

How Multiple Monitors Affect Productivity and Wellbeing



Less is not always more. For many tasks, multiple monitors offer definite advantages over a single screen. However, the ability to arrange monitors and easily control their position greatly affects productivity, comfort and wellbeing.

Technology makes work mobile, but for many users, small portable screens can't replace desktop displays. Software engineers, architects, designers and professionals in many industries, from banking and finance to education, engineering and healthcare, rely on the immersive experience of multiple monitors in their daily work. How are multiple monitors (two to six screens) best configured and adjusted? Our extensive primary and secondary research addressed these issues.

BENEFITS OF MULTIPLE MONITORS

According to research, multiple screens can dramatically boost productivity. One of the first indicators was a landmark study by researchers at the University of Utah. The researchers found that multiple screens were “significantly more usable than ¹ single screens on measures of effectiveness, comfort, learning ease, time to productivity, mistake recovery” and other factors.

For example, users found multi-screen configurations:

- **More effective**

- **More comfortable**
- **More productive**
- **Easier to track tasks**



Choice and control are essential to user engagement and satisfaction.

98% of users preferred a dual monitor configurator to a single monitor.

Subsequent research since the Utah study has shown similarly impressive results. Microsoft researchers found that switching to multiple monitor configurations could boost productivity between 9 percent and 50 percent². Tech consultant Jon Peddie Research reported that users of multiple monitors estimated productivity gains averaging 42 percent³.

In a report to the Human Factors and Ergonomic Society,⁴ researchers at Wichita State University found that multiple monitors helped boost performance, regardless of screen size. Users reported dual monitors were measurably more efficient and less frustrating than a single monitor. Perhaps most notable, nearly all of the study participants—98 percent— preferred a dual monitor configuration.

The research findings are not surprising, considering that additional monitors allow users to:

- Display more content (more windows, and in larger sizes)
- Use more applications simultaneously, and switch between them more quickly
- View multiple windows without moving windows front to back, resizing, etc.
- View documents side by side, cutting and pasting, etc.

In short, multiple monitors provide significantly more screen real estate and more work process options, thus more user control. As Steelcase research has pointed out, choice and control are essential to user engagement and satisfaction. Or, as the Wichita State University researchers noted, user satisfaction with dual monitor configurations was “important because it is well-documented that higher satisfaction often is related to higher productivity.”⁵

INFLECTION POINT: THE DESKTOP

To explore this issue at the user level, Steelcase teamed with renowned design firm IDEO to conduct primary research on monitor use and work processes. They identified two primary work processes involving multiple monitors: active applications and passive applications⁶.

An active application involves a multiscreen environment where the user is very active and engaged with different applications. Data sharing between screens is constant: comparing information, cutting and pasting, and working with content to create new ideas and information. This application requires a great degree of adjustability for focal length, screen tilt and height. Video editors and designers are just two of many jobs that involve active applications.

In both the passive and active applications, monitor placement and adjustment affect user comfort and productivity. The research found that multiple monitors should:

- “Move as one” to accommodate different postures and workstyles
- Have full “functional focal adjustment” to accommodate differences in visual capabilities and preferences
- Provide a variety of configuration possibilities to support changing work processes and workstyles⁷

Technology has changed work postures and workstyles. In a separate research effort, the Steelcase Global Posture Study⁸ revealed nine new postures driven by how users engage with new technology. Several of these new postures can be seen with users at multiple monitor configurations, including:

- Take-It-In—A posture common among users of multiple monitors. Here the user reclines, “taking in” all of the arrayed content.
- Trance—This posture results when people are deep in concentration and tend to ignore how they’re sitting.
- Multi-Device—A posture seen where users are blending the use of several devices to perform their work, a common activity in business today.

Since multiple monitor workspaces often involve focused work for long periods, important space considerations include effective ergonomic seating, height adjustable worksurfaces, and an adjustable monitor arm that allows user adjustment of monitors for proper focal length, tilt and height. Greater ergonomic support and better user comfort help boost employee engagement and wellbeing.

A SMART INVESTMENT

Multiple monitor configurations are growing in popularity: they’re beneficial not only for video editors, nurses with multiple patient monitors and security guards monitoring widespread real estate, but for any worker. Instead of having to switch between full screen windows, a second screen lets the user keep open a spreadsheet or web page for easy access to content. In an organization where prompt replies to email and texts are expected, a second screen for an email program facilitates quick responses.

50% a 22-inch monitor costs half as much as it did five years ago.

Financial managers can actively monitor multiple markets, indices and events. A multiple monitor setup can also help an employee with a tablet or laptop who needs a larger monitor as well.

Multiple monitors standing on a worksurface wastes valuable desktop real estate. A multiple monitor arm keeps the worksurface open, available for portable devices, analog materials and informal collaborations.

Monitor prices are coming down— Samsung reports that a 22-inch monitor costs half as much as it did five years ago⁹— while screen resolution, readability and color continue to improve. Multiple monitor displays are more cost effective than ever. When monitors can be precisely placed and adjusted by the user, they benefit individual users and the organization through increased productivity, comfort and wellbeing.

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