

HOW MILLENNIALS, GEN Z, AND TECHNOLOGY ARE CHANGING THE WORKPLACE DESIGN?

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Abstract

Today's youth population is consisted from two generations: Millennials and Generation Z. It is expected that these two generation cohorts will dominate workplace environments by 2025. Companies will need to have a workplace they would like to work in. Digital technology, changing lifestyles and an emphasis on company culture have had a significant influence across every industry. The evolution of technology and the Internet, in particular, are transforming the workplaces and the world of work in general. The entrance of these younger generations into the workforce is further impacting the way companies organize themselves, communicate, and conduct business. In terms of workplace design, there is a responsibility to respond to these evolving needs with spaces that empower both, people and businesses. A debate and interest regarding this issue, especially from the socio-technical theory/perspective, human resource management and strategic management are highly required and expected in academic and business communities.

Keywords

Socio-technical theory, human resource management, strategic management, generational differences, technology, workplace design

1. Introduction

Socio-Technical Systems Design (STSD) methods are an approach to design which consider human, social and organizational factors, as well as technical factors in the design of organizational systems [1]. According Bednar & Welch [2] “effectiveness in any purposeful activity is a socio-technical phenomenon” and “in contemplating design of work and/or organization, a systemic perspective is needed”. Every aspect of socio-technical change requires a human-centered design perspective, whether work systems comprise people-to-people interactions, machine-to-machine interactions, or combinations of both [3].

On the other hand, human resource management is defined as “a strategic and coherent approach to the management of an organization's most valued assets – the people working there who individually and collectively contributes to the achievement of its objectives” [4] and strategic management “as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives” [5]. This definition implies “strategic management focuses on integrating management, marketing, finance/accounting, production/operations, research and development, and information systems to achieve organizational success” [6].

With work itself changing, the organizational structures and systems within which it is done changing, the character of the workforce changing, and the tools used to do work changing, the physical spaces in which work occurs must change as well [7]. However, there is scant attention paid to workplace design and its implications for business strategy and success. Academics generally

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ignore the effects of workplace design in their research on work and the organization of work, and practitioners rarely tie workplace design to their business strategies or to the performance of their organizations [8].

The workplace (re)design examines people, systems and processes, results, and the culture of the workplace to result in increased efficiency, potential financial savings, and employee well-being and satisfaction. The model that workplace (re)design follows is: getting started, planning the changes, making the changes, and finally sustaining the changes that were made [9]. But it's important to note that the *role* of the workplace hasn't changed; it remains the primary space where business strategy is delivered. What has changed, however, is the *way* these business strategies are delivered – which requires much more adaptability, flexibility, speed and collaboration.

Workplace design is a highly iterative, messy, and never-ending process that (according to the management literature) involves four dimensions depicted in Figure [10]: financial management, organizational design, information technology, and facilities management. Workplace design, centered among these four dimensions, must integrate the goals, objectives, and considerations of each dimension to successfully support business strategy.

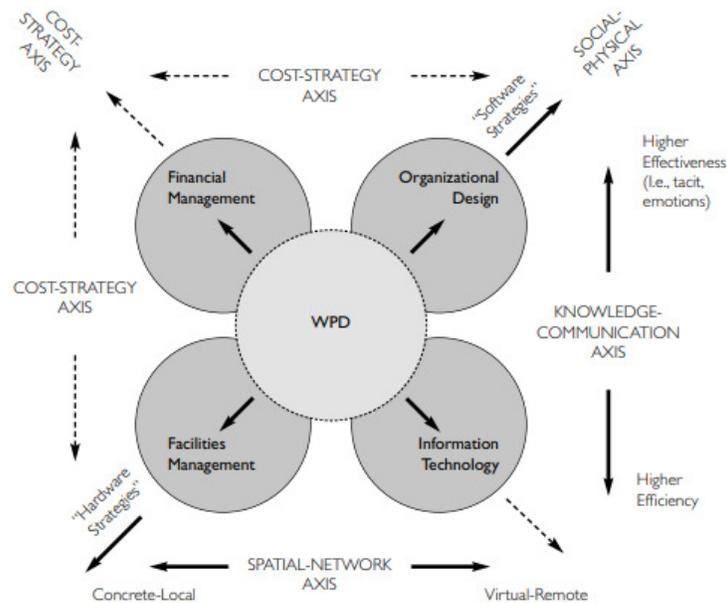


Figure 1: Workplace design model

Work design theory and research have largely overlooked workforce diversity issues and the human-centered technology approach, which is the main authors' position in this paper.

