Gaining Higher Productivity with 2-in-1 PC

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Sponsored by Dell, Inc.

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IDC OPINION

The growth of mobile computing has bred the rise of the mobile worker – one who expects to be able to work at any time, from anywhere, unencumbered by the confines of the traditional office setting. This worker eschews a cubicle or even corner office for a café, train, home, or the field. Even traditional deskbound employees are looking for ways to liberate their workflow and better work on their own terms. The growth of the mobile workforce will only accelerate in the future and, with it, the need for devices that not only prove productive but versatile.

The 2-in-1 category includes convertible notebooks (notebooks in which the display can be flipped or swiveled to lay flat mimicking a tablet) and detachable tablets (tablets with a first party, attachable keyboard). These devices offer the multi-modal versatility that should resonate with mobile workers, and we expect enterprise adoption to accelerate moving forward. For example, IDC's Quarterly Worldwide PC Device Tracker forecasts that the number of convertibles shipped into commercial organizations will grow 28.7% to 4 million units in 2017, accounting for 5.7% of all commercial notebooks shipped. Expanded capabilities and much refined design have contributed to product growth in recent years. More importantly, upgrading to a 2-in-1 can improve employees' productivity and satisfaction, especially for those working in highly dynamic office environments.

IDC, in partnership with Wichita State University's Optimize, conducted a study that examined the usability and productivity of a 2-in-1 PC compared to a regular laptop. The study focused on "corridor warrior" users: skilled professionals who spend significant portions of their work day up and about, working away from their office desk. Project managers, medical lab or manufacturing personnel, doctors or nurses, as well as college professors are among several professions that can be categorized under the "corridor warrior" persona. As part of the study, each user completed a set of common office tasks (e.g., note-taking, document editing, emailing, or instant messaging) on each device type while standing and moving around the office.

Users were 12.8% faster in completing all the tasks when using the 2-in-1 than when using the laptop.

The study's findings were compelling:

» Users were more productive with the 2-in-1 than with the regular laptop. They were 12.8% faster in completing all the tasks when using the 2-in-1 than when using the laptop. This productivity increase translates to approximately 10 minutes to 20 minutes of time savings over a half or full day of work, respectively.

» Users felt that the 2-in-1 was more usable and it made them more productive, while being less physically demanding, requiring less effort, and causing less discomfort.

» Users preferred the 2-in-1 versus a regular laptop and were more likely to promote it to others.

Methodology

The study, conducted between August and September 2017, focused on examining the usability of a 2-in-1 PC and its impact on the productivity of skilled professionals who spend a majority of their time away from their desks and on their feet. Thirty users across various industries who matched the "corridor warrior" persona were observed in performing typical office tasks while standing using a 2-in-1 versus a regular laptop. Assigned tasks included editing Microsoft Word and PowerPoint documents, working with Microsoft OneNote hierarchy, emailing, and instant messaging. Users were actively moving around an office setting to complete the tasks and had about 30 minutes to complete each task set per device (see Figure 1).

Performance metrics such as typing speed, task completion time, mouse clicks/cursor movement, task accuracy, and error rates were captured and analyzed as part of the study. Upon completion of the tasks, users subjectively rated usability, physical exertion, workload, satisfaction, and preference for each device. Please review the Appendix for a more detailed description of demographic profiles and the tasks performed.

Note: Dell sponsored the study and provided the devices used in it (Latitude 5289 for the 2-in-1 and Latitude 5480 for the laptop).

FIGURE 1

2-in-1 Usability and Productivity Study Flow

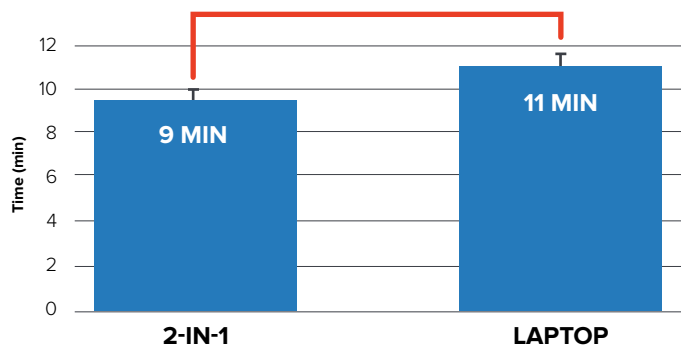| Assign device | Assign tasks | Measures | Repeat | Ratings |

Key Study Findings

Users completed all the tasks 12.8% faster with the 2-in-1 than with the regular laptop.

