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Increase Productivity By Providing Notebooks Beyond The Road Warriors

How Notebooks Increase Productivity, Enhance Customer Satisfaction, And Have A Reduced Total Cost Of Ownership

A commissioned study conducted by Forrester Consulting on behalf of Intel

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Executive Summary

In May 2008, Intel commissioned Forrester Consulting to evaluate the benefits that North American enterprises have experienced as a result of increased notebook deployments beyond just the road warriors and to the entire enterprise.

In conducting in-depth interviews with 322 PC decision-makers at North American companies with 1,000 or more employees, Forrester found that these companies achieved improved employee productivity, faster response times, more informed decisions, a competitive advantage for customer-facing employees, reduced costs of supporting remote or home-based workers, and better attractiveness in the job market as a result of deploying notebooks to users.

Key Findings

Forrester's study yielded four key findings:

- **Enterprises are becoming increasingly dependent on notebooks.** The ratio of notebooks to desktops within North American enterprises has been steadily increasing for years. Notebooks now represent almost 40% of all enterprise PCs, up from 25% just three years ago.

- **Remote management and anti-theft tools will ease any remaining notebook concerns.** An increasingly decentralized and mobile workforce will challenge IT organizations with new management, security, and energy efficiency concerns. These organizations will be heavily dependent on next-generation remote management and anti-theft tools to minimize a lot of these challenges.

- **Productivity and responsiveness are driving deeper notebook penetration across the enterprise.** IT organizations will increase their investments in notebooks and new mobile form factors to drive employee productivity, responsiveness, flexibility, efficiency, and both external and internal customer satisfaction. Notebook users work an average of 51 minutes more than comparative desktop users per work day, helping drive these benefits to new levels across the entire organization.

- **The workforce is changing and has loftier mobile support expectations of IT.** As the workforce becomes increasingly decentralized and enterprises encourage employees to work from home for environmental and financial reasons, mobile support expectations of IT are rising quickly. This will remain particularly relevant in a down economy as IT operations look to cut costs wherever possible, and the younger workforce expects notebooks to be its primary computing solution.

Notebooks Are Mission-Critical Investments For Enterprises

Enterprises' PC environments are evolving rapidly. And thanks to new form factors that are more mobile, smaller, lighter, and more energy efficient, next-generation wireless standards like 802.11n and WiMAX (which deliver faster connection speeds, lower latency, broader coverage, and better interoperability), and new built-in management and security features, enterprises are increasingly shifting their investments from desktops to notebooks. The survey revealed five key PC trends:

- **Notebooks represent almost 40% of enterprise PCs today.** Notebooks have been making inroads into North American enterprises for years, and according to the survey, they represent 38% of PCs in use today. But while notebooks were traditionally limited to executives and road warriors in years past, today enterprise IT departments are extending notebooks to an increasing percentage of employees across all spectrums of mobility and roles, including traditionally office-bound and desk-bound workers.

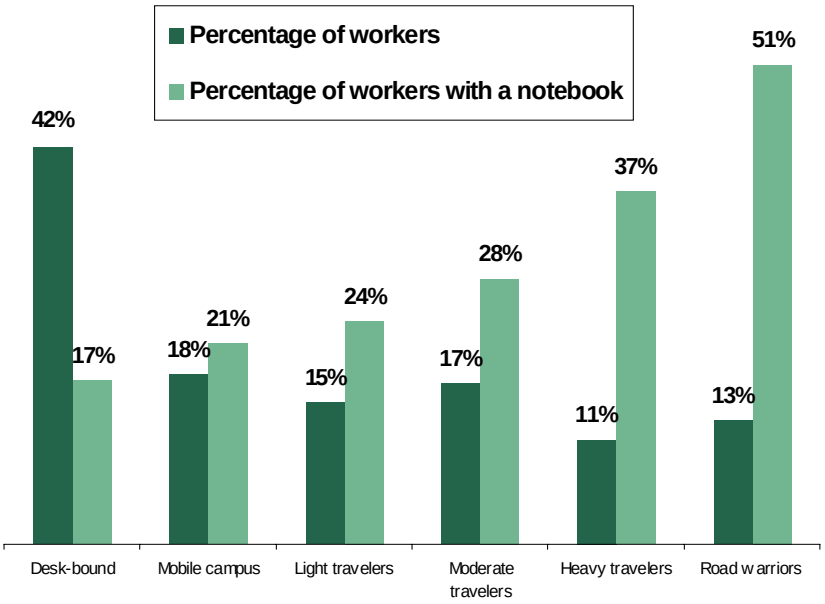
- **All segments of workers could benefit to some degree from using a notebook.** As employees are increasingly unchained from their desks, it's important for PC buyers to segment their employees to better understand how they could benefit from deeper notebook investments. Just 42% of workers remain desk-bound today and within the larger population of mobile and home-based workers, there are varying levels of travelers (e.g., heavy, moderate, and light) that IT needs to offer different mobile form factors to meet their diverse computing needs.