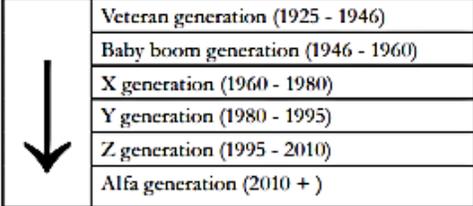
Increasingly diversified workforce in general and generational differences specifically should encourage scholars and HR professionals to question traditional notions of what makes workers thrive in work contexts. Demographic trends, accompanied with economic, technological and cultural changes, require commensurate shifts in how work is structured and organized [11][12][13][14].

Consequently, work design should meet personal values and work preferences of different generations of employees, the same should be considered regarding the workplace design. Personal values and work preferences of workforce generations in particular delineate organizational behavior patterns that can be further shaped through a careful design of the organizational work setting [15]. By taking into consideration personal values and work preferences [16], of various generational cohorts and through achieving a person-job fit, organizations can potentially increase the performance level of their employees [17].

1.1. Generation cohort theory

The scientific consideration of generational differences can be traced back to the 1950's. All individuals, no matter whether they would admit it, belong to a certain generation location within a particular society [18]. The generation's (social) location indicates to definite modes of behavior, feeling and thought. The generation "cohort" is defined as people of a particular population who experience the same significant event within a certain time period or as a set of individuals entering a system at the same time, who are presumed to have similarities due to shared experiences that differentiate them [19]. The way in which Mannheim's [20] theory of generations illuminates the multiple nature of time arises from the mutual phasing of two different calendars, the one of personal life span (biological age/life cycle) and the other of history. Generational time refers to the age groups or cohorts in which people are grouped, based upon their age, while historical time refers to societal or large-scale changes or events and how these affect individuals and families, such as political and economic changes, wars and/or technological innovations [21]. A generation is defined as "a set of historical events and related phenomena that creates a distinct generational gap" [22].

Six generations have been identified in the literature: Veterans, Baby-boomers, Gen X, Gen Y/Millennials, Gen Z and Alfa generation (Figure 2). Apart from detailed characterization of each generation, the paper rather focuses on the generation Y/Millennials and generation Z.



	Veteran generation (1925 - 1946)
	Baby boom generation (1946 - 1960)
	X generation (1960 - 1980)
	Y generation (1980 - 1995)
	Z generation (1995 - 2010)
	Alfa generation (2010 +)

Figure 2: Timeline of generations [23]

The Millennial generation is a cohort of young people whose "leading edge" members graduated high school in 2000, what gives this generation its name [24]. Oxford Living Dictionaries describes Generation Z as "the generation reaching adulthood in the second decade of the 21st century" and similarly psychologist Twenge [25] describes Generation Z as those born in 1995 or later.

1.1.1. Technology, generational differences and work(place)

One of the most frequently named generational dividers is technology. So much so that it's now a common trope that Millennials and gen-Zers can intuitively find a fix to any techy issue while Gen X (born from 1965 to 1979) has little hope of catching up [26]. Millennials and Gen Z are the first generations to have been born into households with computers and/or to have grown up surrounded by digital media [27] [28]. Millennials' comfort with new media technologies suggests that they bring to the workplace potentially beneficial characteristics related to the use of information and communication technologies [29]. Millennials' interactions with others in the workplace may also change the way older generations, and Millennials themselves, perceive and use these technologies [30].

There also are popular depictions of Millennials' purported admirable attributes from organizations' perspectives, including beliefs that they are more accepting of diversity than were past generations, have capabilities with advanced information and communication technologies, have the ability to see problems and opportunities from fresh perspectives, and are more comfortable working in teams than were past generations [31] [32] [33] [34].

Many Millennials are entering workplaces that include virtual teams and telework [35]. Whether Millennials will be productive in these time-and-space flexible working arrangements is still unclear. Millennials are argued to have some attitudes that are compatible, and some attitudes that seem incompatible, with virtual organizing and telework. At the same time, Millennials desire high levels

of supportive supervision and structure at work [36] both of which may be difficult to obtain in geographically distributed and technologically mediated settings.

