, WeWork (located in Toronto, Ontario, and Boston, Massachusetts), highlights the possibilities of the future workplace designs strategies that were created by millennials, for millennials.

5.4 | AMAZON

- Location: Seattle, Washington State
- Completion year: 2018
- Designers: NBBJ architects
- Square footage: 70,000

“The Spheres” is a new workplace alternative for Amazon employees. The goal of the project was uniqueness and used evidenced-based design to enhance employee productivity. The workplace achieved this goal by discovering that a link to nature was the missing element from modern offices (McGregor, 2018). An interior rainforest or “amazon” environment was created for employees. The exterior resembles a Catalina, which is a naturally occurring pattern in nature (see Figures 5.1 and 5.2). Figure 5.2 shows the unique Catalina conceptual work. Amazon’s Vice-President of Global Real Estate and Facilities, John Schoettler stated, “Our goal with The Spheres was to create a unique gathering place where employees could collaborate and innovate together, and where the Seattle community could gather to experience biodiversity in the center of the city” (Musaddique, 2018, para. 8). The design strategies implemented in The Spheres express the company’s goal by connecting employees with nature through features such as treehouse meeting rooms, a river, waterfalls, plenty of plants and natural light around collaboration area, and a “birds nest” conference area (see Figures 5.3 to 5.7).



Figure 5.1: NBBJ. (2018). Amazon - Spheres Exterior, Top View. [Photograph]. Retrieved from <http://www.nbbj.com/work/amazon/> Reprinted with permission.

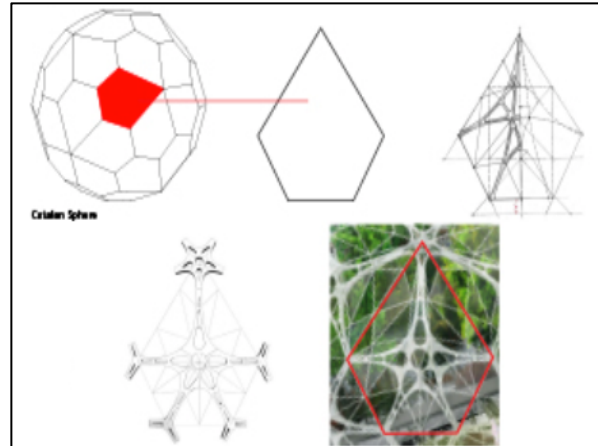


Figure 5.2: NBBJ. (2018). Amazon - Spheres exterior, Catalina conceptual work. [Drawing]. Retrieved from <http://www.nbbj.com/work/amazon/>. Reprinted with permission.

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Figure 5.3: Garland, A. (Artist) (2018). Amazon - Natural light along collaboration area. [Photograph]. Retrieved from <https://seattle.curbed.com/2018/1/30/16947838/amazon-spheres-seattle-architecture-photos>

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Figure 5.4: Voanews. (2018). Amazon - Nature pathway and collaboration stairs. [Photograph]. Retrieved from <https://www.voanews.com/a/amazon-com-opens-spheresrainforest-seattle/4230733.html>.



Figure 5.5: NBBJ. (2018). Amazon - Birds Nest treehouse meeting room. [Photograph]. Retrieved from <http://www.nbbj.com/work/amazon/>. Reprinted with permission.

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Figure 5.6: Schlosser, K. (2018). Amazon - Pathway to focus area in greener. [Photograph]. Retrieved from <https://www.geekwire.com/2018/welcome-amazons-jungle-inside-spheres-40000-plantscreate-office-like-no/>

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Figure 5.7: Ho, S. (2018). Amazon - Alternative presentation space with a green wall. [Photograph]. Retrieved from <https://komonews.com/news/local/striking-amazonspheres-landmark-opens-in-downtown-seattle>

Each design strategy implemented in The Spheres is focused on the productivity of the employees. More specifically, the success of the building is also founded on prior academic research showing that biophilia increases productivity (McGregor, 2018). The sound of running water and the smell of flowers throughout the building are meant to inspire creative thinking and aspire to improve brain function (Musaddique, 2018). There is a large living wall that covers a surface of the five-story structure; aside from the unique display, the plants also provide additional benefits such as filtering air quality (see Figure 5.8). There are more than 40,000 plants comprised of 400 different species flourishing throughout the space and 2,643 energy-efficient glass panels to allow an extensive amount of natural light into the workplace (AAP & Inside Retail, 2018). Along with the eye-catching design and enhancement of employee productivity, The Spheres also create meaning in the community and for employees. For example, the building helps conserve various amounts of rare plant species from around the world, and provides educational opportunities for local students, giving back to the community and world, through land that once housed a parking lot (McGregor, 2018; AAP & Inside Retail, 2018).



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Figure 5.8: Keeley, S. (2018). Amazon - Section showing five floors and pathway Integration. [Drawing]. Retrieved from <https://seattle.curbed.com/2013/5/21/10241350/biospheres-amazon-seattle-plansdowntown-office-towers-project>

In addition to implementing a design strategy of wellness through biophilic design, flexible work-styles can be seen in the open-plan concept, which includes exploratory opportunities for socialization, plenty of collaborative spaces, and focus spaces that provide visual and sound barriers using natural elements (see Figures 5.4 and 5.6). Meetings can take place in suspended treehouses (see Figure 5.5) or unconventional sitting areas (see Figure 5.4); collaborative areas are scattered throughout the space, and unique elements such as the walking paths alongside flowing waterfalls ignite unique experiences when socializing (see Figure 5.6).

5.4.1 | ANALYSIS

Amazon's alternative work environment is a very unique gathering space and this appeals to millennials, as they value unique experiences. The Spheres are flexible spaces that support different work-styles and integration of work-life. Firstly, employees can choose to work anywhere as there are no typical or assigned workstations visible in the space. Amazon's open-plan layout supports how millennials value a flat-hierarchy work environment. Eliminating enclosed spaces forms a more agile environment (see Figures 5.5 to 5.7). Digital screens are not overly used in this space, as seen in Figure 5.6. The main digital technologies in the space appear to be mobile devices such as laptops or tablets. The reduction in visible technology and the opportunity to experience nature help employees to disconnect and de-stress. Personalization in the form of adjustable furniture appears to be lacking. No alternative opportunities for sitting or standing while working appear in the furniture available in the Amazon office space. However, there are lounge-type furniture that offer casual functionality.

Secondly, work-life integration is shown through a focus on wellness, particularly biophilic design, which includes stress reduction through nature-based features. The experience of the

Spheres gives opportunities for employees to connect with nature while also believing they are working in an environment that is helping the community through sustainability and plant preservation. The rainforest experience helps to unite employees, which can be seen in multiple areas of socialization and employee connection, such as a pathway leading to waterfalls, the birds nest meeting space, and the various seating options. The strategy of experience through a rainforest environment incorporates both work and leisure and fosters the opportunity for a collaborative culture within the workplace. Since Amazon is known as a world-leading technology company, this implementation of The Spheres (nature-centric biophilic design) is an effective strategy and provides insight for future workplace design innovation.

5.5 | 3M

- Location: Saint Paul, Minnesota, United States
- Completion Year: 2016
- Designers: MSR architects, 3M interior
- Square footage: 38,000

3M, formally known as Minnesota Mining and Manufacturing Company, renovated their workplaces in Saint Paul, Minnesota in 2016. The company is known for its innovative products for a variety of industries such as corporate offices, automotive, and healthcare. 3M's innovation and passion for improving daily lives have the company listed as one of the top places millennials desire to work (Deseo, 2016). Although this company is not classified as a tech company, their workplace was chosen as it has shown to be successful in attracting, retaining, and engaging young talent. The construction of the approximately 38,000-square-foot workplace involved architects MSR, and the interior design was by 3M's design team (Siegel, 2016; Keh, 2016). The design of the workplace followed a hospitality environment layout.

The goal of the space was to create a residential living room environment (Siegel, 2016). Eric Quint, who is a part of the interior design team, stated that “the idea is that people in a living room, they feel at ease and they feel at home and is, I think, a condition for people to feel trusted and open up on creativity and let that spontaneous collaboration going” (Siegel, 2016, para. 3). As there are multiple different creative disciplines within the work environment, the at-home feel of informality acts as a catalyst that enables collaboration and creativity amongst employees. The “living room” environment that support teamwork and collaboration is shown in Figure 5.9. The workplace's town-hall “Design Hive” amphitheatre, where employees gather for professional development, is shown in Figure 5.9.



Figure 5.9: MSR. (2016). 3M -“Design Hive,” Amphitheater. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>. Reprinted with permission.

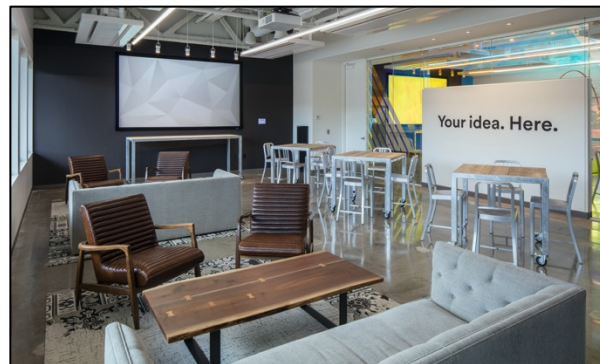


Figure 5.10: MSR. (2016). 3M - Living room meeting space. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>. Reprinted with permission.

After the renovations had taken place, the “at-home living room” promoted a strong connection between employee and the environment. The designers received feedback, and the results showed that the employees “almost prefer being at work to being at home—the place is that comfortable” (Hoekstra, 2016, para. 12). Employee choice is critical to the success of the environment; employees can choose where they wanted to work, much like what an individual can do at home. The designers at 3M recognized that to create an impactful space, flexible work-styles (see Table 4.2) must be matched across different job titles within the workplace (Landrey, 2016). The flexible work-styles were based on 3M’s company culture of “spontaneous collaboration, creativity, and translation of insightful solutions that positively impact the world”

(Landrey, 2016, para. 2). 3M successfully express their company culture through space planning. The layout of the workplace connects collaboration spaces between partners, customers, and colleagues, and has their design spaces reflect optimal flexibility for a range of work-styles through implementing a low hierarchy environment (Keh, 2016; Deseo, 2016). The diverse range of spaces includes quiet zones, collaborative areas, fast prototyping labs, materials libraries, brand labs, interactive areas, and presentation spaces, whose minimalist approach encouraged outside-in engagement (MSR, 2018). Figures 5.11 to 5.15. For example, there are connecting pathways that encourage spontaneous encounters (Figure 5.11); relaxed collaborative or focused environments with lounge-style furniture (Figure 5.12); spaces that facilitated teamwork with a long touchdown table (Figure 5.13), and spaces with pinup walls and a layout table (Figure 5.14). Throughout the spaces was ergonomic support furniture with sit-stand desking options (Figure 5.15). This cross-functional collaboration is seen throughout 3M's spaces (see Figures 5.11 to 5.15) and is located throughout an open plan.



Figure 5.11: MSR. (2016). 3M - Spontaneous collaboration space along with artwork and Corridor. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-designcenter/> Reprinted with permission.

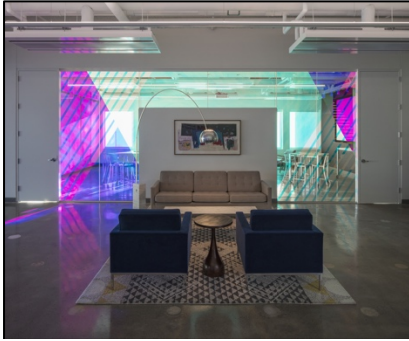


Figure 5.12: MSR. (2016). 3M - Spontaneous collaboration living room/lounge setting. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>
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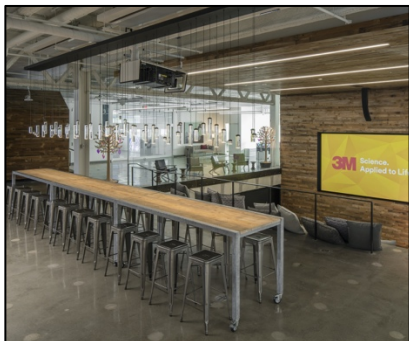


Figure 5.13: MSR. (2016). 3M - Spontaneous collaboration bar/touch down area. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>

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Figure 5.14: Brine, R. (2016). 3M - Collaboration area with pin-up space. [Photograph]. Retrieved from <https://www.bizjournals.com/twincities/news/2016/10/25/cooloffices-3m-design-center-spurs-creativity-and.html#g/399999/1>

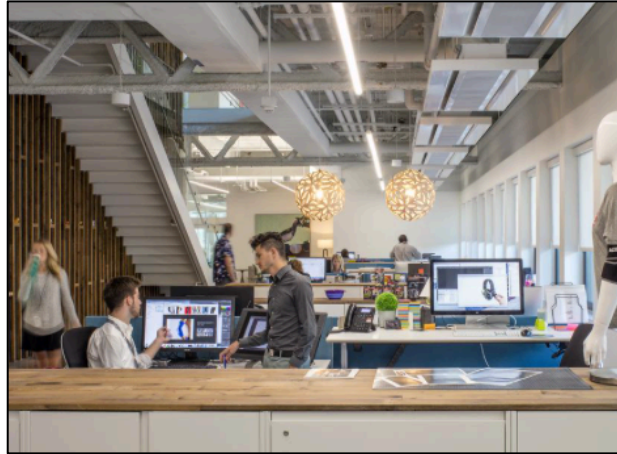


Figure 5.15: Brine, R. (2016). 3M - Flat Hierarchy, Sit-Stand desk workstations. [Photograph]. Retrieved from <https://www.bizjournals.com/twincities/news/2016/10/25/cooloffices-3m-design-center-spurs-creativity-and.html#g/399999/1>. Reprinted with permission.

The contemporary design of the space was influenced by local and global culture (Landrey, 2016). Global culture can be seen in the various settings that were designed to channel a Mediterranean village market square (see Figure 5.16; Deseo, 2016). The hybrid layout of the Mediterranean village fused privacy with collaborative and communal spaces to allow for the spontaneous interaction and dialogue that are seen in market experiences. The layout supported various types of work-styles, such as the soloist-style, with quiet spaces like the Design Cabins (see Figures 5.18 to 5.20), supportive spaces for ergonomics (see Figure 5.15), and problem-solving with teammates (see Figure 5.14). Mixed-style and mobile mixed-style workers are supported through the various collaborative spaces and social spaces (see Figures 5.11 to 5.14). The layout also shows a flat hierarchy environment (see Figure 5.15). 3M's environments use an open plan layout in which all workstations receive large amounts of natural light from their placement beside the windows. Collaborative areas are located in proximity to pathways, which ignited spontaneous collaboration and socialization amongst employees. The space planning

through adjacencies enhance focus work while igniting collaborative work as workstations, where employees do heads-down work, are placed near enclosed collaborative areas.

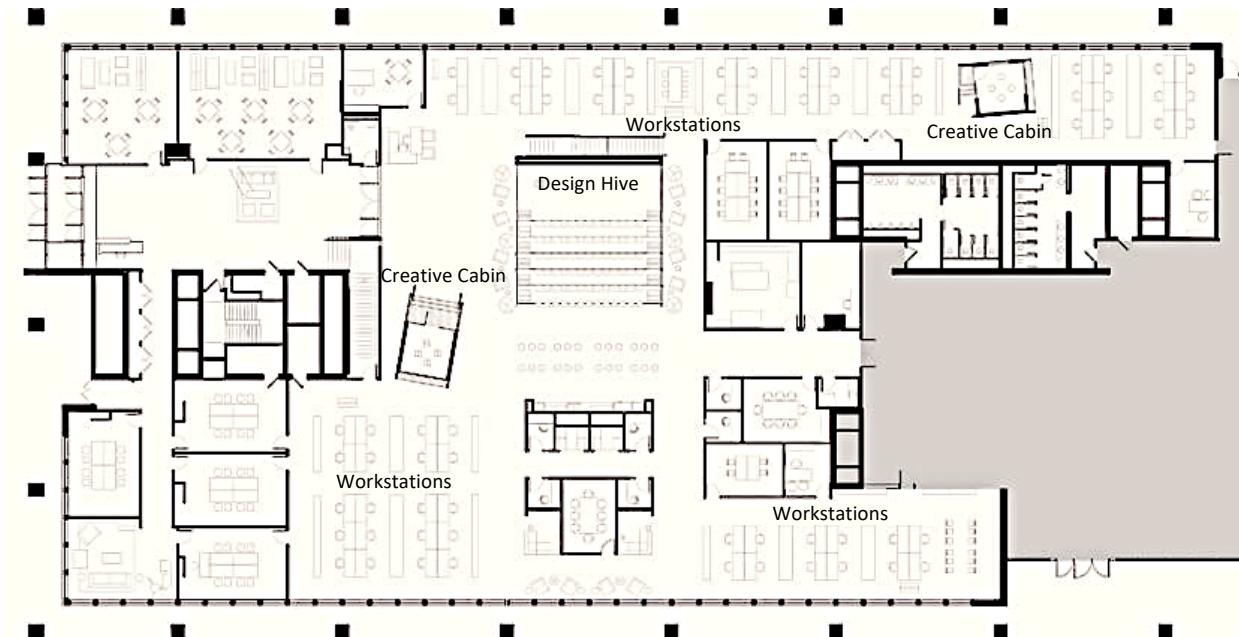


Figure 5.16: MSR (2016). 3M - 2nd Floor plan, Market layout. [Drawing]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>. Reprinted with permission.

Work-life integration is shown by the inclusion of a variety of social settings that employees can enjoy during or after work (see Figure 5.17). For example, there are spaces that resemble the living room of a SoHo loft (see Figures 5.10 and 5.12), a hip cocktail bar (see Figure 5.13), camping cabins (see Figures 5.18. to 5.20), an art gallery (see Figure 5.11), a nightclub VIP room, and a dot-com millionaire's home theatre (see Figure 5.12) (Landrey, 2016). 3M's presentation space, the "Design Hive," is an amphitheatre (see Figure 5.9) that showcases a broad spectrum of creative specialists (Landrey, 2016). The minimalist steps surrounding the presentation space are made comfortable with pillows that create a comfortable at-home feeling.