On average, users completed all the tasks 1.4 minutes faster with the 2-in-1 than with the laptop (see Figure 2, which represents a productivity gain of 12.8% in a 30-minute period. If we extrapolate this gain over a half (4-hour) or full (8-hour) work day, an average user could save approximately 10-20 minutes of work by using a 2-in-1 instead of a laptop. This time saving adds up.

Furthermore, when looking at completion time by task, users completed PowerPoint-related editing tasks significantly faster when using the 2-in-1 when compared to other tasks. The touchscreen and pen capabilities certainly give the 2-in-1 an edge over the laptop when working in PowerPoint.
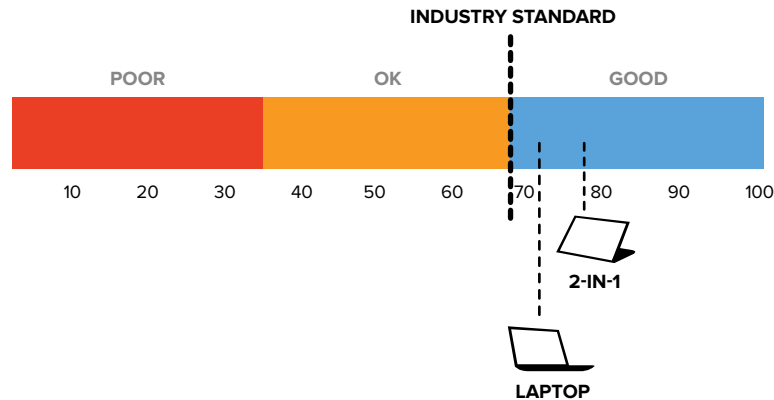
FIGURE 2

Time on Task

Users felt the 2-in-1 was more usable than a regular laptop.

The study asked users to rate the usability of both devices. Both the 2-in-1 and laptop received usability scores above the industry standard with the System Usability Scale (SUS). Nevertheless, the usability of the 2-in-1 was rated higher than that of the laptop. The laptop received scores falling within the "good" range, while the 2-in-1 received the most favorable scores, falling within the "excellent" range. Overall, the 2-in-1 was perceived as being more usable in a dynamic work environment (see Figure 3).

FIGURE 3

Usability Rating

> "I like the 2-in-1 because I could use it as a laptop at my desk, then switch it to a tablet when I am walking to meetings. It would make my work day easier."

Users felt the 2-in-1 to be less physically demanding, requiring less effort, and causing less discomfort.
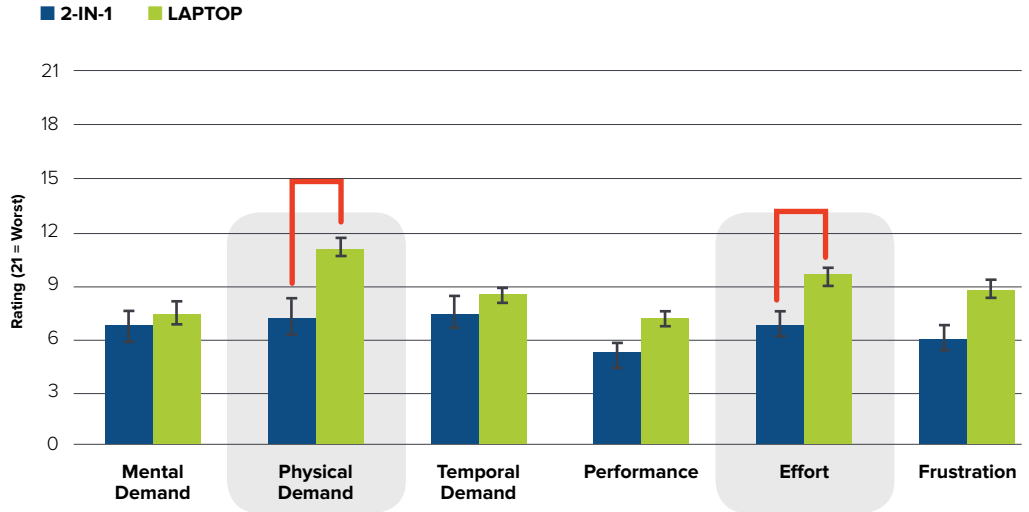
The study asked users to rate workloads of both devices. Users rated the 2-in-1 as significantly less physically demanding to use. Furthermore, they rated the 2-in-1 as requiring significantly less effort to use (see Figure 4).