- **Notebooks users are 51 minutes more productive per work day than desktop users.** Driving these increased investments in notebooks are the expectations from executives and IT that employees: 1) are more productive due to their ability to access enterprise applications and the Internet while away from their desk, and 2) have more flexibility with their local work environment and what hours in the day to work. The study more than confirms these expectations, finding that notebook users work an additional 51 minutes per work day on average than desktop users.

- **Enterprises could stand to make further notebook investments across all segments.** While the ratio of notebooks to desktops has increased as employees have become more mobile and decentralized through the years, there are still significant gains to be made in terms of enabling new business processes and efficiencies by providing notebooks to more desktop users. IT managers find it critical to segment workers by how frequently they travel in order to determine the appropriate distribution of notebooks. They frequently segment their employees into the following class of workers: road warriors (employees who travel 50% or more of their time), heavy travelers (employees who travel between 25% and less than 50% of their time), moderate travelers (employees who travel less than 25% of their time), and light travelers (employees who rarely travel but occasionally work from home or another office) (see Figure 1). Additionally, it's just as important to include office-bound employees, including workers who are mobile within the campus and workers who are always desk-bound.

Figure 1: Notebook Penetration By Level Of Travel For Business Purposes

For each of these types of workers, what percentage has PC's and what percentage has notebooks? (consolidated avgs.)

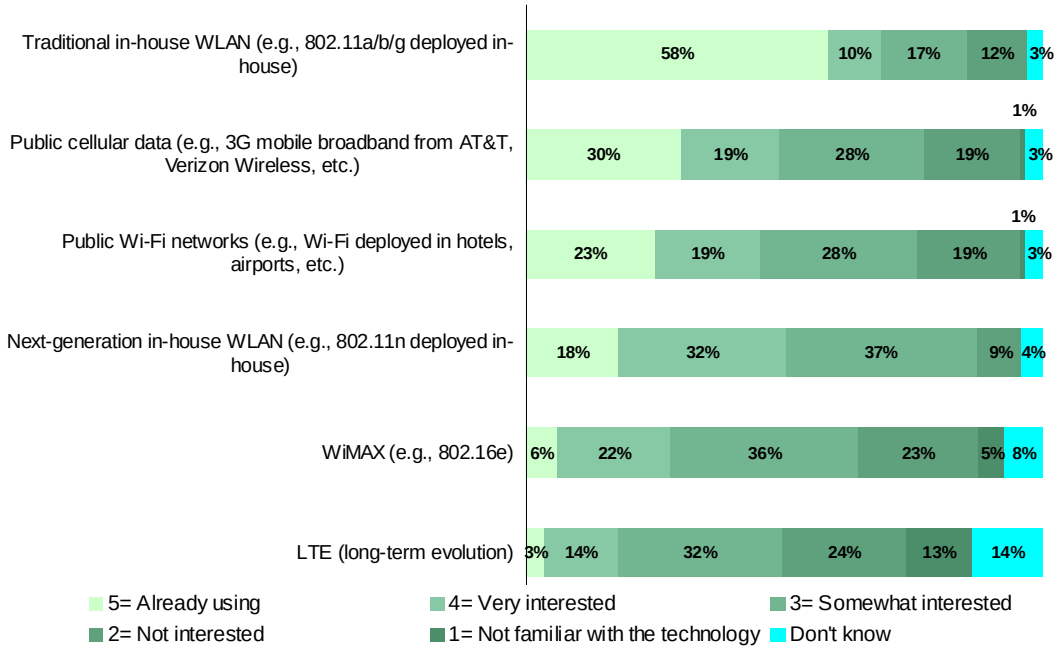


Base: 322 PC decision-makers
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, September 2008

- **Enterprises are dependent on wireless networks for anytime, anywhere access.** With multiple access technologies, including Ethernet, Wi-Fi, mobile broadband/WWAN, and now WiMAX coming standard with notebooks, mobile employees are increasingly dependent on a proliferation of wireless networks. Fifty-eight percent of North American enterprises already use traditional WLAN networks, and 18% are using next generation 802.11n that delivers on faster connections, higher bandwidth, and more coverage (see Figure 2). Additionally, just under one-third use WWAN, and just under one-quarter use public Wi-Fi hotspots. And as next-generation WWAN build-outs become more regular, beginning with WiMAX and later with LTE, mobile workers will truly experience anytime, anywhere coverage across the globe.