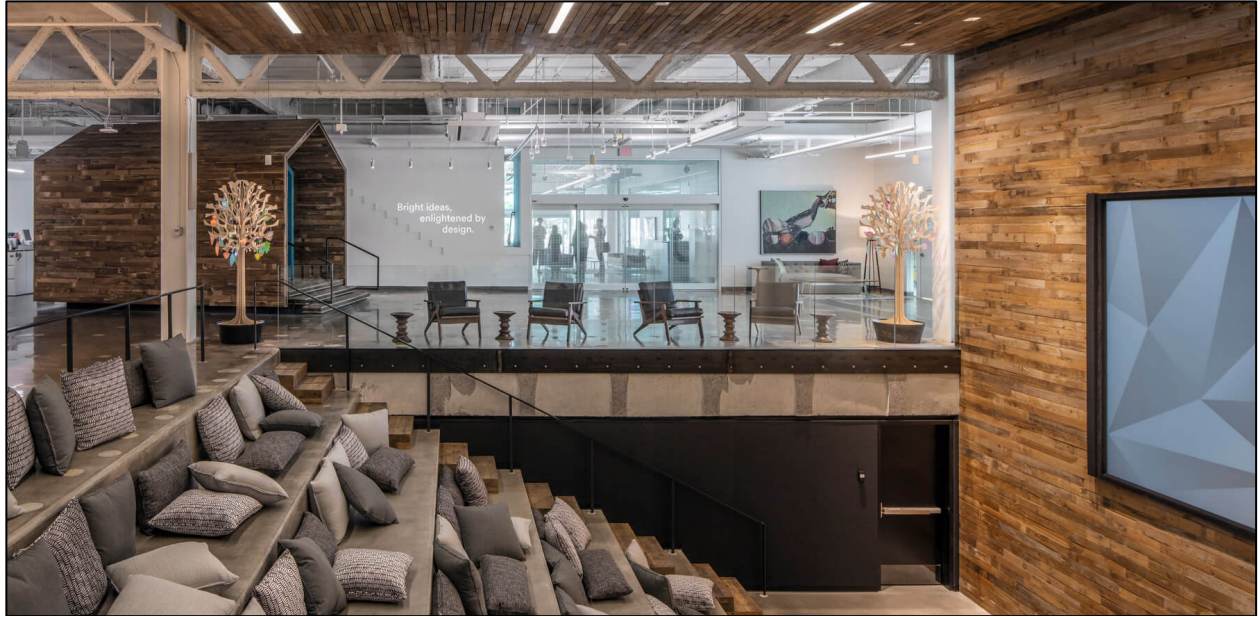


Figure 5.17: Brine, R. (2016). 3M - Collaborative environment. [Photograph]. Retrieved from <https://www.bizjournals.com/twincities/news/2016/10/25/cool-offices-3m-designcenter-spurs-creativity-and.html#g/399999/1>. Reprinted with permission.

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Figure 5.18: MSR. (2016). 3M - Creative cabin 1 – team and focus work. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>.

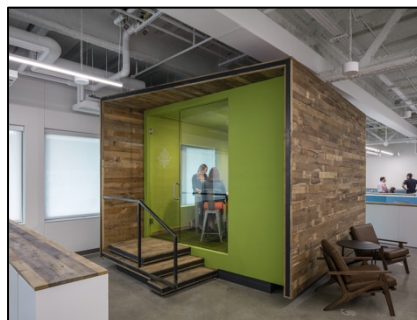


Figure 5.19: MSR. (2016). 3M - Creative cabin 2 – team and focus work. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>. Reprinted with permission.

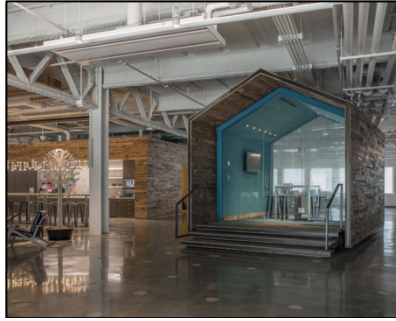


Figure 5.20: MSR. (2016). 3M - Creative cabin 3 – team and focus work. [Photograph]. Retrieved from <http://msrdesign.com/case-study/3m-design-center/>. Reprinted with permission.

The inspiration of the workplace was also encouraged from Minnesota outdoor life, which can be seen in the creative cabins, enclosed meeting rooms that foster teamwork to create and focus work. Each cabin is named after a Minnesota lake: Mille Lacs, Vermilion, and Minnetonka (see Figures 5.18 to 5.20) (Siegel, 2016; Hoekstra, 2016). Sustainability is a common feature within 3M’s workplace, as the cabins are constructed from reclaimed wood, the tables are made from re-used scaffold boards, and LED lighting solutions are used to save 32% of energy (Deseo, 2016). Together, the strategic market layout and home environments of 3M’s workplace connect employees through flexible work-style and work-life options that allow employees to do focused work, foster opportunities for spontaneous collaboration, and space to relax and enjoy their personal and professional life.

5.5.1 | ANALYSIS

3M is a valuable example that demonstrates a combination of strategies supporting an “at home living” environment that allows employees to focus, collaborate, learn, socialize, and feel comfortable in one setting. This environment aligns with the millennial desire to work *with* their employer, and not *for* them, based on the various social team-building spaces. Flexible work-styles of collaboration are seen in 3M’s implementation of the Design Hive, creative cabins,

communal spaces, and studios. The open plan layout fosters collaborative areas and eliminates hierarchy while still providing areas for focused work. The transparency of the workplace aligns with millennials' values, as they can see and connect with other employees while working towards a common goal. The transparency of the workplace to increase employee interactions and socialization also helps to reinforce team experiences.

3M space not only provides an informal, livable workspace by using a variety of living-room-like furniture but also creates an environment that supports and connects employees. The spaces encourage socialization and innovation while providing the tools employees need to accomplish their work. Work-life integration is demonstrated by amenities and spaces that conform to millennial values, such as the amphitheatre, cocktail bar, and an art gallery, environments that can support team and personal growth, team building, mentorship, and employee experience. Although these implications may not be manageable for smaller companies with lower funds or less square footage, these are examples of ideal flexibility millennials value in a workplace. The overall design of 3M's workplace was successful in engaging the younger generation as it includes fun, social, and globally connected elements that millennials value.

5.6 | MICROSOFT

- Location: Redmond, Washington State
- Completion year: 2017
- Designer: Pete Nelson
- Square footage: N/A

Microsoft, a multinational technology company that makes computer software, created a new treehouse office facility as an alternative meeting space for employees at its corporate headquarters in Redmond, Washington (Figure 5.21). The treehouse facility is a prime example of supporting mobile work with technology that can work in any location, even a treehouse. The goal of the project was to develop a space that brought a human touch back to the workplace and reflected what employees wanted in a meeting space (Pennell, 2017). Moreover, before the renovations occurred, Microsoft surveyed its employees to gain a clear understanding of what they cared about the most (Fienberg, 2017). The results showed that their employees if given the opportunity, would prefer to work outside (see Figures 5.22 and 5.23).

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Figure 5.21: Microsoft. (2017). Microsoft - Exterior view of the treehouse. [Photograph]. Retrieved from <https://news.microsoft.com/life/meet-me-in-the-trees/>

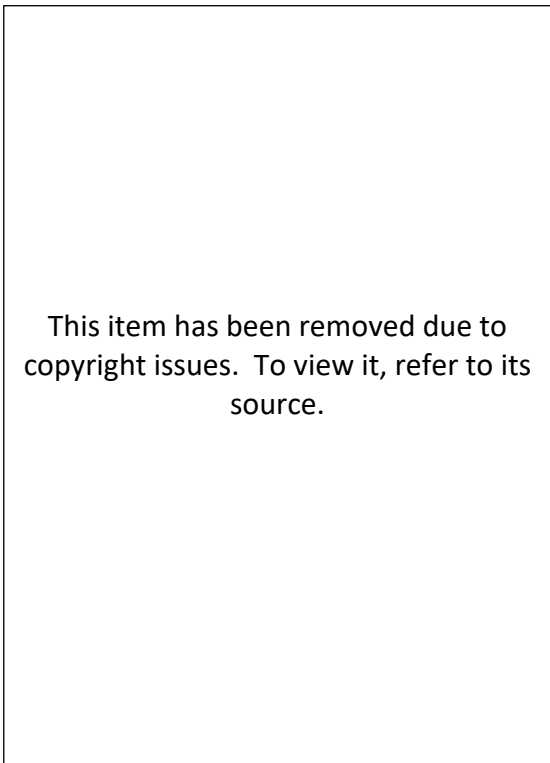


Figure 5.23: Microsoft. (2017). Microsoft – Meeting space. [Photograph]. Retrieved from <https://news.microsoft.com/life/meet-me-in-the-trees/>

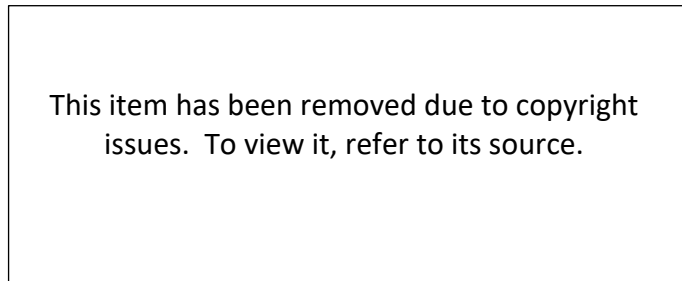


Figure 5.22: Microsoft. (2017). Microsoft – treehouse collaboration area. [Photograph]. Retrieved from <https://news.microsoft.com/life/meet-me-in-the-trees/>

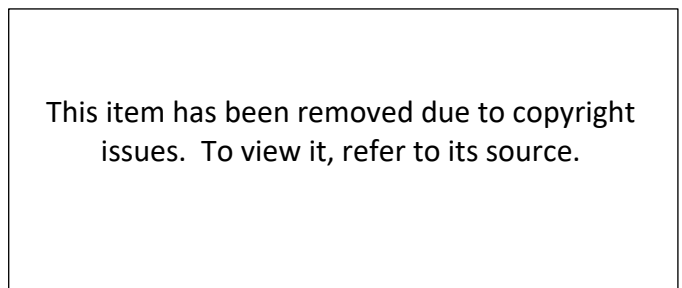


Figure 5.24: Microsoft. (2017). Microsoft – outdoor workspace. [Photograph]. Retrieved from <https://news.microsoft.com/life/meet-me-in-the-trees/>

The uniquely designed treehouse, created by Pete Nelson (Salinas, 2017), sits more than twelve feet off the ground, is estimated to last about twenty years, and will expand as the trees grow (Pennell, 2017). The treehouse also accommodates for indoor meeting spaces (Figure 5.24) with natural light and high ceilings. Microsoft stated that the space is intended to help “employees benefit from what science shows is the powerful impact of nature on creativity, focus, and happiness” (Whigham, 2017). The air in this leisure environment is infused with scents of pine and cedar, which enhances the employees’ experience of biophilic design in a work environment. According to Singer-Velush (2017), these natural elements have resulted in Microsoft employees having increased engagement and productivity in the new space. The space

provides a flexible and convenient opportunity for employees to detach from the Microsoft headquarters and experience nature as they work.

The treehouse achieves a balanced level of visual comfort by providing an open layout and less formal space that underscores work-life balance (Temprell, 2017). The treehouse features weatherproof benches, rustproof rocking chairs, a fireplace, wood canopies, an outdoor Wi-Fi network, and a connected cafeteria (Ong, 2017) that allows users to enjoy nature in comfort. These supportive tools help employees in working with one another in the intimate-sized spaces. The inviting atmosphere and opportunities for collaboration promoted higher productivity and creativity and contributed to spontaneous collaboration (Singer-Velush, 2017). A contributor to the project, Bret Boulter, revealed that the treehouse was a success in connecting employees to nature when he mentioned that “the first thing when you walk into the space is that everyone is really quiet. You stop talking and are just present” (Whigham, 2017, para, 9). The employees’ response to the space was positive, demonstrating that connecting employees with biophilic design features encourage higher productivity and satisfaction while creating a unique experience.

5.6.1 | ANALYSIS

Microsoft offers a notable example of connecting employees with nature. As Microsoft is a technology company with mobile capabilities, their products give their employees the freedom to work in different settings. In Microsoft’s Treehouse, the employee is no longer bound to the physical workplace or a desk and is provided with a unique experience. The Treehouse creates a fun and non-traditional workplace environment and supports millennials’ value of work-life integration by offering the opportunity to disconnect from work and enjoy nature, while at work.

By allowing choice, with an emphasis on mobility and flexible work-styles, the space is prioritizing collaboration where millennials can be informal and innovative. Although this intimate-sized space is an alternative meeting space that connects to the headquarters, similar to The Amazon's Spheres, the Treehouse does not include soft seating or adaptable ergonomic furniture. The lack of adaptable ergonomic furniture is also shown in The Spheres alternative workplace. It is interesting's to note that both Amazon and Microsoft focus heavily on the strategy of well-being through biophilic elements but lack well-being through ergonomic choices. Both precedence reduced visible or fixed technology and enhanced the experience of biophilic design, while the majority of their furniture selections were not adjustable or is fixed. For example, in the Treehouse wooden logs and seating (see Figures 5.23 and 5.24) are not likely to be comfortable over a long duration of time. Regardless, the both space provides employees with an opportunity to regenerate their mind and connect with nature; which is a main millennial value in the workplace, to achieve their well-being physically and mentally. Although it is not realistic for a majority of workplaces to build a treehouse or "amazon" for their employees, however, the example of the small intimate space of the treehouse illustrates how employees rejuvenate their minds and connect with nature is what is adaptable for future workplaces. For example, the features from the Treehouse can be transferred into a focus pod with biophilic materials, or a collaborative space placed close by natural light with supporting greenery and no fixed technology to achieve this type of unique experience and embrace.

5.7 | FACEBOOK

- Location: Menlo Park, California
- Completion Year: Building 20 - 2015
Building 21 - 2018
- Designers: Gehry Partners, LLP
- Square footage: Building 20 - 430,000
Building 21 - 532,000

Facebook is a social media and social networking service company. The headquarters of this social media platform is based in Menlo Park, California. The Facebook campus includes two recently renovated buildings: Building 20, completed in 2015, and Building 21, completed in 2018. Mark Zuckerberg, the founder of Facebook, partnered with Canadian architect Frank Gehry to design both buildings. Building 21 was constructed on lessons learned and included improved design strategies that were lacking in Building 20. This overview will compare and contrast the two buildings and highlight the strategies valued by Facebook employees, which reflect millennial work-values (see Table 4.2).

Both buildings have an open-plan style office space with breakaway pods, as well as restaurants and micro-kitchens; a wandering mezzanine level; an expansive green roof with seating and walking trails; conference rooms; and at-grade parking underneath the office space with several entry lobbies (The Registry, 2018). The primary difference between the two buildings is in the number of spaces and features, layout adjacencies, and application style. Building 20 was the first that Facebook built from scratch and in 2015 was the largest open floor plan in the world, holding 2,800 employees (Boorstin, 2015; Thorpe, 2018; Fiegerman, 2015). The interior of Building 21 reflects the culture of the company while appealing to a younger generation. Specifically, the goal of the building design was to create a space that reflects

Facebook's mission to connect people and integrate eco-friendly properties (Boorstin, 2015).

More specifically, Gehry stated that:

From the start, Zuckerberg wanted a space that was unassuming, matter-of-fact and cost-effective. He did not want it overly designed. It also had to be flexible to respond to the ever-changing nature of his business—one that facilitated collaboration and one that did not impose itself on their open and transparent culture. This is the building that we created for him (as quoted in Kuchar, 2015, para. 1).

Zuckerberg expanded on the interior design, stating “We want our space to feel like a work in progress. When you enter our buildings, we want you to feel how much left there is to be done in our mission to connect the world” (cited in Frearson, 2015, para. 9). Examples of the raw and unfinished look of the workplace from the exposed ductwork to cables dangling from the ceiling are shown in Figure 5.25.

Inside Building 20, employees' desks are five feet long with no storage; each is in a pod layout with five other desks that was repeated across the floor plan to accommodate 2,800 employees (Thrope, 2018). The building is a representation of the way the company embraces its product; the interior provides connection, empathy, openness, and flexibility, which allows employees to personalize their neighbourhoods (Russell, 2015). Throughout the layout, there is a flat hierarchy that re-enforces employee connection. There are no private offices, and throughout the neighbourhood structures employees can twist their desks into different hive-like clusters to optimize the visual and physical proximity between teams (Russell, 2015). Figure 5.25 shows the floor plan of Building 20, level two, and illustrates the clusters of desks throughout the floor plan (see the areas labelled 7). There are also seven micro kitchens placed throughout

the floor plan (labelled 13), which is intended to increase spontaneous collaboration. Most of Building 20's interior lounges and kitchens are surrounded by natural light.

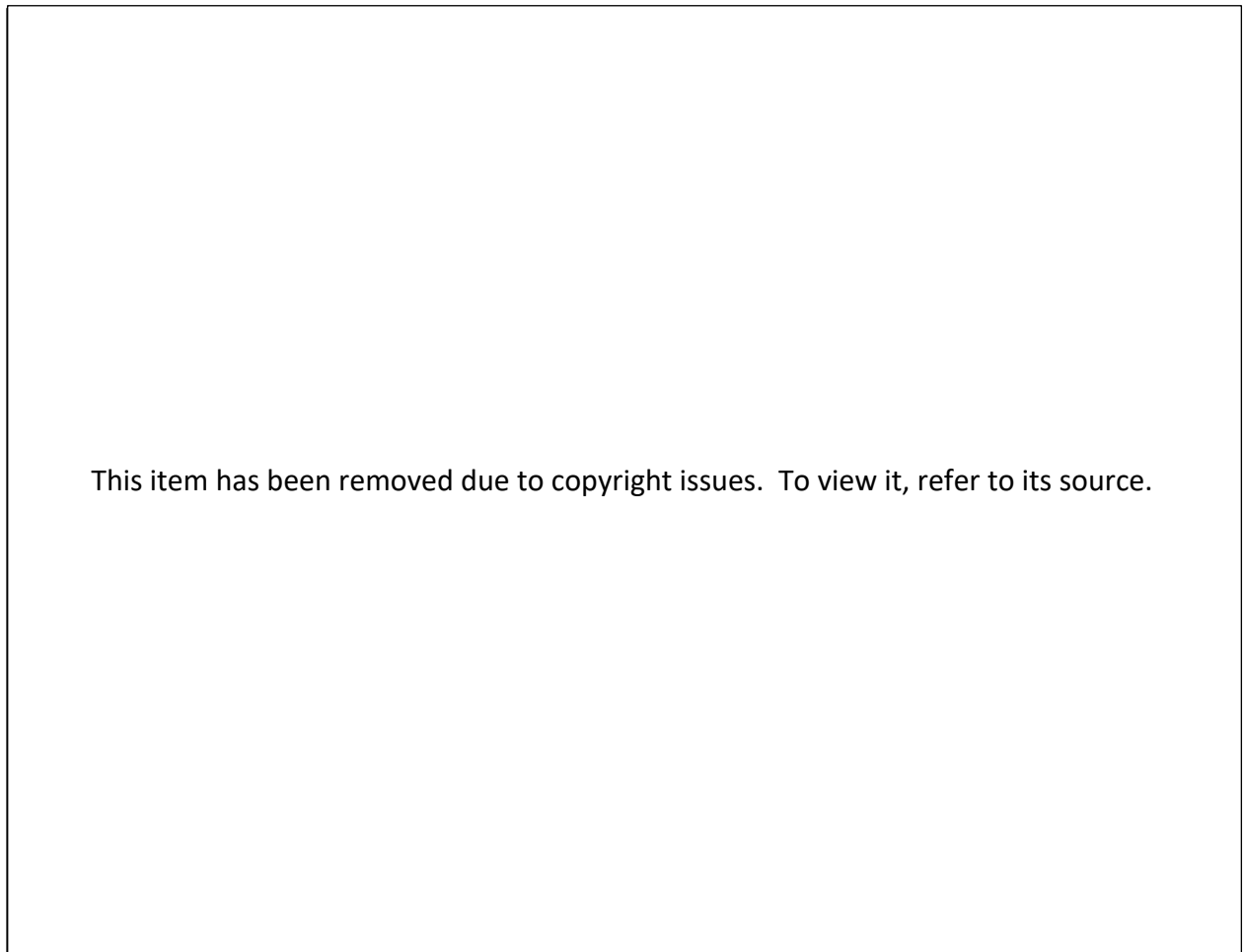


Figure 5.25: Avalos, G. (2018). Facebook - Building 20 - Floor plan level 2. [Drawing]. Retrieved from <https://www.mercurynews.com/2018/09/04/facebooks-striking-new-menlopark-building-akin-to-village-with-office-neighborhoods/>

Building 20's layout implements the use of raw materials, flexible settings, and the use of local artists commissioned to decorate the space (see Figure 5.26). For example, the ceilings are 24 feet high to allow for small structures reminiscent of Gehry's 2011 design for the New World Symphony in Miami Beach, which is comprised of small cottage structures under a high ceiling (Hawthorne, 2015). Further, colour and art, particularly local art, are used throughout Facebook's Building 20 and Building 21 (Figure 5.27 and 5.28) to enhance central recreational

spaces and connect employees to the outside community. Figure 5.28 captures an example of the 'raw' and 'unfinished' from the artwork on the walls and furnishings within building 20's collaborative area.