One interesting observation during the study: Users set the 2-in-1 down significantly less than the laptop while performing all the tasks. Having the ability to use the 2-in-1 in the tablet configuration while standing really makes using the 2-in-1 less demanding.

FIGURE 4

Workload Ratings

■ 2-IN-1　■ LAPTOP

> "I would prefer to work with the 2-in-1. I am constantly on the go, and it feels much lighter than a laptop, and easier to carry."
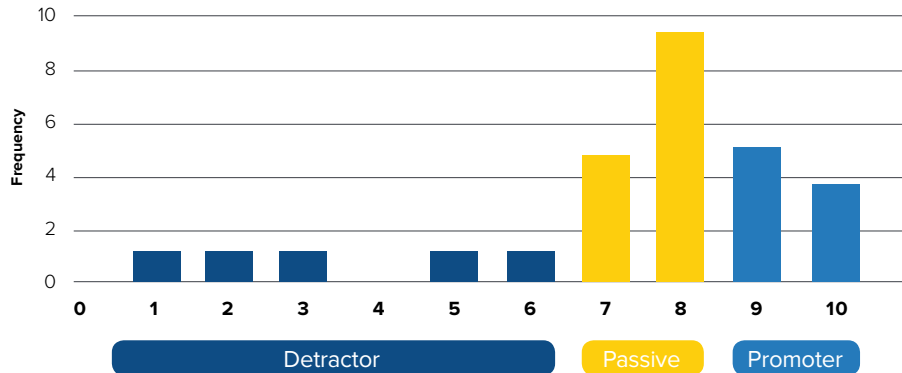
Users preferred the 2-in-1 versus the regular laptop and were more likely to promote it to others.

Overall, the 2-in-1 (+14) received a more favorable Net Promoter Score than the laptop. In fact, 32% of users were likely to "Promote" the 2-in-1 to their colleagues, compared to only 7% of users who were likely to "Promote" the laptop to their colleagues. (see Figure 5).

FIGURE 5

Net Promoter Score

Other notable findings:

» Users committed very few errors using either the 2-in-1 or laptop, regardless of the task. Users could quickly and efficiently correct any errors made during the tasks with both devices.

» There was no significant difference in how users perceived their accuracy with the 2-in-1 and the laptop.

» Users found all three of the input methods – touchscreen, pen, and keyboard/mouse –equally easy to use, and they had no preference between the three, although the pen was perceived to be slower and less accurate in certain tasks (e.g., editing text in a Word document).

Conclusions

The mobile workforce is on the rise. IT decision makers should lean into this trend since augmenting the mobile workforce can unlock productivity and employee satisfaction gains for companies. Our study shows considerable productivity gains when using a 2-in-1 in a dynamic office environment. Additionally, the 2-in-1 PC can also contribute to higher employee satisfaction, as suggested by study findings that show the higher usability and user preference rankings for these devices over regular laptops.

Organizations built on the motion of corridor warriors and those looking to give deskbound employees more options in how they compute should explore 2-in-1s in place of existing traditional notebooks.

Appendix

TABLE 1

Study Demographics	
Total sample	30*
Age	25-43 years old (M = 32)
Education	High School (1) Some college (2) Bachelor's degree (13) Master's degree (11) Doctorate degree (2)
Industry	Professional, Scientific, & Technical Services (11) Educational Services (8) Arts, Entertainment, & Recreation (4) Health Care and Social Assistance (3) Management of Companies & Enterprises (3) Public Administration (1) Construction (1)
Tablet/2-in-1 experience	21 users had experience with either a tablet or 2-in-1 9 users were novices to tablets/ 2-in-1s
Number of employees employed by company	1-19 Employees (3) 20-99 Employees (5) 100-249 Employees (4) 250-500 Employees (7) 500-999 Employees (1) 1000+ Employees (7)

Source: IDC, 2017

TABLE 1

Tasks	
Typing	Type 10 different phrases with each method – (a) pen, (b) touch keyboard, (c) physical keyboard – while standing.
OneNote Hierarchy	Re-create a hierarchy drawing in OneNote and email final draft.
Word Document Editing	Edit a Word document with the given edits and IM co-worker to discuss revisions
PowerPoint Logo Editing	Edit a PowerPoint document with the given edits.
Dynamic Task: Email/ IM	Respond to IM requests: send meeting invite, forward invite, change meeting time, cancel meeting.

Source: IDC, 2017

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