Figure 2: Mobile Employees Are Dependent On A Proliferation Of Wireless Networks

How interested are you in the adoption of each of the following wireless networks? (n=322)



Base: 322 PC decision-makers
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, September 2008

IT Needs To Be Proactive To Support The Changing Mobile Workforce

As IT departments segment employees, it's also important to understand how quickly employees' work requirements are changing. Otherwise, the segmentation risks being stale the minute it's complete. The survey found four trends that enterprises will experience over the next 12 to 24 months. Specifically, workers will increasingly:

- **Access business applications while away from their desks.** By providing notebooks to employees and enabling them with almost anytime, anywhere access to the Internet, you're affording them a means to be productive while on the go. Eighty-two percent of North American enterprises agreed that employees are increasingly requiring access to enterprise applications while away from their desk and continuing investments with notebooks is a means to satisfy these increasingly demanding needs.

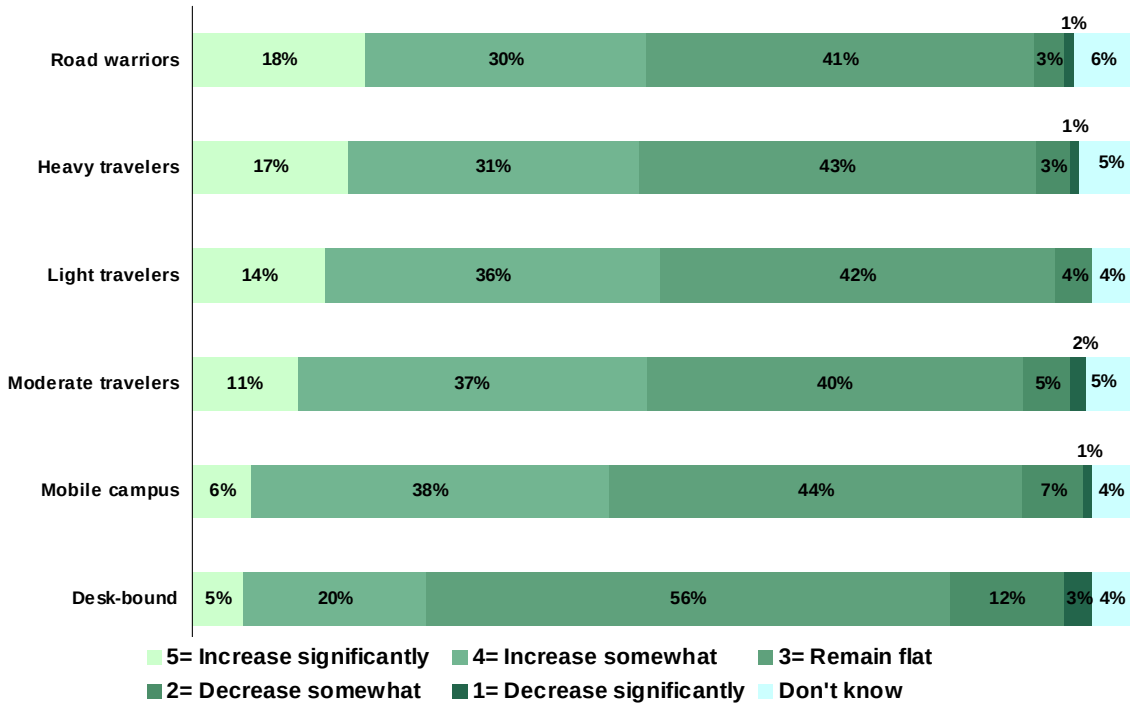
- **Collaborate remotely across distributed groups.** Seventy-one percent of North American enterprises reported that their employees are working in increasingly distributed groups. Just 7% of enterprise employees are independent contributors; the rest actively collaborate with their co-workers in order to complete tasks. In fact, 44% actively collaborate regularly, and another 36% do most of their work independently but actively collaborate on some tasks.