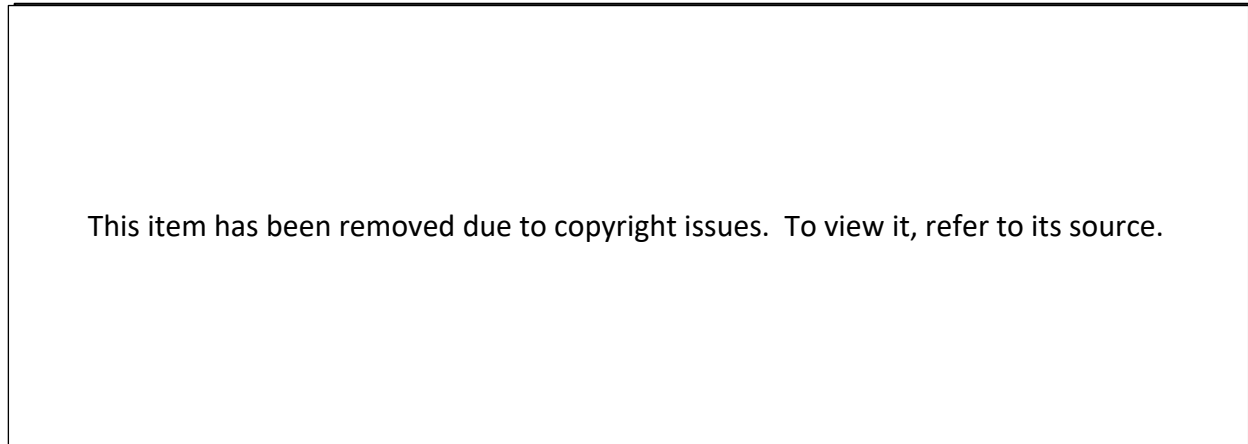


Figure 5.26: Tauziet, C. (2016). Facebook - Building 20 - Art installation and collaboration space. [Photograph]. Retrieved from <https://www.inc.com/tanner-christensen/how-facebookkeeps-employees-happy-in-the-worlds-largest-open-office.html>.

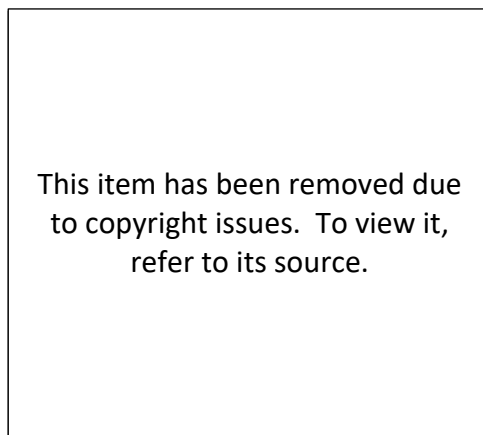


Figure 5.27: Ciccone, T. (2015). Facebook - Building 20 - Small cottage structure with Graphics.[Photograph]. Retrieved from. <https://observer.com/2015/04/heres-what-oneartist-painted-on-the-walls-of-facebooks-new-menlo-park-offices/>

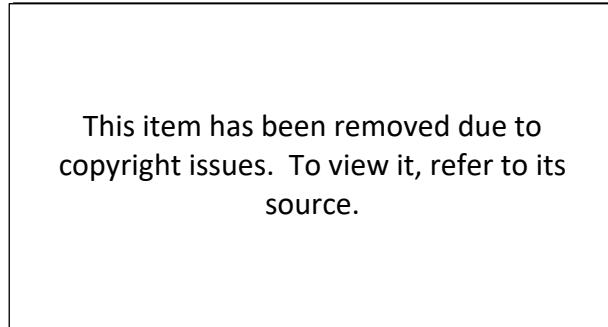


Figure 5.28: Hall, S. (2018). Facebook - Building 21 - Small cottage structure pop of Colour. [Photograph]. Retrieved from <https://www.bloomberg.com/news/photoessays/2018-09-04/here-s-a-first-look-inside-facebook-s-new-frank-gehry-designed-office>

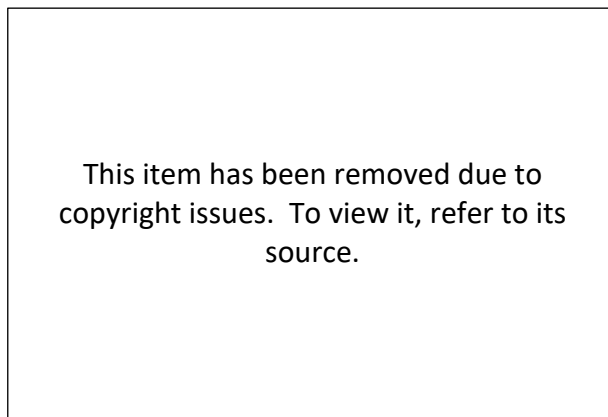


Figure 5.29: Frankel, T. (2015) Facebook - Building 20 - Hive workstation area, less natural light.[Photograph]. Retrieved from <https://www.washingtonpost.com/news/the-switch/wp/2015/11/30/what-these-photos-of-facebooks-new-headquarters-say-about-the-future-of-work/>

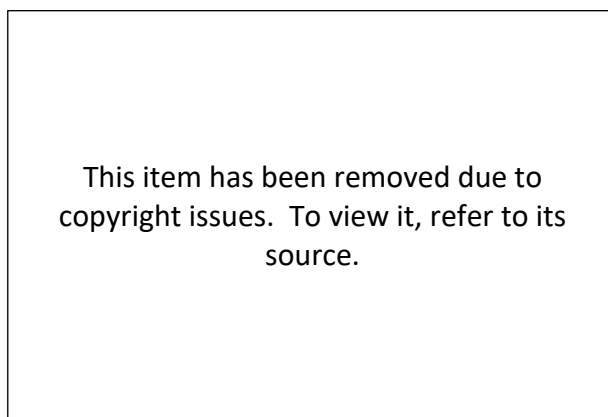


Figure 5.30: Avalos, G. (2018). Facebook - Building 21 - Linear workstation area, plenty of natural light. [Photograph]. Retrieved from <https://www.mercurynews.com/2018/09/04/facebooks-striking-new-menlo-park-buildingakin-to-village-with-office-neighborhoods/>

As mentioned, Building 21 also uses an open floor plan, with a total of 523,000 square feet (see Figure 5.30). In contrast to Building 20, building 21 has more designated areas for quiet and focused work, and more storage for employees (see Figure 5.29) (Thorpe, 2018; The Registry, 2018). Also, Building 20 has an organic cluster floor plan layout and lacks natural light (see Figure 5.25). Building 21 shows an opposite floor plan that resembles flexible rows and immense natural light near workstations (see Figure 5.30).

Company collaboration is accommodated by a town square in Building 21, a new feature, which sacrificed office space to provide additional amenities space for staff. This new featured space is named “The Bowl” (see Figure 5.32), which provides a variety of seating space and also connects to Building 20 (see Figure 5.35) (The Registry, 2018). Improvements of building 21 also include incorporating nature into the workplace and more natural light throughout the space.

Another feature of both Building 20 and 21 are the green roofs. Building 20’s nine-acre green roof has a half-mile walking loop, whiteboards, Wi-Fi, and plenty of places to sit and collaborate on one level, intended for walking meetings (see Figures 5.31 and 5.33) (Boorstin, 2015). The roof is designed for both work and play, giving employees the space they need for quiet contemplation, meetings spaces, and a cafe (Boorstin, 2015). Building 21’s rooftop offers a rainforest-like unique experience rather than a backyard garden. It also includes an amphitheatre with three levels (Figure 5.32), rather than Building 20’s single consistent level and lack of large meeting spaces with seating (see Figure 5.31 and 5.34). Building 21’s rooftop also descends to the office spaces on one level to become more a central gathering place, shown in the center of Figure 5.35, designated for social and work-related spaces (Thorpe, 2018). Figure 5.33 shows the roof connection between both the buildings and how space is utilized.

Altogether, the main differences between the two buildings involve an enhancement in flexible work-styles and biophilic features.

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Figure 5.31: Vincent, J. (2015). Facebook - Building 20 - A level outdoor space. [Photograph]. Retrieved from <https://www.theverge.com/2015/3/31/8318435/facebook-newheadquarters-mk20-campus-photos>

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Figure 5.32: Thorpe, H. (2018). Facebook - Building 21 - Multi-level outdoor space. [Photograph]. Retrieved from <https://www.wallpaper.com/architecture/frank-gehryoffice-facebook-menlo-park-hq-san-francisco-opens>

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Figure 5.33: Evers, A. (2018). Facebook - Building 20 & 21 merged on campus. [Photograph]. Retrieved from <https://www.cnbc.com/2018/09/04/facebook-new-campus-has-redwood-forest-rooftopgarden.html>

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Figure 5.34: SocketSite. (2013) Facebook - Building 20 - Rooftop Plan, Walking loop. [Drawing]. Retrieved from <https://socketsite.com/archives/2013/03/facebook-proposed-campus-liked-by-menlos-city-council.html>

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Figure 5.35: Thorpe, H. (2018). Facebook - Building 20 - Rooftop Plan. [Drawing]. Retrieved from <https://www.wallpaper.com/architecture/frank-gehry-office-facebook-menlo-park-hq-san-francisco-opens>.

5.7.1 | ANALYSIS

Facebook's headquarters have shown many design strategies that support the productivity and satisfaction of their employees. The strategies used in designing Building 20 were carried through to Building 21, but improved in certain ways. The main area of change is the layout of employee workstations in each building. Flexible space for different work-styles with personalized workshops, such as sit-standing desking, and an open floor plan is provided in both buildings, for employees to choose where to work and have multiple seating options. More options decreased visual and audible distractions in Building 21, such as less distraction from

ceiling clutter like hanging cables, and the alignment of workstations in a more structured layout that improved circulation throughout the space and provides wellness from natural light.

The flat rooftop in Building 20 has limited use and is not easily accessible. Building 21's rooftop access, in contrast, is in the center of the workstations, making it easier for employees to recharge or collaborate in nature. The added rooftop amenities space ("The Bowl"), brings purpose as it now can be used to support personal and professional growth by offering flexibility through work-style and work-life as it is placed in the center of the space. Facebook's space planning is similar to 3M's amphitheatre amenity space planning; for example, 3M also placed their amenity space in the center of their workplace for a transparent environment and to be a multi-purpose space, and to encourage usage. Also, small structures such as Facebook's cottage structures and 3M's design cabins both highlight the hospitality implications of these workplaces that support employee comfort and create unique experiences.

Each Facebook building supports multiple work-styles, and the collaborative options summarized in Tables 4.3 to 4.14. The workplace provides high levels of opportunity for spontaneous collaboration and personalized choice resembling Facebook's community-based platform. This opportunity for choice and customization creates a personalized experience for employees to work productively, as the environment is framed to meet an employee's social needs. Ultimately, the technology given to each employee allows mobile freedom in the workplace, which creates more opportunities for employees to utilize amenities and form spontaneous collaborations. Work-life integration with the incorporation of biophilic design features and amenities are also key factors in both buildings' designs. Building 21, however,

increases the importance of amenities space, opportunities for mentorship, and access to nature/biophilic design.

5.8 | SLACK

- Location: Toronto, Ontario
- Completion Year: 2018
- Designers: Dubbeldam Architecture + Design
- Square footage: 22,000

In 2016, Slack became the world's fastest-growing tech company in history (ArchDaily, 2018; Office Shots, 2018; Dubbeldam, 2018). Slack is a revolutionary messaging app designed for business teams. Started in Vancouver, Slack is now based in San Francisco, and in a short time, the company has expanded to occupy offices globally. The Slack buildings are noteworthy because they are historically significant buildings that honour the property's history with the workplace design (Office Shots, 2018). The company combines the legacy of the building and Slack's company culture of craft and technology (Office Shots, 2018). A fundamental design choice that is consistent throughout Slack's office is a unified general aesthetics of dark tones, natural elements, and design features that represent the culture of the location (Grant, 2018). The elements form a consistent company identity with biophilic elements while not submerged in nature.

The company is also known for providing a work environment that promotes wellness with support for flexible work-styles and work-life integration. Within Slack's location in Toronto, employees have access to weekly massage therapy, monthly gym membership, flexible hours, and stocked healthy food on hand (Grant, 2018). They also have \$2,500 to spend on professional development per year (Grant, 2018). The culture of the workplace, amenities, and flexible work-styles such as sit-stand desks and alternative-posture furniture support wellness correlate with millennials' work values.

Slack's Toronto location is a three-story brick-and-beam building, former knitting, and textile factory (ArchDaily, 2018). Slack's unique office interior design is tailored to the history of each building. Grant (2018) mentioned that "like most of their locations, the company decided to highlight the history of the building rather than stack the place with tech-office staples like video games and scooters" (para. 1). The heritage building in Toronto that is now Slack's office was once a knitting factory, and the concept of the interior is the theme of "threads of communication" (Office Shots, 2018; ArchDaily, 2018). The concept of combining knitting with tech communication merges both past and present in a modern contemporary approach. Throughout the space, linear geometric shapes were used such as coloured cables that run through the ceiling and walls of the office and the upholstering in the entranceway (Office Shots, 2018; ArchDaily, 2018; Grant, 2018). To reinforce the building's history, the linear geometric shapes suggest the lines of yarn used in the knitting process. The lines also reference "threads of communication" of the communication services provided by Slack (ArchDaily, 2018). Geometric spaces are placed consistently throughout the layout, creating visual interest for employees while also acting as acoustical barriers.

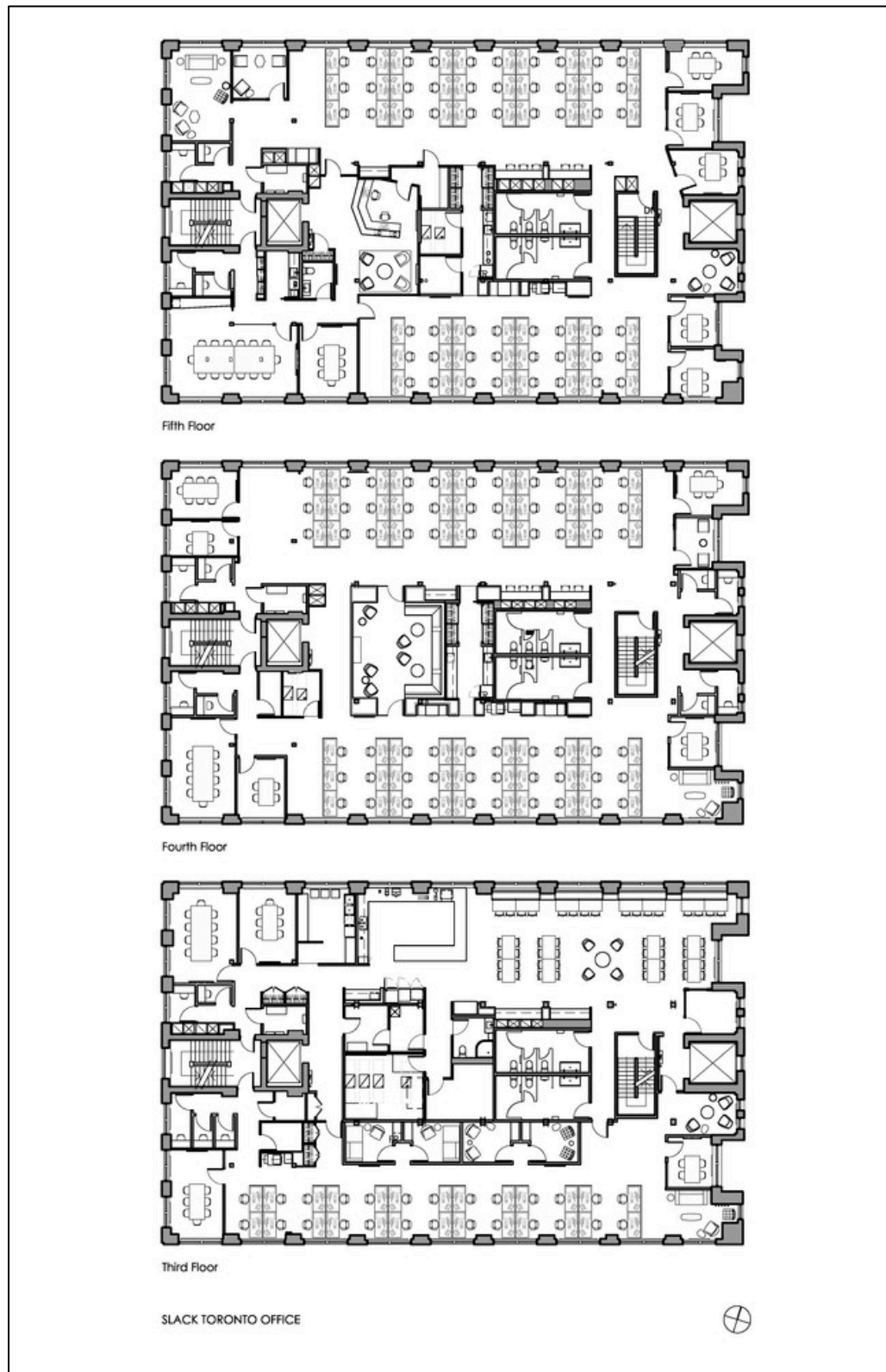


Figure 5.36: Dubbeldam. (2018). Slack - Floor plan - Level 1-3. [Drawing]. Retrieved from <http://dubbeldam.ca/portfolio/work/slack-toronto-office>. Reprinted with permission.

Slack's Toronto location accommodates 140 employees within three floors (see Figure 5.36). Communication is supported through an open floor plan, and focus work is supported by enclosed meeting rooms, phone booths, acoustical barriers such as plants, and workplace culture through a photograph wall (see Figures 5.37, 5.38, and 5.39). Meeting rooms also connect to the building's history, as they are named after knitting fabric, such as "Jacquard" (see Figure 5.40) (Grant, 2018). The meeting rooms not only support the culture but also accommodate various sizes of meetings, from a small two-person meeting to as large as a 15-person meeting (see Figure 5.41 and 5.42). The workstations (see Figure 5.43 and 5.44) are adjacent to enclosed meeting rooms and collaborative booths. These adjacent spaces provide places for employees to do focused work in booths lined with noise absorbing materials and oriented away from visual distractions.



Figure 5.37: Dubbeldam. (2018). Slack - Focus room beside the corridor.[Photograph]. Retrieved from <http://dubbeldam.ca/portfolio/work/slack-toronto-office>. Reprinted with permission.



Figure 5.38: Dubbeldam. (2018). Slack - Collaborative kitchen with plants. [Photograph]. Retrieved from <http://dubbeldam.ca/portfolio/work/slack-torontooffice>. Reprinted with permission.