Both Millennials and gen-Zers are 'tech-savvy' [37]. They are accustomed to being connected and comfortable using technology to facilitate their work. What's more, they are bemused by outdated computer systems; these age groups expect modern technologies such as Wi-Fi, cloud computing, automated software and smart buildings [38].

Alsop [39] describes the ultimate dream job for the Millennial generation as the one which offers unlimited career opportunities, plenty of praise and rewards, flexible work schedules, casual and fun atmosphere, and 'meteoric rise to the executive suite'. Some management-targeted websites forewarn that Millennials may desire more flexible working conditions and hours (e.g., working from remote locations) than have been normative in most organizations [40].

Millennials appear to highly value the quality of their workspaces, with nearly 70 percent of those surveyed in the CBRE report [41] saying they would make various trade-offs to secure a better workspace. It is an interesting finding, that this preference doesn't understand open-plan collaborative workspaces. In fact, only a third of those surveyed expressed a preference for those kinds of offices. Surprisingly, two-thirds aspire to have a personal (private) office.

While Gen Z shares many traits with the Millennial generation, it also brings in new patterns of behavior, most of them still unknown. The most prominent of these include lack of work experience, the advent of the smartphone and social media, social justice movements, and growing up in a culture of safety [42].

As interesting examples of workplace designs that adapts to the needs of new generations we would like to highlight the following: "Google lets many of its hundreds of software engineers, the core of its intellectual capital, design their own desks or work stations out of what resemble oversize Tinker Toys. Some have standing desks, a few even have attached treadmills so they can walk while working. Employees express themselves by scribbling on walls" [43]; 'Augmented Circle' was developed at MIT, combining a people analytics system based on the kind of the socio-metric badge. The solid panel of a typical work cube was modified with a shade that allowed people to control their visibility as they left appropriate to their task and the social context. Taken to its logical conclusion, when linked to sensors and motors, the office layout could physically reconfigure in reaction to worker behavior [44]; Meet&Work service system (digital workplace), is proposed as a mobile working solution for Millennials. It should help them never to compromise the quality of their lives and always to achieve work-life balance. Meet&Work provides a mobile working in flexible hours as either an individual or a team. It gives a great emphasis to people and technology by providing mobile workspaces located in open urban environments where they can easily meet/reach in any time/day of the week [45].

Although the modern workplace should be reimaged in a way that accommodates the Millennials and generation-Zers, it must also allow older generations (as Baby Boomers and Xers) to feel comfortable.

2. Discussion about next steps and further challenges

Hence, this position paper raises the following questions for future research actions, which are considered as very significant from the perspective of Socio-Technical Systems, Human Resource Management and Strategic management disciplines' theory/literature and practice development:

1. How Millennials, Gen Z, and technology together are changing the workplace design?
2. How the workplace design can successfully support HR strategy?
3. How the workplace design can successfully support business strategy?
4. Which are the main challenges/opportunities and risks/obstacles during this process?
5. Which are the main differences toward the workplace design across low-risk and high-risk work environments, having in mind the impact of the technology and generational differences?
6. How to lead, organize, motivate/encourage and control the process of employees' participation in the workplace (re)design?

7. How to make the workplace a common place for different workforce/generation cohorts?
 8. How human-centered design helps build digital workplaces?
- Other attention-worthy research questions, especially this period, would be:
9. How the health, economic and social crisis caused by Covid-19 affects the workplace design?
 10. Which generation is in a better or worse position during the pandemics (having in mind homeworking or teleworking/technology usage and/or the temporary reorganization of the workplace)?

We would like to stress that there is an obvious need for mutual cooperation between the scholars and practitioners from all three disciplines toward this particular issue and potential revision of the existing theoretical-conceptual models, based upon a holistic and interdisciplinary approach (Ergonomics as a discipline is also of a great importance).

As technology continues to permeate interiors and with an increased demand for more human-centric environments, the academic, business and ICT, architecture and design communities must work together in a synergy and extend their knowledge of how to create innovative, attractive, comfortable, safe, smart and productive workplaces.

Once mostly driven by a functional and aesthetic approach, commercial building design must now pay greater attention to considerations related to human health and well-being, technology development and to the changing needs of a new generation of workers.

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