Impact of Technology on Office Landscape:

From Bullpen to Open Plan
Office layouts have transformed through the years in conjunction with the development of technology; conforming to the needs of workers and the limitations of functionality.

The first office space occurred in the church, occupied by scribes. These men worked endlessly, writing books by hand on parchment. For this function, the original "office" needed only a table.

Fast forward to the invention of the typewriter, a new technology that first appeared on the American market in the 1870s. This innovative mechanism not only transformed the process of writing, but also the space in which it was used. (Photo: Edward Andrus, Washington, DC office).

**Bullpen**

The office spaces of the 1920s into the 1960s reflected the mass production mentality made popular by Henry Ford and, before him, Fredrick Winslow Taylor. Rows of desks in completely open rooms became the norm. (Photo: Quickborner Team).

WWII propelled the United States and Europe into a technology arms race and created a need for the office furniture industry. The telephone, along with the typewriter, largely influenced the overall office dynamic. The world shrank significantly with worldwide communication at virtually everyone's fingertips. Although communication liberated workers from slow, inefficient communication, office organization became more rigid. There was suddenly a need for an intentional workspace layout. With a telephone at each employee's desk, workspaces suddenly needed to conform to a specific grid. To maximize the amount of phones per power source, plus calculate the distance for each phone cord, the bullpen layout was developed.

Mass production elements were present within the aesthetic of the space. Panelist cubicles reflected the assembly line, a symbol of efficiency and productivity. These small sectionals served to divide

As we know it today, the typewriter was designed by Christopher Sholes in 1868.
workers, providing them with a distraction-free environment, which was ideal for individual productivity. At the time, General Fireproofing was the largest furniture manufacturer in the world. Every office became a grid of 60X30X30 steel case desks.

**Open Plan**

At the turn of the 1960s, there was a change in office mentality. In Europe and the US, people began to shift, and the decade of counterculture began. There was a push for individual freedom, and for anything radically new or innovative. Office dynamic was not immune to this cultural transformation. Along with the development of socialism, a demand for an “enjoyable” work environment arose.

In Germany, two brothers first dreamed up the first open-plan office concept. They called it “Bürolandschaft,” or office landscape. Offices moved towards a more open layout, free from structure and confinement. Desks were pushed outward, toward glass windows, creating a space that was open and flexible. With the open floor plan and the concept of office landscaping, the workplace became more aesthetically pleasing. There were still typewriters and telephones at every desk, but there was now a new approach to office flow.

In reaction to the bullpen layout, Robert Propst invented Action Office®, the world’s first systems furniture. Travis Randolph worked on Robert Propst’s team to develop Action Office and went on to found Symbiote, Inc. Randolph was a key player on the Herman Miller team that introduced the innovative design in 1968. Propst looked to balance ease of communication with the ideal amount of privacy, an issue that was solved with partitioned sectionals. The first prototype was designed in 1962 (Randolph pictured below with one of the original prototypes). It had a roll-top, standing desk with a movable display surface to keep documents visible and within reach. The second generation design (1968) was a system of interlocking, angled and movable walls.

Action Office promoted health and productivity, factoring pleasure into the workspace, an entirely new idea. It encouraged employees to alternate their posture throughout the day, translating well to the workday’s ebb and flow. Business owners were immediately sold on this transition and it formed the basis of the cubicle we know today.
Shortly after office landscaping came into view, the personal computer was invented. Word processors, typewriters, and telephones now dictated office structure. Originally, there was a centralized word processing area in each office, usually on a different floor. Employees constantly moved from one area to another to communicate. This constant disruption lowered office productivity. Thus, a new office position was created: the administrative assistant. With administrative assistants sequestered to the word processing area, less time was wasted moving throughout the office space.

Computers grew and changed, replacing typewriters at every desk. These early computers generated a lot of heat, which did not sit well with confined, bullpen style spaces. Open-air structures allowed for both ventilation and collaboration, an integral part of the 1970s workspace.

Offices Today and In The Future

Office spaces have grown more diverse to support where and how people work. Some jobs require concentration while others thrive on teaming environments. Today, many people work in an open-plan environment. On the positive side, it gets workers to talk to each other, which can amount to ingenious collaboration. On the negative side, it could be argued that there is an increase in noise level, decreased privacy, and therefore, decreased worker satisfaction. Here, the solution comes from providing alternative workspaces. Providing a separate room for quiet-based activities or for a specific project solves the majority of issues that can arise with an open concept office environment. Above, a neighborhood floor plan depicts many work styles (photo: CBRE, Los Angeles office). There’s a glass enclosed area as a focus room for individual concentrative or confidential work. The adjacent room is an office for a day, equipped to support an individual user or a small meeting. The work table is commonly used by highly mobile teams such as project management or workplace strategy, who benefit from touchdown in different neighborhoods to maximize interaction across multiple lines of business. All spaces are wireless and phones have extension mobility which allows a user to login at any work space with their personal phone line.
While neighborhoods compliment the open-plan, technology advances continue to push the boundaries on what an ideal office looks like. Wireless technology allows us to engage and create anywhere and everywhere. Battery storage, a near reality for the office space, will liberate computers and other technological devices from all chords, diminishing the need for outlet proximity.

People will arrive at work with a tablet, smartphone, or the next gadget — and expect it to work without a call to the IT department. From voice recognition to geo-sensing, new technologies are creating more ways to interact in the work environment. Think about how a staff meeting used to be. An assistant was either called, or several emails were sent in order to lock in days and times, and find an available space. Now, imagine walking into a project space. Using a smart phone, you speak the names of the people with a meeting timeframe — and the rest happens automatically — comparing calendars, sending a text alert, reserving the room, ordering refreshments — all with minimal effort. According to Ahmed Datoo, VP Mobile of Citrix XenMobile, this is just the beginning. This new generation of employees is expected to work across multiple platforms, using multiple devices, bringing productivity to previously unattainable levels. The office space itself, is expected to adapt with the employees, moving as they do, conforming to their needs and tasks. Imagine a space that adapts from a conference room to a collaborative workbench area in an instant, using just your voice, and the furniture responds without the need to call the facilities department.

The office space of today is vastly different from that of our parents as the workforce is continuously evolving. In the last five years, terms like flexible working, mobility, and co-working have spurred companies to design spaces according to work styles. The modern workday may begin at home or from a remote location. Later, at the office, neighborhoods of mobile, sit/stand workstations and work tables bring workers together. After lunch, workers move to lounge areas to brainstorm ideas, then collect their thoughts in a private space before going home.

Wherever the future takes us, the landscape will include smart, mobile and modular furniture that cultivates innovation and relationships, where technology is no longer a constraint.
References