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Figure 5.39: Grant, J. (2018). Slack - Photographs of work culture. [Photograph]. Retrieved from <https://torontolife.com/tech/inside-slacks-new-toronto-locationla-croix-stocked-fridge-weekly-massage-therapy/>

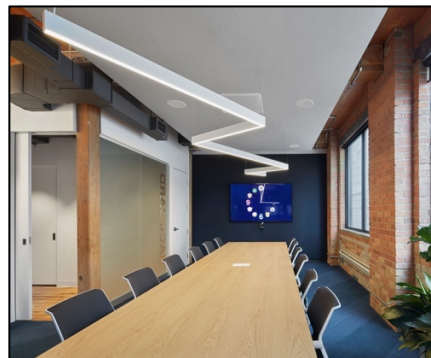


Figure 5.40: Dubbeldam. (2018). Slack - Open meeting area. [Photograph]. Retrieved from <http://dubbeldam.ca/portfolio/work/slack-toronto-office>. Reprinted with permission.



Figure 5.41: Dubbeldam. (2018). Slack - Meeting room. [Photograph]. Retrieved from <http://dubbeldam.ca/portfolio/work/slack-toronto-office>. Reprinted with permission.

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Figure 5.42: Grant, J. (2018). Slack - Collaboration area. [Photograph]. Retrieved From <https://torontolife.com/tech/inside-slacks-new-toronto-location-la-croix-stocked-fridge-weekly-massage-therapy/>

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Figure 5.43: Grant, J. (2018). Slack - Workstation beside the corridor. [Photograph]. Retrieved from <https://torontolife.com/tech/inside-slacks-new-toronto-location-la-croixstocked-fridge-weekly-massage-therapy/>

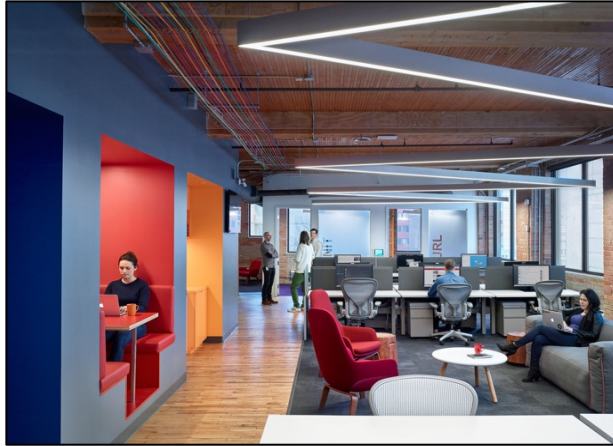


Figure 5.44: Dubbeldam. (2018). Slack - Coloured cables run through the open floor plan. [Photograph]. Retrieved from <http://dubbeldam.ca/portfolio/work/slacktoronto-office>. Reprinted with permission.

The first impression of Slacks' Toronto workplace is the reception area (see Figure 5.45), which is covered in a fabric that resembles wood that also provides a warm, inviting environment while also acting as a sound absorber. The bold pops of colour reinforce the Slack's branding while creating visual movement throughout the space. A feature that connects employees and the Slack company culture is a large pegboard (see Figure 5.46). This wall feature allows employees to create slogans, humorous comments, or create the company logo (ArchDaily, 2018). The culture also is supported through the technology of constant positive feedback from social media displayed on screens throughout the interior (Grant, 2018). The overall culture of the workplaces shows the connection between employees and their values within the workplace. The workplace supports communication as employees can socialize in amenity or meeting spaces or achieve focus work through phone booths, cafe booth, and opened or enclosed meeting space. Employees are also reminded of their goals and how they are making a difference through constant feedback from supportive technology. Well-being is also addressed through the

biophilic and features within the space supports. Together these strategies are likely to create a satisfying and productive environment for millennial employees.

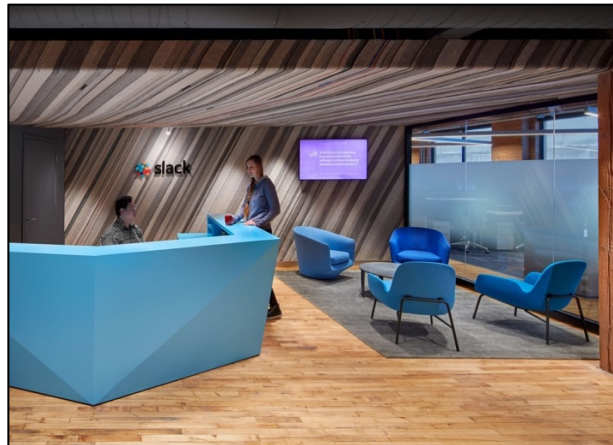


Figure 5.45: Dubbeldam. (2018). Slack - Reception area with cabled upholstery and biophilic acoustical wall. [Photograph]. Retrieved from <http://dubbeldam.ca/portfolio/work/slack-toronto-office>. Reprinted with permission.



Figure 5.46: Dubbeldam. (2018). Slack - Collaboration area, pegboard. [Photograph]. Retrieved from <http://dubbeldam.ca/portfolio/work/slack-toronto-office>. Reprinted with permission.

5.8.1 | ANALYSIS

Slack Toronto is a unique, practical workplace example as it is an intimate sized company. The workplace supports many values through design strategies that successfully align with millennial employees. The three main flexible strategies that seem predominate are flexible work-styles of

choice, and work-life integration through wellness, and company culture. Firstly, employee choice is shown on the floor plan (see Figure 5.46) through the flexibility of work-styles for employees to concentrate or collaborate. The range of choices is shown on the floor plan through 17 individual focus rooms, 11 enclosed medium meeting rooms (four people), five enclosed small meeting rooms, seven larger meeting rooms (7–15 people), and eight open collaboration areas (four or more people). The open collaboration areas are not directly located near workstations, which may make it more acceptable to collaborate out loud, which may ignite more employees will utilize the space. The lunchroom is also located on the middle floor, which may encourage employees to reconnect and join as a team.

Secondly, mental, physical, and emotional wellness is promoted in the provision of opportunities for personal growth inside and outside of the workplace and weekly massage therapy. Within the interior, wellness is implemented by providing biophilic design features such as plants, natural material, and natural light throughout the workplace (see Figure 5.45). The materials were specifically chosen to lower acoustic sound and support to a better-focused working environment. Slack provides practical amenities that focus on wellness and collaboration of employees that contribute to the overall satisfaction of the company, which is seen to attract millennials. Lastly, transparency throughout the workplace supports the flat-hierarchy of the organization. The proximity of the pathways to the collaborative areas allows for opportunities for spontaneous collaboration and socialization amongst employees. (see Figure 5.38).

Slack is an excellent workplace that utilizes successful and practical strategies that were shown in the previous examples of the larger corporate workplaces but in a smaller-scale

environment. The significant growth of Slack workplaces suggests that the workplace strategies implemented enhance the younger generation's engagement and productivity by connecting to their work values. Although Slack did not provide any amenities spaces or larger green spaces like Facebook or 3M, Slack did provide employees funds for things such as gym memberships as an alternative. Amenities spaces are typical to enhance team-building and employee culture. However, Slack accommodates for the lack of amenities spaces by providing more collaborative and common social areas that still provide team building. As is shown in Figure 5.39, the company culture is revealed to be successful in team photos; these may be taken at events paid for from the funds the company provides for activities out of the office.

5.9 | WEWORK

- | | |
|-----------------------------|-----------------------------------|
| • Location: Toronto, Canada | • Location: Boston, United States |
| • Completion Year: 2018 | • Completion Year: 2015 |
| • Designers: WeWork | • Designers: WeWork |
| • Square footage: 25,000 | • Square footage: 35,000 |

WeWork is a real estate company that provides co-working spaces for start-up companies and freelance workers to rent (see Chapter 3, section 3.3.3 on co-working) (CB Information Services, Inc., 2018). The company first opened in New York in 2010, and since then, it has grown to a national and global brand (CB Information Services, Inc., 2018). WeWork's core mission is "to create a collaborative community where entrepreneurs and small businesses can interact and exchange ideas" (Colman, 2018). WeWork's slogans, written on the walls, are "do what you love" and "create your life's work" not just functioning as an office space provider, but also supporting a community space.

To support the core mission, common design strategies are implemented throughout each location such as glass-front offices, bench desking (see Figure 5.43), community areas that including soft seating (see Figure 5.44), conference rooms (see Figure 5.45), lounges (see Figure 5.46), game areas (see Figure 5.47), coffee bars (see Figure 5.48), pantries (see Figure 5.49), and beer carts (Colman, 2018). Opportunities for personalization is expressed from the simple material finishing's to furniture that offers neutral backdrops for private spaces (Colman, 2018). In contrast, WeWork's community areas have distinct energetic and playful elements incorporated in each space. Show below, Figures 5.43 to 5.50 are Toronto and Boston WeWork designs that illustrate their mission of building community, collaboration, and transparency. Within each figure, illustrations of practical solutions that accommodate many work-styles and work-life are presented. Both locations express elements of nature, inclusivity, and fun. A

consistent look and feel of modern design is carried through both spaces. Each Figure title below provides a brief description of the design strategies found. Many features and strategies of WeWork are also seen in 3M. For example, the transparent layout and large amenity spaces. Both work environments provide spaces where individuals can grow with teams and on a personal level.



Figure 5.47: WeWork. (2019). WeWork Boston – Hot-desking area. [Photograph]. Retrieved from <https://www.wework.com/buildings/745-atlantic-ave--boston--MA>. Reprinted with permission.



Figure 5.48: WeWork. (2019). WeWork Boston - Common area, soft seating and collaborative area. [Photograph]. Retrieved from <https://www.wework.com/buildings/745-atlantic-ave--boston--MA>. Reprinted with permission



Figure 5.49: WeWork. (2019). WeWork Boston - Open meeting space with unique furniture that provides alternative seating posture. [Photograph]. Retrieved from <https://www.wework.com/buildings/745-atlantic-ave--boston--MA>. Reprinted with permission.



Figure 5.50: WeWork. (2019). WeWork Boston - Common area with various collaborative workstyles. [Photograph]. Retrieved from <https://www.wework.com/buildings/745-atlantic-ave--boston--MA>. Reprinted with permission.



Figure 5.51: WeWork. (2019). WeWork Boston - Large Conference room, casual furniture. [Photograph]. Retrieved from <https://www.wework.com/buildings/745-atlantic-ave--boston--MA>. Reprinted with permission.



Figure 5.52: WeWork. (2019). WeWork Toronto - Biophilia feature, coffee station, reception area. [Photograph]. Retrieved from (<https://www.wework.com/buildings/1-university-ave-toronto>). Reprinted with permission.



Figure 5.53: WeWork. (2019). WeWork Toronto – Kitchen, social area. [Photograph]. Retrieved from <https://www.wework.com/buildings/1-university-ave-toronto>. Reprinted with permission.

WeWork helps small business to grow organically and experiment with the design strategies that work best for that company. According to emergent research, the co-working industry is moving from individual entrepreneurs towards companies and business of 100 people or fewer (CB Information Services, Inc., 2018). More specifically, 24% of WeWork's clients are enterprises (CB Information Services, Inc., 2018). The unique aspect of WeWork that sets them apart from corporate offices and other co-working offices is that they have a design tracker that

collects data on workers' experiences in the space. They are continually opening up new locations based on the feedback given by the occupants. Furthermore, Devin Vermeulen, WeWork's Creative Director, explains the data collection process to improve WeWorks locations:

Take, for example, what we do with our conference rooms. We have our members rate the room and at the end of their booking, just like they would an Uber ride. If it scored low, the design team would go to that room and try to figure out what people don't like about it, learn from it, and extrapolate from there. And vice versa. If everyone loves one room, we will go in and try to figure out what's so great about it, why it's so different. We'd then capture that and try to replicate it in future rooms. There's a lot of concerted data collection and analysis going on as we scale up (Keohane, 2019, para. 11).

WeWork's "sensory strategy" is an extraordinary tool for improvement, leading to more productive workplaces. WeWork also established a layout generator that is proven to be more time-efficient and more precise than an architect or interior designer. It would be interesting to know if Facebook's Building 21 used a sensory strategy, and if not, where the areas of improvement could have helped support employee engagement further if this strategy was used. WeWork is highlighting added amenities that focus on work-life integration such as relaxation, and leisure activities. These amenity spaces also resemble the same features as the previous precedence such as relaxing "rainforest" or outdoor space seen in Amazon, Microsoft, and Facebook, and also an amphitheatre multi-usable space or game and lounge rooms are seen in Slack, 3M, Amazon, and Facebook. These amenities spaces are a part of WeWork design strategy, noting that the free perks are essential to millennials specifically because many millennials have

not been working long enough to afford certain amenities consistently. A designer from WeWork also mentioned that:

Coming to an enjoyable and aesthetically pleasing workspace encourages you to stay longer and work harder. It's a taste of comfort and luxury that you don't get in your day-to-day otherwise. And since it's such a young workforce in the start-up culture, these perks are really appreciated (Colman, 2018).

Each member that uses a WeWork space pays an average of \$8,000 per year. All locations accommodate about 50 square feet per person, compared to 250 square feet in commercial offices industry-wide (CB Information Services, Inc., 2018). However, despite WeWork's high cost and low square footage, memberships are rising. In nine months, WeWork grew 54% from May 2017 with 130,000 members to February 2018 with 200,000 members (CB Information Services, Inc., 2018). WeWork's revenue has surpassed \$900 million, with a 110% increase year after year (CB Information Services, Inc., 2018). Their spaces are well designed to have a feeling that members are not cramped (see Figure 5.50); from this strategy, companies can save between 50% on operating expenses, which can instead be added to improving amenities (CB Information Services, Inc., 2018). It is interesting to compare how the high cost to use a WeWork space is accepted by millennials because they see value in the space.

In comparison, Slack has a smaller space with no amenities; however, because Slack utilizes collaborative and social areas to support millennial values, it is a workplace that millennials are engaged. Therefore, whether a workplace has immense amenities or none, a millennial employee needs to be a team and social environment and have the option to work alone together. WeWork co-working strategy of "hot desking" spaces have already been adopted

by other companies mentioned in the figure below such as Amazon, Microsoft, and Facebook (see Figure 5.51), revealing its popularity among both large and small companies.



Figure 5.54: WeWork. (2019). WeWork Toronto - Common area, multiple work-styles. [Photograph]. Retrieved from (<https://www.wework.com/buildings/1-university-ave--Toronto>). Reprinted with permission.

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Figure 5.55: CB Information Services, Inc. (2018). WeWork - Companies that use WeWork. [Drawing]. Retrieved from <https://www.cbinsights.com/research/report/wework-strategyteardown/>

Primary features in many WeWork locations, specifically the ones gathered for the Toronto and Boston locations, are the use of natural light, biophilic design, bold graphics, and colourful furniture that consists of a mix of task chairs and soft seating. The layout also consists of an open transparent atmosphere and provides amenities such as kitchens and entertainment sections.

5.10 | SUMMARY OF FINDINGS

This chapter included six current workplaces in North America with interior design workplace strategies known to attract, retain, and engage millennial employees. In all of the examples, flexible design is used to support a variety of work-styles and unique biophilic features were often used to promote well-ness and work-life integration. Amazon explored ways to create a unique gathering of employees that allow for collaboration and innovation to occur more frequently while experiencing biodiversity in the center of the city. 3M has created an open living room atmosphere for employees to feel comfortable and provide more opportunities for collaboration and socialization. Bringing a human touch back into the workplace was Microsoft's strategy in a more intimate open space by implementing biophilia and work-style mobility for employees to work wherever they prefer, in nature. Facebook has created efficient ways to encourage spontaneous encounters for collaboration to occur and placed higher importance on amenities and biophilic elements. Slack's design strategy was to support communication amongst employees through their open concept and still provide a balance for focus work where employees are not visually or audibly distracted. WeWork's co-working strategy is continuously improved through a collection of reviews from the members utilizing the space, which they use to improve or replicate their office interiors. Together, all of these examples presented various strategies that engage millennial employees that can be applied for both small and large workplaces.

The designs examined in this chapter provide an understanding and insight into current workplace engagement strategies. Specific strategies that align with millennial values were executed to engage employees in the workplace, as discussed in Chapters 3 and 4. Despite best

efforts, I was unable to find any POE to obtain data on retention and engagement information about each workplace, particularly about productivity or satisfaction levels, making it difficult to validate the effectiveness of the design strategies mentioned. While it was difficult to find POE information for a well-designed workplace, it was even more challenging to find companies willing to disclose workplaces that have failed employees in general or the millennial generation in particular.

Overall, some of the key features from the discussed examples included amenities that promoted wellness, such as green roofs or biophilic design where employees can rejuvenate; fitness facilities; and café/kitchen areas. Common work-styles were: alternative postures desks such as sit-stand desks, touch down stations that accommodate for mobility, and soft seating. All workplaces consisted of open plans; however, the majority had alternatives for completely quiet work such as phone booths or focus pods. Collaboration is supported in most of the workplace designs through the location of semi-private zones placed near walkways to allow for spontaneous collaboration and enhanced mentorship. Technology is seen in all spaces as mobile and to enhance freedom. Mobile digital technology is also shown as an aid for mentorship and instant feedback. The well-being of the employee is consistently prioritized by re-connecting employees to nature with biophilic elements and creating an inclusive company culture. All of the companies appear to focus on employee productivity and satisfaction. It is evident that all of the companies discussed encourage high collaboration and human connection through space planning that does not interrupt focus-work while providing freedom of mobility for each worker. Ultimately, choice and flexibility are seen as a key design strategy.

It is important to note that none of the companies showed “quick fixes” such as ping pong tables, bean bag chairs, ball chairs, or “fun” objects as seen in the 2000s. None of these environments resemble traditional offices that include a hierarchical environment or cubicles. Instead, strategies that attached meaning and purpose within a workplace provided employees with a unique experience that is seen to support engagement for millennials. Each experience was shown to be attained socially through the flexibility of each employee’s choice of work-style and work-life.

CHAPTER 6 | INTERVIEWS

6.1 | CHAPTER OVERVIEW

This chapter presents the findings of the interviews conducted with corporate workplace designers. All responses are based on the designers' experiences and knowledge of workplace design for millennials. The information in this chapter provides insight into additional issues that were not mentioned in the literature. The interview findings show that (a) flexibility, (b) mobile technology, and (c) company culture are the most important factors in engaging millennials.

To better understand the results, this chapter is divided into five sections. Section 6.2 introduces the designers' titles and millennials' participation in the design process. Section 6.3 provides insight into the positive and negative client feedback on the implemented design strategies. Section 6.4 discusses the spaces needed to enhance millennial employee engagement and how spatial configurations are changing to suit this generation. Section 6.5 focuses on the impact of wellness and sustainable strategies and examines whether current workplaces are implementing these strategies. Section 6.6 reveals any difficulties that exist when designing for millennials.

A total of seven interviews were completed. However, one participant (DIP 7) discussed unrelated topics and lacked knowledge in millennial workplace design, therefore, six interviews are discussed in this chapter. Each interview was semi-structured which allowed participants to spontaneously discuss additional topics. A copy of the interview guide and questions can be found in Appendix E. Interviews were conducted in-person or via teleconference. All interviews were audio-recorded and transcribed. The transcripts were then coded, analyzed, and common themes identified. Table 6.1 shows a summary of the interviews. Throughout this chapter

participants are referred to as “design interviewee participant” or DIP with an identification number: “DIP #”.

Table 6.1: Summary of Interviews

INTERVIEWEE	STATUS	SOURCE	LENGTH	TRANSCRIPT
(DIP 1)	Conducted in-person	Sample frame	23min	Confidentiality required
(DIP 2)	Conducted by Teleconference	Sample frame	48 min	Confidentiality required
(DIP 3)	Conducted by Teleconference	Sample frame	1h	Confidentiality required
(DIP 4)	Conducted Teleconference	Sample frame	1h	Confidentiality required
(DIP 5)	Conducted in-person	Referred by DIP 3	1h	Confidentiality required
(DIP 6)	Conducted in-person	Sample frame	1.5h	Confidentiality required
(DIP 7)	Unsatisfactory	Sample frame	43 min	Confidentiality required
(DIP 9)	Declined	Sample frame	-	-
(DIP 10)	No Response	Sample frame	-	-

6.2 | WORKPLACE DESIGNERS

6.2.1 | PARTICIPANT QUALIFICATIONS

Four of the interior designers interviewed work at large firms: Gensler, Hok, Kasian, and SOM architects. The two workplace strategists interviewed work for commercial office furniture companies Steelcase and Teknion. All the participants have worked in the design field for two years or more. The average experience of the participants was 17 years. Two participants had 3-5 years’ experience (DIP 2, 5), and four participants had 18-34 years’ experience (DIPs 1, 3, 4, 6). The study was fortunate enough to have participants at all levels within the design field,

including a vice-president of A&D, a design editor, a principal designer, a workplace strategist, a practice leader for interiors, a senior interior designer, and a junior interior designer. All interior designers interviewed confirmed having achieved National Council for Interior Design Qualification (NCIDQ).

6.2.2 | EVIDENCE-BASED DESIGN AND MILLENNIAL PARTICIPATION

An initial set of questions established what, if any, research is used to inform the workplace design process for millennials. The research participants used: (a) database research, (b) surveys, (c) focus groups, (d) visioning sessions, and (e) spatial utilization to determine design needs before they started the design process. DIP 4 explained: “we want to do a process of discovery for the client of what is the ideal workplace and what strategies they need for an ideal outcome for their organization; that is our position on research.” All participants stated that they used each method listed above; however, the preference for the method utilized varied depending on the client’s preference.

Database research. Some designers highlight that, within their designs, they do not design for a specific generation. DIP 1 stated, “In our WPI [workplace index] survey we found that a well-designed workplace does not design specifically for a generation, so millennials’ need to focus, collaborate, learn, and socialize the same way as anybody.” However, not all participants found that this was true; for example, a DIP 2 stated, “we have done research as a firm to see what millennials want, and what they seem to want is a more agile flexible workspace”.

Surveys. All participants agreed that surveys assist in functional programming as they help a designer to understand the specific needs and functions of the client and employees.

However, this strategy is not used in every project. DIP 4 described the benefits of using a survey in the design process, saying that “from the detailed questionnaires we then assess the data and come back to the client with the findings outlined in a program based on the data given” (DIP 4).

Focus groups, vision sessions, and spatial utilization. Participants explained that these participatory design and observational methods help to understand a company’s industry, but specifically to understand the organization’s culture and their forward design planning towards employee engagement. These instruments capture a narrative of the current and future state of the company. However, most of the participants stated that these methods were not typical for every project. These approaches all focus on human needs in the workplace. All respondents specified that participation of employees, regardless of generation, varied per company. The main reason why many companies did not include direct employee participation in the workplace design process through focus groups, etc., was specifically because of the time and cost involved.

6.3 | DESIGN STRATEGIES TO INCLUDE AND AVOID

6.3.1 | TOP THREE REQUESTS FROM CLIENTS

The top requests of clients are (1) to enhance company culture, (2) provide space for different work-styles, and (3) support for employee well-being. Below, Table 6.2 shows the complete list of client requests, ranked according to the number of participants that mention it over all the interviews.

Table 6.2: Interview findings - Designers top three requests from clients

Participants responses: Common requests from clients	Quantity of participants repeating the same topic	Participant
Company culture	6	DIPs 1, 2, 3, 4, 5, 6
Flexibility	4	DIPs 2, 3, 5, 6
Well-being	3	DIPs 1, 3, 5
Shrinking real-estate	2	DIPs 2, 5, 6
Amenities	2	DIPs 3, 5
Lowering hierarchy	2	DIPs 2, 6
Technology	2	DIPs 2, 4
Alternative postures	1	DIP 5
The speed of a project	1	DIP 6
Budget	1	DIP 6
'We' space or shared space	1	DIP 6

Table 6.2 reveals Company culture, flexibility, and well-being as the top three client requests.

Company culture. Company culture was only directly mentioned in two interviews; however, the connections were indirectly discussed in all interviews, as the majority of implications aid in developing a company culture. Of the two participants that highlighted the importance of company culture, one stated, “Millennials are interviewing a company just as much as they are getting interviewed. They are looking for places that have the right culture and can foster mentorship” (DIP 5). The other participant highlighted the importance of company culture to millennial values:

The younger generation is more engaged when they feel a connection to the mission of the enterprise through their brand, and the brand is expressed and embedded in the space before any logos are placed on the walls. Therefore, if the brand can be felt when you enter the space, designers are successful in branding that space. The values that seem to resonate with the younger generation are values of giving back to the community. If

millennials can understand that their company gives back to the greater community, they feel a great connection to that organization (DIP 1).

DIP 5 and 1 emphasized the connection that company culture brings to a workplace, and that connection has been shown to increase employee engagement amongst millennials.

Flexibility. Flexibility was discussed through the mobility of technology and agility of a space. Many participants mentioned one space having multiple purposes, as well as less formal environments. For example, DIP 2 mentioned:

An implication that is always coming up on projects is an open booth idea rather than a meeting room because it is good a spot for teams for two or four people to gather without feeling like they are in a meeting room. It is also a good space to locate off the lunchroom. For example, if there are many people eating lunch at one time, they can use the booths for more seating.

Well-being. The DIPs mentioned well-being as present in designs that integrated elements of biophilia and multi-purpose amenities spaces that encourage healthy living. DIP 3 supported multi-purpose by stating “clients are asking for is a wellness room in most areas, which could convert to a prayer room or mothers’ room.” Well-being in a workplace was shown to support not only physical well-being but mental well-being as well.

6.3.2 | TOP COMPLAINTS BY CLIENTS ABOUT EXISTING WORKPLACES

The top complaints about existing workplaces were (1) acoustics, and (2) lack of choice for different work-styles and technology (see Table 6.3).

Table 6.3: Interview findings - Top complaints by clients about existing workplaces

Participants responses: Top complaints by clients	Quantity of participants repeating the same response	Participant
Acoustics	6	DIPs 1, 2, 3, 4, 5, 6
Lack of choice for different work styles	6	DIPs 1, 2, 3, 4, 5, 6
Technology	4	DIPs 1, 2, 3, 6

Acoustics. Poor acoustics was a top complaint by clients with open plan workplaces. DIP 6 addressed issues of acoustics that stem from open plans, mentioning, “Open plans have had an unbelievable backlash because people feel exposed”. Acoustics is the biggest number one problem in the workplace.” This finding highlights the need for more choice of acoustically separated work-areas to support different task types: focused, collaborative, or social.

Lack of choice. Lack of work-style choice was seen to be a negative effect in the workplace. DIP 5 mentioned the importance of integrating choice, saying, “Instead of just having your social space here, and your workspace here, we are taking more of an ecosystem which is having the different spaces integrated within the floor plan.” The balance of adjacent spaces was discussed as a limiting factor when implementing collaborative and private spaces to support workers. These findings reveal the importance of transitioning spaces and paying attention to the environments that surround different tasks during that transition.

Technology. Technology is seen as negative when embedded in a space that employees did not have training on proper usage. The implication is that it regularly does not get used. DIP 5 explains “I have clients that want touchscreens everywhere to book meeting rooms, and [they do] not get used because everyone else [most employees] does not know how to use them.” This finding highlights a need for employee education during hand-over when integrating technology-reliant design strategies.

All top three complaints: acoustics, lack of choice, and poorly integrated technology, significantly impact productivity. For example, when acoustics does not correspond to a work-style and there is a lack of alternative workspaces and/or mobile technology to allow them to move somewhere else more suitable, that employee's ability to do their job will be reduced. DIP 1 discussed the importance of this notion:

Often occupants complain about noise, and technology not being easily portable.

Employees are better fulfilled when they have a choice. We need to remove the fear of moving. When employees have choices, they have higher levels of engagement, and that creates more happiness in the workplace (DIP 1).

6.3.3 | REOCCURRING DESIGN FEATURES

Part of the interview focused on what clients consistently want to change to improve their workspace. As Table 6.4 shows below, flexibility and technology are continuously requested from clients of all of the interviewees (DIPs 1, 2, 3, 4, 5, and 6).

Table 6.4: Interview findings - Reoccurring design features

Participants responses: Reoccurring design features	Quantity of participants repeating the same response	Participant
Flexibility	6	DIPs 1, 2, 3, 4, 5, 6
Mobility of technology	6	DIPs 1, 2, 3, 4, 5, 6

Flexibility. Movable walls were explicitly identified by DIP 6 as a means to enhance flexibility of workplaces. By having the flexibility to create meeting rooms, enclaves, or phone booths easily, movable walls are popular design features within a workplace. DIP 6 expanded on the benefits of moveable walls, stating “these products help address flexibility. With younger generations entering the workforce, we do not know what kind of changes they are going to

bring, and flexibility is the most crucial thing when you are designing a product to adapt to change” (DIP 6). DIPs 4 and 5 brought attention to ergonomics, particularly for lounge furniture and sit-stand desk options and emphasized the importance of “giving employees a sense of user control” (DIP 4). Adjustable furnishings is arguably good for all generations of workers as it can be adjusted to suit a specific need or task.

Technology was highlighted by pointing out that if there is not a place for employees to plug-in devices, they will not work in that specific area (DIPs 2, 3, 5). More specifically, clients were focusing on their employees, not being desk-bound, and providing alternative tools to include power anywhere. The consistent requests for mobile technology integration highlights that current workplaces are transitioning away from assigned workstations towards the norm of the mobile worker. Demonstrations of the technology and furniture are used by DIP 5 in their hand-overs to make sure employees are using the products correctly. (DIP 6) explains the importance of demonstrations, “the clients that do not want the demo usually end up using the product wrong.”

6.4 | FLEXIBLE DESIGN STRATEGIES

6.4.1 | SPACES THAT ENHANCE MILLENNIAL ENGAGEMENT

All participants stated that social spaces are the most important spaces to implement to encourage engagement for millennials (Table 6.5). Clients unexpectedly did not mention a need for focus spaces; however, participants repeatedly talked about importance of social spaces, which provide benefits to the workplace such as creating equality, lowering hierarchy, forming cross-pollination of employees, igniting spontaneous meetings, generating a strong company culture, connecting employees so that they feel like part of a community, providing more

opportunities for mentorship, and lastly, lowering turnover rates (DIPs 1, 2, 3, 4, 5, 6). Social spaces were noted as “the most important and sometimes overlooked” (DIP 4). DIP 1 mentioned, “Some companies that think they are wasting their time when employees are hanging out in the kitchen for a couple of minutes. We are having lunch together or engaging in any friendly, trusting behaviours with colleagues. Companies that do not value these interactions tend to experience higher turnover.” When conducting a visioning session, DIP 1’s team found “companies that report high engagement to have high social time compared to companies with low social time.” These findings show that social spaces should not be overlooked as they contribute to the company culture. Social spaces were found to be most common in amenity spaces and enhanced through technology.

Table 6.5: Interview findings - Spaces that enhance millennial engagement

Participants responses: Spaces that enhance millennial engagement	Quantity of participants repeating the same response	Participant
Social Spaces	6	DIPs 1, 2, 3, 4, 5, 6

Amenities spaces are found to be the most common way to promote socialization in the workplace (DIPs 1, 4, 5, and 6). DIP 4 explains that an amenities space such as the kitchen “is a place where they can sit and connect and feel like they are a part of a community.” Technology again was mentioned as a supportive tool that promoted social spaces (DIPs 2, 3, 4). DIP 4 mentioned that integrating technology in social spaces creates equality, stating, “Technology takes away the hierarchical aspect because employees can be both plugged in and flip screens back-and-forth which spreads the power around.” DIP 3 explained the mobility aspect that supports different work-styles, saying, “Employees are not tied down to their desk for the whole

day; they can pick up and can move to a space to fit their work-style.” These findings reveal that amenity spaces create equality and community within the workplace environment.

Technology allows the separation of focus and collaborative work that are critical for employees to feel comfortable and to not disturb each other. DIP 3 specified, “It is the ability to move to other locations if required by having the flexibility of your technology. An employee can pick up and go to a smaller quiet workspace to do some heads down.” DIP 2 also added that it is the rise of technology that is separating the company’s engagement. These statements highlight that through the support of mobile technology, an employee can have a higher opportunity to form a social relationship with co-workers to support company culture. The social relationship is mentioned to enhance employee collaboration, which assists in employee engagement. The freedom of mobile technology also allows for focused work to achieve employee productivity and satisfaction to move away from audible or visual distractions.

6.4.2 | CONCENTRATION AND COLLABORATION STRATEGIES

All participants discussed that the design strategies used primarily depend on the company’s timelines and finances. Regardless of time or finance, clients continuously want designers to ensure employees have a workplace that allows them to do both concentrated and collaborative work (see Table 6.6). The majority of the participants (DIPs 1, 4, 5, 6) discussed the choice of products or system furniture such as privacy screens and high-back seating for employees. Other participants (DIPs 2, 3) focused on the space planning of the environment to support employee collaboration, which included: areas for mentorship, mobile technology, spontaneous collaboration, and a flat hierarchy environment. DIP 2 highlights these strategies:

Some clients like furniture solutions because it is an easier fix and it is less expensive because you are not building the hard walls, which include mechanical and electrical for an enclosed space and furniture is more flexible, as you can move it. However, we are still getting clients that have the sense this is a room, and it is enclosed, and it is a little more secure and acoustically sound than just a furniture solution.

These findings reveal that solutions for concentration and collaboration vary per company based on the company culture. However, the discussed strategies are suggested to suit a general corporate workplace.

As an example of the potential problems with transitioning to a more open environment workstations near corridors mentioned by DIP 6 were found to be negative in one of their workplace post-occupancy evaluations. DIP 6 explained further that “a client ha[d] integrated a bunch of low panel workstations, and the employees hated it because they felt overexposed to the core door when exposed to the person sitting beside them and they had no change management, no choice on meeting areas.” This example revealed the importance of space planning the effects of placing focus work near high traffic areas.

Table 6.6: Interview findings - Evoking concentration and collaboration through design

Participants responses: Evoking concentration and collaboration through design	Quantity of participants repeating the same response	Participant
Choice of visual and audible distractions	6	DIPs 1, 2, 3, 4, 5, 6

Concentration implications:

Privacy screens. Privacy screens were mentioned by DIP 6 as a useful product for when an employee is trying to focus. DIP 6 pointed out that “screens do not provide acoustic barriers, but they provide a visual barrier; therefore, if another employee cannot see them and they cannot see other co-workers they are more concentrated” (DIP 6). DIP 5 revealed the significant effect of implementing products with screens or different additive features as it reduces the need for full-wall focus rooms.

High-back seating. DIP 4 says that high-back seating creates a visual barrier for employees while embracing community by not being fully enclosed. DIP 4 gave an example of the effects of placing work areas near a corridor, stating:

A company situated the shared seating right adjacent to a busy corridor. They did not do the high back scenario, so the group in that sofa area felt a bit protected, and no one ever sat in those because employees felt very exposed and it was too busy, and they look like they were hanging out instead of working so the space never got used.

This statement reveals the impact of visual barriers towards a millennial employee that prefer a ‘work alone together’ environment. Perhaps if designers had provided high-back seating in the space adjacent to a busy corridor, it might have been used more often.

Collaboration implications:

Mentorship. Mentorship was mentioned as an important consideration. DIP 6 stated that the way millennials work is influenced by their educated backgrounds. Furthering the notion, DIP 6 stated, “Millennials have been educated in a collaborative environment, and they expect to go into work where they can have the same experience.” These findings highlight the

expectations from millennial life experiences such as being the highest educated generation heavily influences space planning for teamwork to support collaboration and millennial need for constant feedback.

Mobile Technology. Microsoft Hub and other forms of mobile technology were seen to foster creativity and collaboration in spaces (DIP 5). DIPs 1 and 2 mentioned that electronic whiteboards that are mobile enabled more employee choices and created collaborative environments which resulted in more positive feedback than workplaces with less. DIP 2 mentioned that the majority of projects have been for face-to-face collaboration and that they used supportive technology to enhance these spaces. DIP 1 highlighted that “the technology supports the moment throughout the space” which promotes collaboration. These findings reveal the positive impact of mobile technology on collaborative spaces.

Spontaneous collaboration. Spontaneous collaboration or “crash zones” (DIP 3) are environments where there is a flat hierarchy, companies embrace face-to-face collaboration, team environments, and choice (DIPs 1, 2, 3, 4, 5, and 6). DIP 3 discussed “crash zones” as an area where collaboration happens naturally, such as in a corridor or a kitchen and suggested that companies should be providing the furniture or millwork to support these encounters. These findings show the importance of adjacencies to enhance spontaneous collaboration.

Flattening hierarchy. A flattened hierarchy was seen to inspire a more open environment in order to form a company culture:

I think flattening hierarchy is a huge one, not to be afraid of your boss because they are your boss, and that is an internal cultural thing. We are now seeing more open offices and less private offices. All the principals do not have an office. They sit out in the rest of the

staff in the workstations. Also, that helps create a community, so I think we are seeing more now we are moving those boundaries and just working as a team. (DIP 3)

The findings suggested that having a choice and limiting acoustical and visual distractions were the most significant factors when implementing strategies to improve engagement for millennial regarding collaboration and concentration in the workplace.

6.4.3| THE SHIFT IN SPATIAL DESIGN

All participants agreed that spatial configuration is changing to suit the way millennials work. Participants DIPs 4 and 2 discuss how the definition of meeting space is evolving, and traditional meeting space is declining. DIP 4 points out:

Meetings have taken on a different description as well. It is one big catchphrase when people get together. Acknowledging that not all meetings need four walls and a door, and not all meeting rooms need a standard seat or sitting height, maybe they can be a high-top stool in an open area, or maybe in the café. The definition of meeting room needs to change to what they are doing in that space.

Further, participant DIP 2 explained, “we found that the traditional meeting rooms are not used as often. We now limit the number of traditional meeting rooms of just tables and chairs and put in more lounge-style meeting rooms which millennials have been seen to gravitate more towards.” DIP 4 and 2 highlights that meeting spaces are significantly changing and interior need to adapt to these changes. Spatial designs that are commonly implemented in workplaces today that were discussed in the interviews are shown in Table 6.7 below. Within each table, the participants also describe the type of work achieved in each spatial setting (DIPs 1, 2, 3, 4, 5, 6).

Table 6.7: Interview findings - Participants description of spatial designs

Participants responses: The shift in spatial design	Participants Description of spatial designs
Working alone together	Focus work: Working alone surrounded by people creating visual and audio access for an employee to still feel connected with their environment (DIP 5).
Library setting	Focus work: Placing books on the wall indicates the etiquette of a quiet space (DIP 4).
Alternative posture meetings	Collaborative or focus work: lounge seating: couches or soft seating. Ergonomic: sit-stand desks (DIPs 2, 4, 5, 6).
Open meeting	Collaborative work: dialogue activity is encouraged. Table and chairs (DIP 6).
Pop-up meetings	Collaborative work: accommodates six people, the main requirement is an outlet to plugin technology. Easily movable meeting space that is not defined by built walls (DIP 6).
Remote meetings	Interactive technology that supports remote workers (DIP 1, 5).
Multi-purpose meeting space	The room accommodates many different work activities, i.e., office or cafe transitions to a meeting space which also supports workplace culture through familiarization (DIP 3).

DIP 1 pointed out that “meeting areas are evolving with technology: it just so happens that technological breakthroughs came [at] the time when millennials came, so you have a breakthrough, and you have a critical mass.” DIP 2 highlighted that millennials’ early use of technology normalized getting answers quickly, therefore, forcing a significant change in communication style. The mentioned implications in table 6.7 show how spatial design varies according to work-styles and has different flexible requirements.

6.5 | WELLNESS STRATEGIES

6.5.1 | STRATEGIES TO PROMOTE WELL-BEING FOR MILLENNIALS

All participants agreed that it is essential to implement features that support well-being and comfort in a workplace (see Table 6.8). Firstly, the majority of participants noted that employee

choice in the workplace is key (DIPs 1, 3, 4, 5, 6). Secondly, the sense of community and socialization (DIPs 1, 2, 4, 5). Lastly, access to natural light and providing several depths of field, which is achieved through a range of distances (DIPs 1, 2, 4).

Table 6.8: Interview findings - Strategies to promote well-being for millennials

Participants responses: Strategies to promote well-being for millennials	Quantity of participants repeating the same response	Participant
Choice	5	DIPs 1, 3, 4, 5, 6
Ergonomics	5	DIPs 1, 3, 4, 5, 6
Community and socialization	4	DIPs 1, 2, 4, 5
Visual interest	3	DIPs 1, 2, 4

Choice. Providing choice was noted as giving empowerment by supporting psychological health to employees and was shown to be a key enabler in promoting well-being for millennial employees.

Ergonomics. Providing ergonomics by offering a range of postures through sit-stand desk options was one of the top-mentioned implications for millennials’ workplace (DIPs 1, 3, 4, 5, and 6). Participants acknowledged that the use of sit-stand options depends on the company; however, one participant noted that “some clients that say they want everyone to have a sit-stand table but in reality, we find that only 30% of the people actually use it” (DIP 3). This lack of use highlights that although there is a norm, many workplaces do not perform in the same way and further exploration is needed to see which ergonomic elements are priorities. Social spaces are supported by ergonomic furniture (sit-stand) to promote emotional comfort. Social areas can be transitioned from quick stand up conversations to a relaxing lounge to support choice (DIPs 1, 5, 6).

Community and socialization. Café style environments are a common implication, and spaces that promote a visual connection to enhance social spaces were ideal (DIPs 2, 4, 5). A community environment is seen to make millennials feel as if they are a part of something larger and helping their neighbourhood (DIP 4). One participant brought attention to the importance of connecting to the surrounding community, stating:

We do not always have control over it, but one thing we are talking to our clients about is the address. I think millennials are making organizations think about what the street or neighbourhood around the building offers so that would matter. It is the quality of the surroundings to provide connections and sense of community. That connectedness is the biggest thing that can be considered that millennials have driven (DIP 4).

DIP 4's statement highlights the importance of amenities spaces, and when a workplace does not have the opportunity to be in an ideal neighbourhood, workplaces can accommodate millennials' needs by providing amenities spaces to socialize. One participant also mentioned how companies are finding it difficult to steer away from the traditional office by implementing things such as a lounge-style café within their workplace (DIP 2). However, because real estate location of the workplace matters, the amenity or social space can be accommodated by allowing employees to connect to the community environment. Providing spaces that support opportunities for employees to socialize and feel a part of their community support the connection of being a part of something greater than oneself, which is a key characteristic of millennials as it aids meaning to their workplace.

Visual interest. Natural lighting and cognitive well-being are mentioned by providing several depths of field in a space to create visual interest. The two factors are connected through

space planning and strategic circulation emphasized by DIP 1, who stated that “space panning plays a really big factor for psychological well-being.” Design elements included promoting higher ceilings and open spaces to create conductivity and visual connection, circadian lighting, softer colour pallets, and at least three depths of field (DIPs 1, 4, 5). Providing three depths of field is an essential and mindful implication of designers that is not common for the client to request. DIP 1 noted, “Often people say that they feel great in the space, but they cannot identify why because they do not realize that we put those thoughts into it.” Another participant discussed how colour plays a significant factor in the workplace and how employees are currently gravitating towards a softer pallet as it reflects a residential feel, which is a more familiar, relaxing environment that is more popular in current workplaces (DIP 4).

6.5.2 | SUSTAINABLE DESIGN IN THE WORKPLACE

All participants agreed that implementing sustainable strategies is beneficial for employees. DIP 2 stated, “Green space is what would retain employees longer as it improves their work habits.” Specifically, DIP 1 discussed the rise of sustainability strategies with tech companies:

Sustainability should be a priority for all companies as it plays a large role in attraction, especially for tech companies. Tech companies try to be as green as possible so that they have a really good story to tell as part of their culture and so younger people can feel connected to the mission of the enterprise.

However, most participants agreed that sustainably was not implemented enough in current workplaces. DIP 5 revealed when collaborating with designers, “there is maybe one of 13 design firms that asked for that.” DIPs 1 and 2 both emphasized that implementing sustainable design would retain and engage employees longer and that this may be a reason why engagement rate

for millennials is low, as a majority of design firms mentioned not implementing this needed strategy.

6.5.3 | GIVING BACK STRATEGIES IN THE WORKPLACE

Give back strategies are connected towards millennials 'make a difference' characteristics. Give back programs within a workplace were described by participants as spaces that can offer employees to contribute to the greater good of their community or globally. For example, give back strategies can be implemented in amenity spaces such as, kitchen or garden space to contribute to giving food to individuals in need, or assisting in nature with plant preservation areas (such as Amazon, Chapter 5 example). Two main findings towards giving back implications from participants include:

Connection to nature (green spaces). (DIPs 4 and 6) Spaces that foster nature, such as workplace gardens or green walls contribute to the overall wellness of the workplace, which will be further discussed in section 6.5.4.

Community engagement. Some workplace designs foster give-back programs such as amenity spaces that provide gardens to grow vegetables for foodbanks or preserve endangered plants. DIP 1 further explained: "Often it is amenities that we build for clients to give-back programs that they can then leverage for community engagement." DIP 3 stated, "I am finding more and more people are designing with the community." These strategies of giving back create a story towards the company culture that connects to the millennial generation. These connections are mentioned to be more favoured with millennials (DIPs 4 and 5). Although participants did not fully expand on this question, it was still seen as necessary to investigate as these give-back programs are a direct way to connect the employee to the community.

6.5.4 | BIOPHILIA IN THE WORKPLACE

Table 6.9: Interview findings - The importance of biophilia in the workplace

Participants responses: Biophilic strategies	Quantity of participants repeating the same response	Participant
Access to natural light	4	DIPs 1, 2, 3, 6
Greenery and plants	2	DIPs 1, 4, 6
Natural material choice	2	DIPs 1, 5, 6

Findings revealed that majority of participants have requests for biophilic design (DIPs 1, 4, 5, 6), with access to natural light as a top priority, followed by greenery and natural material choice (see Table 6.9). The other participants explained, however, that clients do not see the value of greenery and natural material choice as contributors to workplace engagement (DIPs 2 and 3). DIPs 2 and 3 brought up that many clients do not see the value and would rather spend the budget on other applications. Both participants revealed that in their experience, “many clients are not fully aware of how much of a difference it makes in people just to have even a few plants in the office” (DIP 2) and “I do not think clients understand that concept, yet it is kind of another term that is thrown around” (DIP 3). DIP 6 suggested that companies that do not have a budget to implement biophilic design can utilize window space. DIP 6 also stated, “It is about fostering a positive impact on people in the workplace. Many companies are creating outdoor spaces, or if you cannot have physical access to the outdoors, windows are an alternative.” Although DIP 6 brought up a valid strategy for budget accommodations, DIP 2 and 3’s clients’ reasoning was not concerned with budget. DIP 6 revealed that the clients did not see the value in the design strategies. Clients also seemed to be unaware of the scholarly evidence linking nature-based design to wellness in the workplace, which may be a reason why millennials are disengaged.

6.6 | DIFFICULTIES IN DESIGNING FOR MILLENNIALS

6.6.1 | LIMITATIONS AND CHANGES

All participants mentioned that when designing a space specifically for millennials, clients, are a leading factor for limitations primarily due to each client’s project timelines, expectations of non-generations-specific workplace design, and their traditional beliefs. Participants highlighted four critical areas, shown in Table 6.10. Although implications vary per company, the findings have common limitations.

Table 6.10: Interview findings - Limitations in designing for millennials and changes

Participants responses: Limitations in designing for millennials and changes	Quantity of participants repeating the same response	Participant
Timelines	6	DIPs 1, 2, 3, 4, 5, 6
Clients do not want a generation-specific workplace design	6	DIPs 1, 2, 3, 4, 5, 6
Traditional beliefs	5	DIPs 1, 2, 3, 4, 5
Technology	1	DIP 5

Timelines. Short timelines given by clients for projects result in not having enough time to develop the correct strategies tailored to that workplace (DIPs 1, 2, 3, 4, 5). DIP 5 mentioned, “Clients set themselves up for failure because they have not left enough time to think about how their space... sometimes the project just gets thrown at designers at the last minute to get done.”

DIP 4 supported the importance of the time of research behind the design, explaining:

Our opportunity is to come in and be the ones that can see what is happening and work with them through strategy and observation and deep dive questions to say, ‘here’s what’s going on in your business and this is what the workplace needs to do to support your needs,’ so I do think it is bigger changes (DIP 4).

This finding reveals the impact of short timelines and the negative effect it has on an opportunity for integrating more research and employee participation in the process.

Designing for a specific generation. Clients found it limiting when planning for one generation. The solution was to provide choices for every generation of worker. DIP 4 agreed with this, stating, “When you try to solve for one single problem, it can often alienate others, and I think the workplace should break down barriers between generations.” DIP 6 supported this notion by stating,

To design for everyone comes back to choice. So, we have to make sure that there’s enough choice no matter what generation [you are] or life state and how that influences the way you think of the workplace. We have to make sure we can meet the needs of those requirements.

These findings reveal the importance taking a balanced approach with interior design strategies. Further, change management must also be a factor that interior designers and strategist must understand to provide the transition for what new and older generations want and need within a workplace.

Traditional beliefs. Beliefs significantly factor into the progressiveness of a company. When a client is not open-minded, it is challenging to provide modern strategies (DIPs 1, 2, 3, 4, and 5). DIP 2 mentioned, “Many clients do just want a traditional workstation,” which makes it difficult for designers to advance and transition workplaces. DIP 1 highlighted that the transition away from traditional must be made: “Eventually clients will be on board because they have to evolve, or they will get left behind; it is all about enterprise readiness.” When asked if small or large change needed to be made towards traditional workplaces, DIP 4 stated, “I think we are

beyond the small shifts. I think what needs to happen as a designer we have the opportunity to work with clients to help them understand what they have been doing may not support what they want the people to be doing in the workplace.” Therefore, designers needed to help further clients understand how these suggested design strategies will help their business.

Technology. Employee expectations about technology were a limitation in current workplaces. DIP 5 explained that many employees go home to current technology, but technology in the workplace was not as current and did not support the space. These findings highlight the importance of innovative technology as millennials expect to have the same innovation standard in the workplace as they do in their home.

6.6.2 | EVALUATING DESIGN IMPACT

More than half of the participants claimed that they typically do Post Occupancy Evaluations (POE) (DIPs 1, 2, 4, and 6). The others explained it is not the norm (DIP 5), and one participant said that they have never done them with their design firm (DIP 3). The majority of participants that did do POEs said that furniture or technology was typically the main complaint from their clients (DIPs 4, 5, 6).

6.7 | SUMMARY OF FINDINGS

Although I initially planned to conduct 10 interviews, the six interviews that were completed determined to reach saturation as all participants discussed similar findings. A conclusion drawn from the interviews was that, regardless of the client, it was the flexibility of mobile technology that allowed different work-styles and company culture and it was that flexibility that set a workplace apart from its competitors. Although mobile technology was not mentioned in the

top three requests from clients, it was significantly mentioned throughout the interviews as a reoccurring and influential factor that acts as a critical enabler for flexibility and company culture. Technology is seen to provide choice in work-styles and promotes socialization and collaboration within amenity spaces, which contributes to the culture of the company and work-life integration. Providing a choice in where to work was also shown to be a key enabler in keeping millennials engaged. Other areas of importance for millennial workplaces included environmentally friendly products, specifically the nature-based features, which were mentioned to support a higher retention rate for this generation and previous generations.

The interviews provided an in-depth understanding of the design process and brought up issues that were not mentioned in the literature that factor into the disengagement of millennial employees. For example, millennial employee disengagement can stem from clients' persistence in keeping traditional elements in the final design; financial limitations; rushed timelines for the renovation and design process; the undervaluation of greenery and biophilic design by clients; and lastly, their undervaluation of the design strategy process that requires including employee participation and revising the space for deficiencies (surveys, focus groups, visioning sessions, POE). The conclusion that all participants agreed upon is that the majority of workplaces still need to be changed, and clients that do not have an open mind in the design process will fall behind of their competitors.

CHAPTER 7 | DISCUSSION

7.1 | CHAPTER OVERVIEW

In this chapter, I discuss the significance of the findings from the literature review, the precedents, and the semi-structured interviews and triangulate them to determine how to enhance millennial employee engagement. I focus on the notion that emerged through my research: that workplace strategies that connect to millennial work values can make a positive impact on their overall job productivity and satisfaction, which are the key measures of employee engagement.

7.2 | WELL-BEING IS THE KEY TO ENGAGEMENT

Research on millennial engagement in the workplace consistently finds that this generation values flexibility (Adkins & Rigoni, 2016; Augustin, 2013; Gilbert, 2011; Gensler, 2017; HoK 2017; Deloitte, 2018; CBRE, 2014) and providing flexibility is key to their engagement in the workplace (Gensler, 2014, 2017, 2018; Hok, 2013, 2016; Truspace, 2017; PwC, 2011; CBRE, 2014; Deloitte, 2016, 2017, 2018). For millennials, flexibility should be reflected in both work-style layout options and work-life integration. The overarching design goal, however, is to achieve well-being. This generation responds well to flexible approaches that improve their physical, mental, and emotional well-being.

My investigation into workplace design and millennial preferences shows that all workplace design has the potential to enhance the engagement of millennial employees by basing it on the generation's values and expectations. The design strategies that generate the highest levels of millennial employee engagement are: (1) flexible work-style options that

accommodate casual and free address environments to support employee choice to perform collaborative or focused work, while having the option to adjust furniture as required, and (2) flexible work-life integration through amenities to support unique experience, inclusive company culture, spaces to provide continual learning, and biophilic design features to support wellness.

For employers, designers or strategists to implement successful changes, they must investigate and recognize millennials' (a) life experiences, (b) characteristics, (c) expectations and motivation, and (d) work values design strategies. To help understand how to engage millennials in the workplace I have developed the following framework of Millennial Employee Engagement (see Figure 7.1) based on my findings.

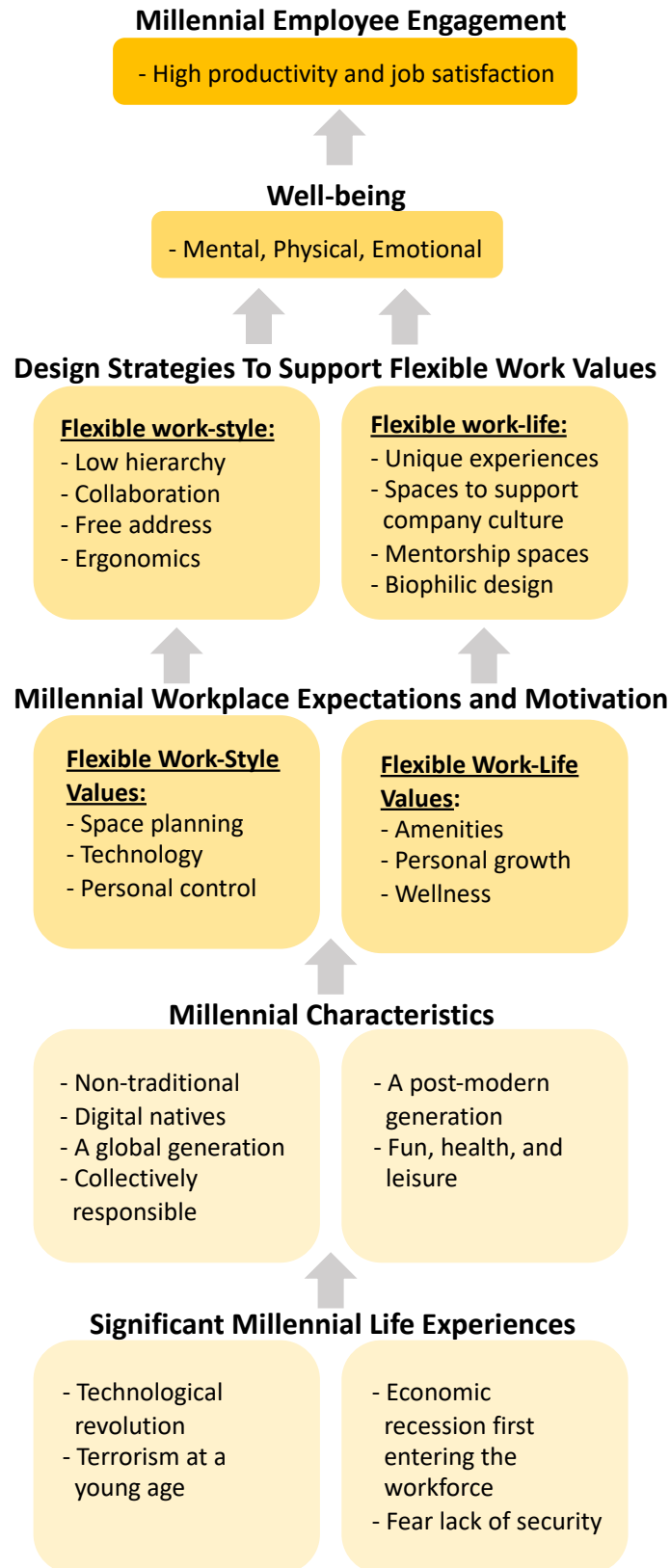


Figure 7.1: De Luca, T. (2019). Framework of Millennial Employee Engagement.

7.3 | MILLENNIAL WORK-VALUES AND FLEXIBILITY

Supporting flexible work-styles is a reoccurring theme of the modern workplace in the literature, precedents, and interviews. Millennials' life experiences and characteristics affect what they expect from the workplace. All three methods used in this thesis consistently identify (a) space planning, (b) mobile technology, and (c) personal control through ergonomics as key factors of flexible work-style design strategies.

Space planning in the workplace needs to address collaborative work, focused work, and socializing. It is interesting to note that both the discussion of spatial design in interviews and the precedents showed a shift in recent years. For example, when comparing Facebooks Building 20 and 21's workstation areas, Building 20's organic and casual space planning was not replicated in Building 21 workstations area. Building 21 workstation layout is presented in a more organized and formal layout; however, Building 21 also offers more collaborative and focus workspaces. As casual environments were mentioned to be preferred by millennials, this layout that provides a balance between formal and casual layouts which may provide insight as this generation is maturing; what changes will occur for future work-styles and how will these styles affect a space planning within a workplace.

Space planning in interviews focused on the concept of "working alone together;" in the literature, this concept is shown to derive from millennials' need to be in collaborative settings. The purpose of working alone together allows an employee to be included within the environment, with sensory stimulations, but still being able to focus on the task at hand. This concept significantly affects space planning, such as including implications of furniture selection, acoustics, and correct adjacencies that must be met to support these spaces. In contrast, this

concept is very different from space planning for a baby boomer, where the norm was to work in a private office or alone to do focused-work without any sensory stimulation.

Working alone together quiet areas in the precedents are areas biophilic elements such as the Amazon Spheres and Microsoft's treehouses. The precedence highlighted the effect of silence from employees when biophilic design elements were used in the workplace. However, nature is not the only aspect that encourages "working alone together;" a casual setting such as 3M's has relaxed furniture in areas to support working alone together. The precedent WeWork also implements this setting as a co-working space that includes a variety of work-styles to enable employees to work independently while working in a collaborative environment.

The precedents also highlighted that working alone together settings are near enclosed spaces, such as meeting spaces or phone booth areas, and collaborative settings are either open meeting settings, lounge environments, or corridors. In the interviews, discussion of focused work presented tools that mask auditory and visual distractions, such as phone booths, privacy screens, and high-back seating. Interviews highlighted the importance of these tools and adjacencies since employees were more unlikely to use a collaborative space if they felt distracting for other employees using a focus area.

Implementing mobile technology in workplaces is the critical enabler of freedom of work-styles within space planning. For example, companies like Facebook lacked alternative places to work with their mobile technology in their first iteration but addressed this need when they renovated Building 21 through more amenities and focus spaces. Interviews also mentioned that when employees do not have the freedom to move spaces when the environment no longer suits their task, it lowers engagement. The freedom provided by mobile technology enhances the

future design of workplaces, as layouts involving unassigned seating and co-working promote freedom of choice within the space. If fixed technology was placed consistently throughout the workplace, it might lead to an employee feeling pressured to be doing work at all times; therefore, the flexibility to choose posture or views promote employee well-being through choice.

Most workplaces have the basic technology they need to maintain their competitiveness; what workplaces need to focus on is including innovative sensory technology that assists in modern connectivity. For example, these might include virtual meetings, teleconferencing, technology to support collaborative working, such as digital whiteboards, and technology that let employees track each other's location in the workplace and be notified when meetings rooms, collaborative areas, or focus pods are available. As the interviews confirmed, most millennials have the latest, up-to-date technology in their homes. This level of advanced technology is expected to also be in the workplace. Interviewees also noted that when mobile technology is not included in a space, it is one of the clients' top complaints, and is linked to employee disengagement.

The ability to find a space that supports the mental, physical, and emotional well-being throughout a workplace significantly enhances the productivity and satisfaction of an employee. A preliminary example of an app developed by Architect firm NBBJ based on occupancy sensors allows employees to find nearby available working spaces. Essentially the app notifies an employee when meeting rooms, collaborative areas, or focus pods are available. The app is arranged by variables such as light, ambient noise, and the number of people around the space (Belton, 2015). This technology was not mentioned in the literature as it has not been

tested. However, this innovative app is a glimpse of future technology that supports workplace productivity and satisfaction by lowering frustration or loss in productivity when employees need to search for available workspaces that suit their task at hand. Figure 7.2 shows three screens of the app, and the display of the floor plan and general setting, so find the preferred area to support an employee work-style.

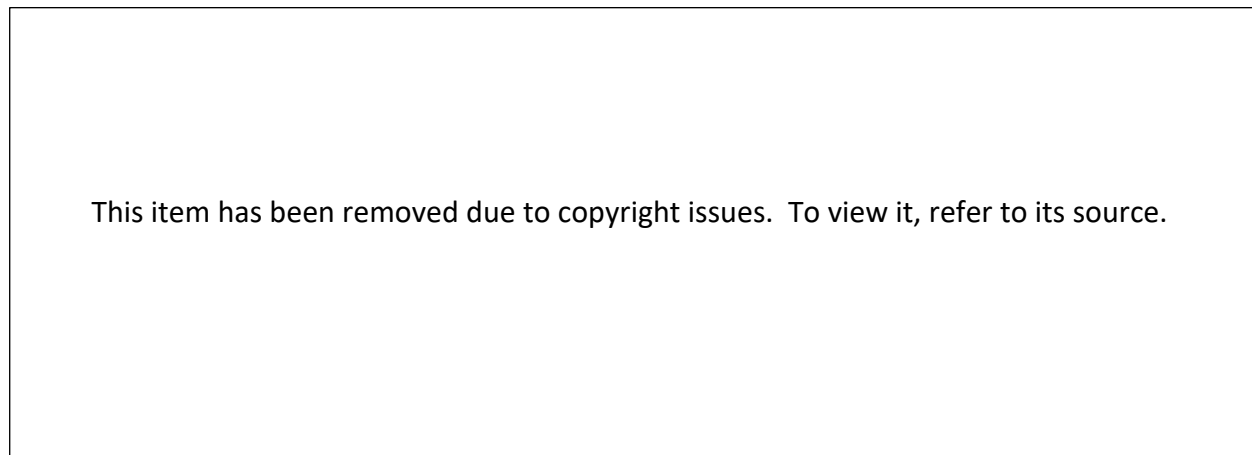


Figure 7.2: Belton, P. (2015). NBBJ sensory app. [Drawing]. Retrieved from <http://www.bbc.com/news/business-32523448>.

Employee choice of work-style was consistently seen as related to improving employees' well-being through ergonomics (Timm et al., 2018). Further, the literature review, interviews, and precedents highlight the importance of ergonomics; specifically, the use of sit-stand desks that are intended to support millennials' flexible work-styles and well-being values. For example, the 3M, Facebook, Slack, and WeWork workplaces all utilized sit-stand desks for workstations. However, interview participants also mentioned that some workplaces implement this desking option, but only a small percentage of employees use it. Therefore, this finding highlighted that what a company or an employer presumes to be an effective strategy may not be successful in application. However, the lack of alternative posture options for millennials was

not mentioned in precedent and literature, which made it difficult to speculate on whether employees were using this desking option. For example, the RAAAF study found that when given a chance, the younger generation does tend to sit in various postures. This gap between methods shows the need for more improved knowledge transfer between practitioners and academic researchers. It would be effective if most companies achieved a pre- and post-occupancy evaluation to reinforce the organizational and physical changes needed within a workplace, specifically, for employers to gain insight on the effects of each strategy on their company culture.

It is interesting to note that the academic literature did not focus on company culture; this concept was added from findings of the precedents and interviews. The importance of company culture was the number one reoccurring design implication across all interviews and was consistently highlighted in each of the precedents. In each precedent, the workplaces connected company culture to reflect their community and the goal of the workplace. For example, 3M's open concept embraced the communities of Minnesota's lake region by including a cabin-style meeting room and a town hall meeting space. The main interior design strategies throughout each precedence that enhanced company culture within a workplace revolved around amenity spaces that provided unique experiences through social settings and areas that supported well-being.

The literature highlighted that start-up companies normalized amenity spaces as a "play place" (Thompson, 2011). In the precedents and interviews, amenity strategies were achieved by forming flexible spaces that can be multi-functional and offer a variety of choice to accommodate individual needs. Further, the interviews and precedents both associated "play place" with

“unique experience.” “Playspace” has evolved from ping-pong tables where employees had “fun,” to now unique experiences that provide employees with personal growth and well-being. For example, within Facebook’s Building 20 design, a lack of flexible work-styles, unique experiences, and inadequate adjacencies towards the rooftop garden resulted in the rooftop space having low employee use. However, Facebook’s Building 21 design strategies offered multiple opportunities for different work-styles to form a multi-functional space by connecting the rooftop to the primary workplaces near workstations. Due to the multi-functionally and appropriate adjacency, the rooftop was reported to be used more often. Each environment presented within the precedents forms a casual aesthetic that shapes a flat hierarchy and a transparent experience.

Biophilic design is a key strategy, found in the literature and the precedents, that supports employee well-being. Interestingly, biophilic design and well-being are important factors in millennials’ workplaces, more for than previous generations, as they grew up with technology, which contrasts highly with nature. Working so closely with technology may ignite a stronger drive to be closer to nature and biophilic elements; this may be to satisfy the human need to be in natural environments, as per our evolution.

All precedents highlighted the importance of biophilic design elements such as green walls, plants, natural light, natural materials, and green roofs. In contrast, although literature highlighted biophilic design valued by millennials, there was a disconnect with employers adopting the strategies discussed in the interviews. Almost all interviewees mentioned that there were few requests for a nature-based design. However, all interviewees anticipate that the demands of the future workplace will require a connection to nature within the workplace. It is

possible that as the benefits of biophilic design become more widespread, the “treehouses” and “biospheres” that appear so unusual and in today’s large technology companies, will become the norm.

The interviews also revealed that the main limitation when designing for millennials is not the millennial generation itself, but the traditional beliefs held by clients and employers, timelines, and resistance to designing for a specific generation. These key findings are not mentioned in the academic literature. Further, the academic literature claims that workplaces are falling behind in employee engagement as current workplaces have traditional settings (Kratz, 2013; Birkman, 2016; Shellenbarger, 2018). However, the academic sources fail to mention that the main reason for this is that clients do not see that significant changes are needed, and their work values do not align with millennials’. Additionally, the academic literature creates a perception that work can be designed specifically for one generation. Although there are scholarly sources that provide information about multiple generations in the workplace, the literature still seems to imply that millennial workplaces are a norm. The interviews highlighted that this is a rare occurrence and that generally, the design process needs to include all generations of employees.

In order to achieve a high form of millennial employee engagement, employers may consider the use of data collection to support evidence-based design such as surveys, occupancy sensors, spatial utilization, focus groups, and interviews to understand the uniqueness of employee’s work-styles and work-life connection to the workplace. These methods listed can apply evaluation of the design strategies discussed in Chapter 4 to achieve an overall understanding of millennial work-values within the workplace being renovated. The survey (see

Appendix F) provides questions of the design strategies that are divided into two categories, work-style and work-life. Within each area, questions that help elicit conversation or evaluation and prompt further employer, designer, or workplaces strategist insight to a millennial employees' work-values that may help reveal practical outcomes for engagement. The survey (see Appendix G) is a general example based on the key findings of this study; it must be emphasized that it has not been tested and should be used only as a guideline. Future research should attempt to formulate a general questionnaire similar to the survey (see Appendix G) in order to allow for analyzable results.

This survey focuses on the key findings of this thesis and practical applications. The survey questions give voice to millennial employees and offer adaptable strategies for a variety of workplaces. Employers and designers may find these questions useful to initiate the process of renovating a workplace that will engage their millennial employees and potential hires. These questions are also adaptable to other generations; however, they embrace the work values of millennials. Further, these questions focus on the design strategies that have been shown throughout my thesis to support millennial employees to work productively to achieve overall satisfaction within the workplace. Therefore, as flexibility has been discussed as the key strategy to enhance millennials employee engagement through design implications of well-being, the questions throughout this survey also provide opportunities for other generations to speak on which layouts and design strategies best suit their work-style and work-life to provide overall generational engagement in the workplace.

7.4 | DESIGN STRATEGIES TO ENGAGE MILLENNIALS

In summary, the main design strategies to engage millennials that emerged from this thesis investigation are as follows:

Flexible Work-style:

1. *Provide collaborative settings.* Form casual, collaborative settings that accommodate mobile technology for a variety of tasks.
2. *Provide mobile and innovative technology.* Provide equipment, connectivity and power supply everywhere to allow employees the flexibility and freedom to select where, when, and how to work.
3. *Provide a variety of settings.* Give employees choices to best suit their individual work style.
4. *Provide working alone together space.* Provide more opportunities for employees to do focused work, acoustically separated, but in the same space together.
5. *Provide personal control.* Allow employees to adjust their posture to accommodate for their task at hand; for example, by using sit-stand desks.

Flexible Work-life:

1. *Enhance company culture.* Provide employees space to socialize through amenity spaces or large multi-purpose meeting rooms.
2. *Help personal growth.* Provide designed areas for small personal meetings. Millennials want a mentor who will guide them, to assist in difficult times, and to help them advance

their career. These spaces may contribute to ease of communication and encourage workplace meetings between mentor and mentee.

3. *Integrate nature and wellness.* Provide a biophilic design features such as natural light and views of nature to help reduce stress promote wellness.

CONCLUSION

This thesis study seeks to address the problem of low millennial worker engagement through interior design. It is hypothesized that current workplaces, designed primarily with baby-boomers in mind, do not align well with what millennials require and value. Millennials are set to comprise 75 percent of the global workforce by 2025 (U.S. Bureau of Labour Statistics, 2017; Deloitte, 2016; Pew Research, 2015). This is a significant constituency whose needs workplace designers and their commercial clients must understand and address.

The methods used in the investigation included literature review, precedent analysis, and interviews with workplace design experts. The literature review of historical workplaces and ways of working served to help define and differentiate millennial workers from other generations. The literature review of millennial work values and related workplace strategies helped to identify how worker satisfaction and productivity could be improved through design. The precedents illustrated how these design strategies are currently being deployed in large and small workplaces directed at millennial workers. The workplace design experts interviewed revealed the opportunities and challenges of implementing the proposed strategies in practice.

The findings of each investigation of this thesis study converge upon the idea that compared to previous generations, the key to engaging millennials is providing flexible work environments that support well-being. Flexible design strategies support well-being by providing choices in both work-style and work-life integration.

When millennial employees are given a variety of layout and technology options that support different ways of working, employee satisfaction and productivity appears to improve. This conclusion is based on evidence drawn from all three lines of this thesis investigation:

literature, precedents and interviews. Interior design strategies that promote work-style integration are open, transparent spaces that encourage collaboration, acoustically separated spaces that allow for focused work, wired for the use of mobile technology, and have adaptable, ergonomic furnishings. These strategies are flexible in a way that allows millennial employees to connect to the workplace and other employees while giving them the option to adjust or choose a workstation that best suits their task or work-style.

The literature review revealed that millennials prefer work-life integration rather than work-life balance. Achieving integration of employee professional and personal life in the workplace is challenging, according to workplace experts interviewed, particularly because it has a lot to do with company culture. Work-life integration strategies often involve focusing on what is important to employees in order to enhance their personal fulfillment. These design strategies work best with a horizontal, non-hierarchical company culture, that prioritizes wellness, personal growth and mentorship. Workplaces that integrate work-life include amenity spaces to socialize with co-workers, spaces for collaboration and professional development, and biophilic design features to contribute to the overall well-being of an employee. By including such flexible work-life spaces, employees can fulfill both social and educational needs, and reduce workplace stress.

Taken together, addressing both work-style and work-life expectations through flexible workplace design has been shown to provide millennials with mental, physical, and emotional well-being. Flexible design strategies allow the millennial worker to choose the workspace that works best for them. My findings conclude that it is essential to provide flexibility, in a variety of forms, in workplace design for millennials. It is acknowledged that some companies may not have the funding or time to pursue all of the interior design strategies recommended in this

thesis; however, increasing flexibility for employees in even a small way may contribute to improving millennial employee engagement. While the literature review revealed the importance using research evidence to inform the choice of workplace strategies, the interviews with workplace experts, suggests that it is also important to invite employees to participate in the design process itself through focus groups and surveys. In this way designers and clients can prioritize which approaches will have the biggest impact. Change management and employee education are also processes that were highlighted in this thesis to be important in ensuring that any new workplace strategies are accepted and effectively used.

FUTURE RESEARCH

Suggestions for future research in this topic would be to improve knowledge sharing between academia and practice. Measuring the impact of employee engagement (employee productivity and satisfaction) in design is difficult because of confounding factors such as poor management may be the cause of disengagement rather than the workplace design. There is a need, therefore, to develop clear definitions and metrics to measure employee engagement (Kompaso, 2010). Most evidence provided for designers and employers on the topic of design for millennials is currently constructed from polling firms and business consultancies (Kompaso, 2010). Academic literature tends to focus on the negative cost of disengaged employees in a workplace (Markos & Sridevi, 2010; Hester, 2013; Bogosian & Rousseau, 2017), but does not discuss the financial cost of implementing these strategies in practice (Othman et al., 2018). Future research needs to explicitly reveal financial costs, so that designers and their clients will be able to understand the cost-benefit of workplace design strategies intended to engage millennial employees. This will not be an easy to achieve because it may require a culture shift in

design practice itself, where unlike academia, knowledge that can provide a competitive advantage is not shared. In trying to find precedents for this study, most workplace descriptions in trade magazines aimed at professionals or clients did not include any research evidence that would show that the designed spaces improved satisfaction and productivity amongst millennials. In some cases, I was able to cross-reference to academic or interview sources, however, without third-party validation, such as a post-occupancy evaluation, there would be no way to know if recommended strategies actually improved engagement.

Finally, this thesis study is based on the work values identified for today's millennials. Future researchers should investigate how millennials' work values change over time as they age, marry, and have children. Millennials may come to want more daycares or more or even more flexible working options. It will also be interesting to see how millennials change over time and which emerging technologies will result in new work values and expectations. In order to achieve that end, future studies should include interviews and surveys with more participants, including millennials themselves.

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APPENDICES

APPENDIX A: UNIVERSITY OF MANITOBA RESEARCH ETHICS BOARD APPROVAL



Research Ethics
and Compliance

Human Ethics
208-194 Dafoe Road
Winnipeg, MB
Canada R3T 2N2
Phone +204-474-7122
Email: humanethics@umanitoba.ca

PROTOCOL APPROVAL

TO: Tasha De Luca (Advisor: Shauna Mallory-Hill)
Principal Investigator

FROM: Kevin Russell, Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol J2017:114 (HS21348)
“Advancing Workplace Interiors: Engaging Millennials in the Corporate Setting”

Effective: January 17, 2018

Expiry: January 17, 2019

Joint-Faculty Research Ethics Board (JFREB) has reviewed and approved the above research. JFREB is constituted and operates in accordance with the current *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*.

This approval is subject to the following conditions:

1. Approval is granted only for the research and purposes described in the application.
2. Any modification to the research must be submitted to JFREB for approval before implementation.
3. Any deviations to the research or adverse events must be submitted to JFREB as soon as possible.
4. This approval is valid for one year only and a Renewal Request must be submitted and approved by the above expiry date.
5. A Study Closure form must be submitted to JFREB when the research is complete or terminated.
6. The University of Manitoba may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans*.

Funded Protocols:

- Please mail/e-mail a copy of this Approval, identifying the related UM Project Number, to the Research Grants Officer in ORS.

Research Ethics and Compliance is a part of the Office of the Vice-President (Research and International)
umanitoba.ca/research



Research Ethics
and Compliance

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RENEWAL APPROVAL

Date: January 11, 2019

New Expiry: January 17, 2020

TO: Tasha De Luca (Advisor: Shauna Mallory-Hill)
Principal Investigator

FROM: Julia Witt, Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2017:114 (HS21348)
Advancing Workplace Interiors: Engaging Millennials
In the Corporate Setting

Joint-Faculty Research Ethics Board (JFREB) has reviewed and renewed the above research. JFREB is constituted and operates in accordance with the current *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*.

This approval is subject to the following conditions:

1. Any modification to the research must be submitted to JFREB for approval before implementation.
2. Any deviations to the research or adverse events must be submitted to JFREB as soon as possible.
3. This renewal is valid for one year only and a Renewal Request must be submitted and approved by the above expiry date.
4. A Study Closure form must be submitted to JFREB when the research is complete or terminated.

Funded Protocols:

- Please mail/e-mail a copy of this Renewal Approval, identifying the related UM Project Number, to the Research Grants Officer in ORS.

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umanitoba.ca/research

**APPENDIX B: UNIVERSITY OF MANITOBA RESEARCH ETHICS BOARD APPROVAL
– INTERVIEW AMENDMENT**



Human Ethics
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AMENDMENT APPROVAL

May 3, 2018

TO: Tasha De Luca (Advisor: Shauna Mallory-Hill)
Principal Investigator

FROM: Kevin Russell, Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2017:114 (HS21348)
Advancing Workplace Interiors: Engaging Millennials in
The Corporate Setting

Joint-Faculty Research Ethics Board (JFREB) has reviewed and approved your Amendment Request received on April 30, 2018 to the above-noted protocol. JFREB is constituted and operates in accordance with the current *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*.

This approval is subject to the following conditions:

1. Approval is given for this amendment only. Any further changes to the protocol must be reported to the Human Ethics Coordinator in advance of implementation.
2. Any deviations to the research or adverse events must be submitted to JFREB as soon as possible.
3. Amendment Approvals do not change the protocol expiry date. Please refer to the original Protocol Approval or subsequent Renewal Approvals for the protocol expiry date.

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umanitoba.ca/research

APPENDIX C: FINAL INTERVIEW RECRUITMENT EMAIL SCRIPT

Dear [Participant],

I am reaching out to you today to ask you if you would be willing to participate in a 30-60 minute interview regarding design for millennials in the workplace. I am in the Faculty of Architecture, and I am doing my Masters in Interior Design.

The title of my thesis is "Advancing Workplace Interiors: Engaging Millennials In The Corporate Setting." I will be exploring how the design of workplace support the needs and values of the millennial workers. My thesis will be published online on Mspace and may be presented at multiple conferences. Your knowledge in transformational workplace strategies and futuristic approach aligns with my thesis that design can help support people to do their work and influence their behavior and identify the factors that create engaging environments.

In my thesis, I am particularly interested in exploring the relationship between design and enhancing employee engagement, which according to research the lack of engagement is of particular concern to organizations who wish to attract and retain millennial workers. Therefore, your professional opinion about offices that you have worked on that attract and retain millennials will be the focus of the interview.

The interview can be your choice of either Skype or phone call. You can also choose a date and time that works best for you. Please let me know if you have any further questions. Your participation will be greatly appreciated!

Sincerely,
Tasha De Luca Graduate
Student Masters of Interior Design Faculty of Architecture,
University of Manitoba

Research Project Title: Advancing Workplace interiors: Engaging Millennials in the Corporate Setting

Principal Investigator and contact information: Tasha De Luca
(delucat3@myumanitoba.ca)

Research Supervisor and contact information: Dr. Shauna Mallory-Hill (s.mallory-hill@umanitoba.ca)

APPENDIX D: INTERVIEW INFORMED CONSENT FORM

Research Project Title: Advancing Workplace Interiors: Engaging Millennials in the Corporate Setting
Principal Investigator and contact information: Tasha De Luca (delucat3@myumanitoba.ca)
Research Supervisor and contact information: Dr. Shauna Mallory-Hill (s.mallory-hill@umanitoba.ca).

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Thank you for your interest in participating in the Advancing Workplace Interiors: Engaging Millennials in the Corporate Setting interview. This interview is conducted by Tasha De Luca from the University of Manitoba, under the supervision of Dr. Shauna Mallory-Hill (s.mallory-hill@umanitoba.ca).

The goal of this thesis study is to understand better the impact of environments that affect the engagement of millennials in a workplace setting.

Your input will be collected through an approximately 30-60-minute interview with the principal investigator which will ask you a series of questions related to designing workplaces for millennials. Your participation in this interview is completely voluntary. During the interview, you can choose to answer or skip questions. With your permission, the interview may be recorded to ensure accuracy. Unless agreed otherwise, the information gathered will be anonymous and identified only by number. Following the interview, a copy of the interview transcript will be sent to you to correct any inaccuracies and to identify details that you may feel could compromise your anonymity. Please review the interview transcript before April 30th, 2018, if not received by this date it will be assumed that you approve the final for the use of your material. After June 1, 2018, your interview transcript will be final and cannot be withdrawn.

You have the right to withdraw from the interview at any time. If at any time after the interview you would like to withdraw from the study, please email either Tasha De Luca at (delucat3@myumanitoba.ca) or Dr. Shauna Mallory-Hill (s.mallory-hill@umanitoba.ca) to withdraw with no prejudice or consequences. Your interview data will immediately be destroyed if you chose to withdraw. There are no known risks of participating in this interview. You will be able to access the information on <https://mspace.lib.umanitoba.ca> in September 2018. This study has been approved by the University of Manitoba Joint-Faculty Research Ethics Board. If you have any concerns, you may contact human ethics via email: humanethics@umanitoba.ca.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

This research has been approved by the Joint-Faculty Research Ethics Board. If you have any concerns or complaints about this project, you may contact any of the above-named persons or the Human Ethics

Coordinator at 204-474-7122. A copy of this consent form has been given to you to keep for your records and reference.

Please sign (digitally or print and scan) below as appropriate:

By continuing and completing the interview, you are consenting to participate in this study.

Participant's Signature _____ Date _____

You may use my name alongside statements and quotations that I have contributed.

Participant's Signature _____ Date _____

Thank you for your assistance. Please save a copy of this form for your records and send signed copy by email to Tasha De Luca (delucat3@myumanitoba.ca) before the interview date.

APPENDIX E: INTERVIEW GUIDE QUESTIONS

Introduction

Before the interview starts I need your permission again for the interview. Do you consent to be in the interview [yes/no] Do you consent to have to interview audio recorded [yes/no]

Describe the project

This study intends to benefit current and future workplaces for millennials that support environments where employees have a good quality of life at work. The results of this research will assist interior designers in designing work environments that will attract, retain, motivate, and engage millennial workers. The study will investigate what millennials value within a work environment, evaluate current workplace designs that are directed towards millennials, and identify key strategies that engage millennial employees.

This interview will revolve around three main questions:

1. What are current workplace design strategies that are directed towards millennials?
2. What do millennial workers value in the workplace?
3. What engages and disengages millennial employees in the workplace?

Defining engagement: Environments that help millennial employees feel productive and positive.

Rational	Question and probes
Question to determine skill level of designer	1. How long have you been in practice? a. I understand your firm has been involved with designing workplaces for millennial employees, what has been your role in those projects?
Question to determine the participation of millennials in the design process and the designer's knowledge of the client	2. Can you tell me about your process for designing for millennials i.e. how do you know what they need and what their values are? <i>Probe: Survey, independent research – which sources</i> 3. Are the millennial employees of the client typically involved in the design process? i.e. Via survey or attend client meetings. a. What is their main purpose in your process?
Question to determine why clients are changing their current workplaces	4. What are the top three things that clients are asking when they come for you to design their workplace ¹ ? a. Are any of these things specifically related to attracting and retaining millennial employees? b. In existing spaces that you have renovated is there anything specific your clients said were not working well in their workplace? c. What have clients said worked well in pre-existing spaces?

¹ Interior Design terms i.e. workplace, space and environment etc. will be replaced towards Product Designers and according terminology will be used i.e. system furniture, products and material etc.

	<p><i>Probe: Generational diversity, not enough amenities, closed space, workstation space, lack in color or graphics</i></p> <p>5. In their existing workplaces, what do clients feel is not working in their workplaces?</p> <p>a. What features do they feel works well?</p> <p><i>Probe: Generational diversity, not enough amenities, closed space, workstation space</i> <i>color or graphics.</i></p>
Question to determine an understanding of specific spaces that are crucial for engagement for millennials	<p>6. In your experience what is the most crucial spaces to include in a workplace to enhance engagement, in other words, environments that help millennial employees to feel positive and be productive?</p> <p>b. Why are these crucial?</p> <p><i>Probe: Amenities – cafeteria , exercise facility, private spaces</i> <i>Relaxation areas, nap rooms, phone booths</i></p> <p>7. Can you tell me about what are some of the re-occurring design features that you have implemented when designing for millennials.</p> <p><i>Probe: Flexible workstations, more workspace variety, sense of control, office furniture, size of work station, mobile workstations technology – computer equipment, amenities, flattening hierarchy, more open plans, ergonomic personalization , color or graphics</i></p>
Question to determine design strategies for millennials well-being features	<p>8. Are there any specific design strategies that you or the design team include to promote physical, cognitive and emotional well-being.</p> <p>a. Can you please explain how you implement them</p>
Questions to determine the importance of Indoor Environmental Quality (workplace comfort) for millennials	<p>9. How important is indoor environmental quality for millennial workers? <i>i.e. ventilation, temperature, lighting, ambient noise/privacy</i></p> <p>a. Do you try to provide personal control of environmental conditions?</p> <p>10. In your experience is spatial design (workspaces, meeting rooms, break out spaces etc.) changing to suit the way millennials work?</p> <p>a. If so, how?</p>
Question to determine how designers created open and closed levels of spatial design – knowledge transfer	<p>11. How is concentration implemented within your designs?</p> <p><i>Probe: How is it implemented, system furniture walls, sound barriers, indivial work stations, relaxation areas, nap rooms, phone booths</i></p> <p>12. How do your design evoke collaboration among employees within your designs?</p> <p><i>Probe: multi-functional space, flexible seating, lounges, break rooms, game rooms</i></p>

	<p>13. Based off the two previous questions i.e. concentration and collaboration, have you ever noticed a significant design factor that engages millennial employees? – in your designs or any examples you can remember.</p> <p>14. Again, based off the two previous questions i.e. concentration and collaboration, have you ever noticed a significant design factor that disengages millennial employees? – in your designs or any examples you can remember.</p>
Question to determine if green design strategies has an impact on design decision making	<p>15. How important is environmentally friendly design in workplaces for millennials? a. How have you implemented it within your designs?</p> <p>16. How important is community-based/giving back design in workplaces for millennials? <i>Probe: not just a job but also gives back to the community i.e. rooftop garden, using solar energy, gives to homeless or supports schools in poverty</i> a. How have you implemented it within your designs?</p> <p>17. Have you ever received a request for biophilic or nature-based design features? a. How have you implemented it within your designs?</p>
Question to determine how hard or easy are the changes to implement	<p>18. Do you remember an occasion where there were limitations when designing for a millennial workplace? <i>Probe: do you have any further examples of this?</i></p> <p>19. In your professional opinion do you think major changes are needed, or simply small tweaks to current workplaces are needed to suit millennials needs and values?</p>
Question to determine and actual impact of design	<p>20. Have you done a post-occupancy evaluation on any of your workplaces? a. If so, how effective were the strategies? <i>Probe: positive or negative</i></p>
Concluding questions to provide opportunity for additional information	<p>21. Besides the topics that we've discussed, is there any other key design strategies that help improve employee productivity and positivity in the workplace?</p>

APPENDIX F: SUMMARY OF MOTIVATION IMPLICATIONS

Value	Significance	Main functions	Implications
Flexibility	- Millennials now represent the highest working cohort that seeks the flexibility of where, when, and how they work (Webster, 2018).	- The ability of employees to make choices of where, when and how they work.	- Refer to work-style and work-life integration implications (yellow and green section)
Flexibility of Different Work-styles	- Environments that support flexibility grow by 30% or more annually.	<ul style="list-style-type: none"> - Provides freedom to create loyal employees. - Supports remote workers. - Accommodates different work-style for privacy, focus, collaboration, and rejuvenation (Soloist-Style, Mixed-Style and Mobile Mixed). - Each employee has different ergonomic needs while working. - Shows the organization value and trust their employees. - Enhances company culture. - Allows for workers not to be desk-bound. - Enables personal growth, work-life integration, and wellness. - Promotes circulation. 	<ul style="list-style-type: none"> - Personal technology (laptop, tablet, headset). - Group technology (Digital Whiteboards, VR). - Desk Hoteling. - Quiet areas (phonebooths, nap rooms). - Collaboration areas (lounges, meetings space, touchdowns). - Ergonomic furniture (variety of postures offered).
Collaboration	- 71% prefer team environments compared to 28 percent of non-millennials (Smith and Tuner, 2015).	<ul style="list-style-type: none"> - Allows for a more frequent encounter with employees - Eliminates barriers to community culture and collaboration - Creates an approachable atmosphere - Supports brainstorming, collaboration, teamwork, and belonging 	<ul style="list-style-type: none"> - Create according to adjacencies - Collaboration areas further from workstations - Refer to section 4.5

Value	Significance	Main functions	Implications
Technology	<ul style="list-style-type: none"> - More than 80% of millennials specified workplace technology would influence their decision. - Productivity levels rose by approximately 50% as a result of using their digital tools (Smith and Turner, 2015). 	<ul style="list-style-type: none"> - Allows for workers not to be desk-bound - Provides ease for presentations, sharing information, collaborating, completing tasks, discover, learning, health and wellness. - Becoming more efficient in employees work, manage, organize, use products, and communicate. 	<ul style="list-style-type: none"> - Tablets, Laptops - Whiteboard Screens - Presentation screens
Personalization	<ul style="list-style-type: none"> - Millennials spend most of their time hunched over a desk, staring at a screen, more than any other generation (Truspace, 2017). - Satisfaction levels increase 10 -15% when a workplace provides a variety of choice (CBRE 2014). 	<ul style="list-style-type: none"> -To enhance employees productivity levels - Supports employee wellness - Able to personalize depending on work-style 	<ul style="list-style-type: none"> - Sit-stand desk - Adjustable chairs and desk - Provide movable applications of furniture
Lowering Hierarchy	<ul style="list-style-type: none"> - 59% of millennials value transparencies in communication as they believe it is critical to achieving their organization's goals. 	<ul style="list-style-type: none"> - Clear view of the workplace which enhances collaboration - Enhance equality - Proves a team environment 	<ul style="list-style-type: none"> - Provide more agile furniture - Glass partitions - Open plans - Able to use executive offices as team meeting space
Flexibility of Work-life Integration	<ul style="list-style-type: none"> - Work-life conflict is connected to depression, substance abuse, hypertension, and overall poor physical health (Webster, 2018). 	<ul style="list-style-type: none"> - Supports childhood experiences in team environments 	<ul style="list-style-type: none"> - Flexibility - Technology - Amenities - Experiences - Wellness

Value	Significance	Main functions	Implications
Amenities	- 36% of millennial workers want an amenity, and only 15% have access to one (Richardson, 2017).	<ul style="list-style-type: none"> - Allow staff to connect on a personal level that creates a sense of belonging - Aids millennials' healthy lifestyle - Rejuvenates employees - Provides wellness - Limits travel time on lunch - Supports face-to-face interaction 	<ul style="list-style-type: none"> - Varies per company culture - Lounges, coffee bars, game rooms, outdoor patios, fitness area, etc.
Experiences	- Millennials are 35% more likely to focus on unique experiences compared to other generations (Smith and Tuner, 2015).	<ul style="list-style-type: none"> - Encourages a team building environment - Encourages socialization between workers - Builds a community and connection within the workplace 	<ul style="list-style-type: none"> - Amenities - Relaxing and rejuvenating environments
Company culture	- Inclusive culture boosts engagement to 83% for millennials compared to 60% when culture is not fostered in their organization (Smith and Tuner, 2015).	<ul style="list-style-type: none"> - Enhances “connectedness that facilitates teaming, collaboration, and professional growth, and positively affects major business outcomes” (Deloitte, 2016). - Allowing employees to understand the mission and vision of the organization - Feel as if they are a part of something making a positive change 	<ul style="list-style-type: none"> - Flexibility - Technology - Newsletters - Mentorship - Flattening hierarchy - Collaboration - Amenities - Townhalls - Give back programs - Socialization - Environmentally responsible
Personal Growth	- Eight in 10 millennials find personal growth important in their workplace (Deloitte, 2018).	<ul style="list-style-type: none"> - Development of the individual - Improving employee’s skills - To advice further in career 	<ul style="list-style-type: none"> - Flexibility - Technology - Mentorship - Lowering Hierarchy - Collaborative environment’s - Amenities

Value	Significance	Main functions	Implications
Mentorship	- Millennials value mentorship due to their expectation constant feedback and continuous learning .	- More accessible for an employee to collaborate, strengthen company culture - Creates a casual work environment - Satisfies the need for constant feedback	- Provide more agile furniture - Sharing large worktables - Touchdown surface - Lounge environment
Wellness	- It does not only improve employee health but has shown to increase productivity to about 20% .	- Provides visual, audible, and physical well-being factors - Rejuvenates employees	- Flexibility - Technology - Amenities - Experiences - Personalization - Biophilia
Biophilia	- "about 30% of millennial employees want green space in their building, but just about 14% of employers provide it" (Richardson, 2017, para. 18).	- Greenery naturally reduces stress - Improves indoor air quality - Creates natural engagement - Implementing daylight and greenery in a workplace has shown to increase productivity and increase wakefulness by 25 points (Sanchez et al., 2018). - Positive impact, towards their well-being and also their community by embracing nature.	- Green/living walls or rooftops - Access to natural light - Place workstations and collaborative areas near windows - Incorporate natural materials

APPENDIX G: SUGGESTED QUESTIONS TO ASK MILLENNIAL EMPLOYEES, BY TASHA DE LUCA

Flexible Work-Styles	Questions to form design strategies for the workplace
Space planning	Which layout is most effective for the workplace culture within the company? <ul style="list-style-type: none"> - Open plan - Semi enclosed - Unassigned seating - Co-working
Work-style type	How often are you at your desk? <ul style="list-style-type: none"> - Soloist-style worker: Spend 60% or more at their desk performing more focused - Mixed-mobile style worker: Spends 60% or more away from their desk performing a combination of focused and collaborative work - Mobile-style worker: Spends less than 40% of their time in the office performing more collaborative work
Work-style environments layouts	Which environments best suits your workstyle? (Pick as many as apply) <ul style="list-style-type: none"> - Individual enclosed room - focus work - Problem solving and alternative posture - focus team work - Privacy partitions - focus team work - Enclosed focus work and collaborate - team collaboration - Touchdown space and presentation - team collaboration - Open benching with storage - focus team work/ collaboration - Amenity space for lounging and debriefing - team collaboration - Touch down areas - team collaboration - Hoteling areas locker options - focus team work/collaboration
Low Hierarchy	Which do you prefer to lower hierarchy within your workplace? <ul style="list-style-type: none"> - Transparency - Shared space - Casual work space - Other _____
Collaboration	Which arrangement of collaboration do you do most often? <ul style="list-style-type: none"> - Chat - Show and Tell - Converse - Process and respond - Contemplate - Create - Huddle - Divide and Conquer - Co-create
Technology	Which forms of technology do you prefer to use? <ul style="list-style-type: none"> - Laptops - Tablets - Digital white boards - Apps to indicate available workspaces - Apps to locate employees

	- Other _____
Office use	Do you prefer to work away from the office? - Yes No
Ergonomics	Select the furniture that best reflects your posture during the day - Sit-stand style desk - Flux style alternative seating (in-between seat) - Soft style seating - Fixed furniture, with choice of different use
Flexible Work-Life Integration	Questions to form design strategies for the workplace
Amenities	Select below the amenity spaces that you use or would like to use. - Rest areas - Game rooms - Wellness facilities - Green space - Daycare facilities - Convenience stores - Other _____ - Fitness facilities
Experiences	How often do you socialise with your coworkers (1 lowest and 5 greatest)? 1 2 3 4 5
Company culture	Please indicate what you would like to see more of within your company culture _____
Personal growth	How do you prefer to receive feedback? - Face to face - Digitally
Wellness	Please indicate which elements of wellness is most important to you _____
Biophilia	Please select which biophilic design you like in your workplace - Greenery/ plants/ living walls - Natural materials - Accesses to natural light - Green roof or outdoor gardens

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