- **Become increasingly customer-facing.** Sixty-nine percent of North American enterprises cited that their employees are interacting more with external individuals, including prospects, customers, partners, and suppliers. Because these meetings are often offsite, it's important that workers have the flexibility to take their local computing environment with them so they can take notes and have access to information at their fingertips. And as style becomes increasingly important — yes, even in the enterprise market — it conveys an air of sophistication that reflects positively on your company's reputation and brand.

- **Be productive while away from their desk/local work environment.** Just under two-thirds of North American enterprises reported that the number of mobile employees is increasing faster than the number of predominantly non-mobile employees. In fact, of the six segments of employees, the two that are expected to increase the most significantly over the next 12 to 24 months are road warriors (18%) and heavy travelers (17%) (see Figure 3). Inversely, the two segments of employees that will experience the least growth are those who are office-bound but mobile within the campus (with an 8% decrease) and who are always desk-bound (with an even more substantial 15% decrease).

Figure 3: How The Workforce Will Change Over The Next 12 To 24 Months

For each of these types of workers, how do you anticipate the percentage of employees with notebooks will change over the next 12 to 24 months?



Base: 322 PC decision-makers
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, September 2008

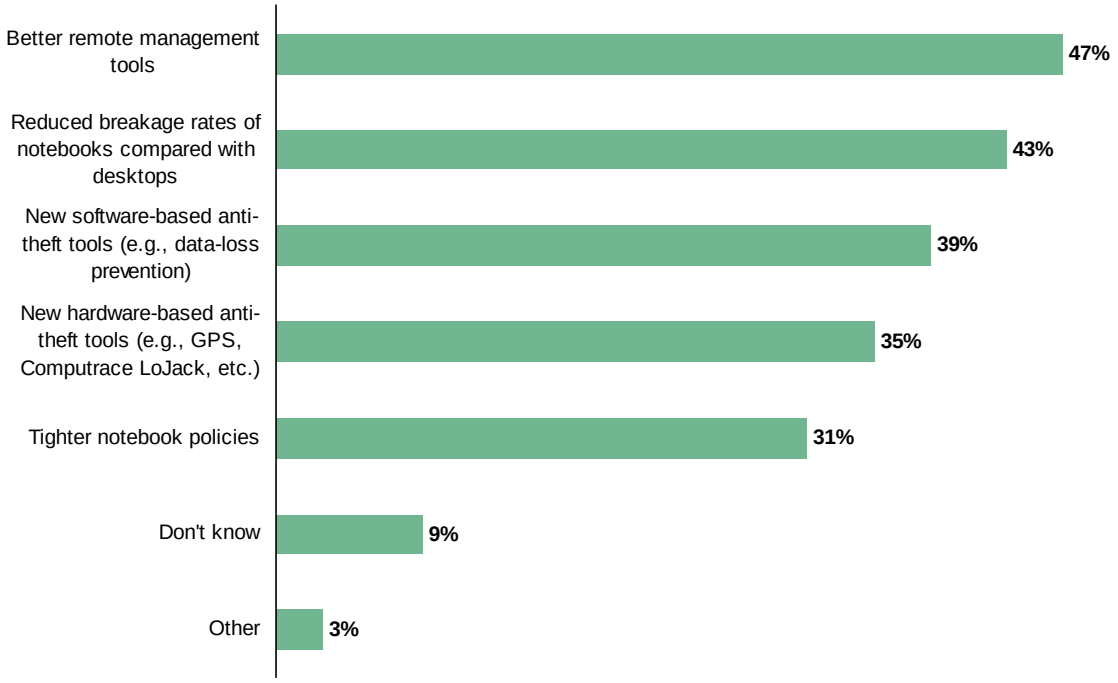
Enterprises Have Concerns Around ROI, Management, And Security Of Notebooks

There are many reasons to not only continue investments but to increase investments in notebooks, but some enterprises reported concerns in doing so. These concerns included:

- **Costs.** In a down economy, infrastructure budgets are often the first to be tightened. But due to higher initial acquisition and ongoing support costs compared to desktops, some organizations have struggled to build financial justification for new notebook investments. Of the enterprises that reported flat or decreased investments in notebooks, 28% cited costs as a reason. In fact, enterprises reported that notebooks are on average 37% more expensive to manage than comparative desktops, but they also reported that better remote management tools (47%), reduced breakage rates (43%), anti-theft tools (software: 39% and hardware: 35%), and tighter notebook policies (31%) could help reduce the overhead of supporting notebooks (see Figure 4).

Figure 4: How Enterprises Anticipate Reducing The Cost Overhead Of Supporting Notebooks

In your view, what factors could help reduce the overhead of supporting notebooks within your organization?



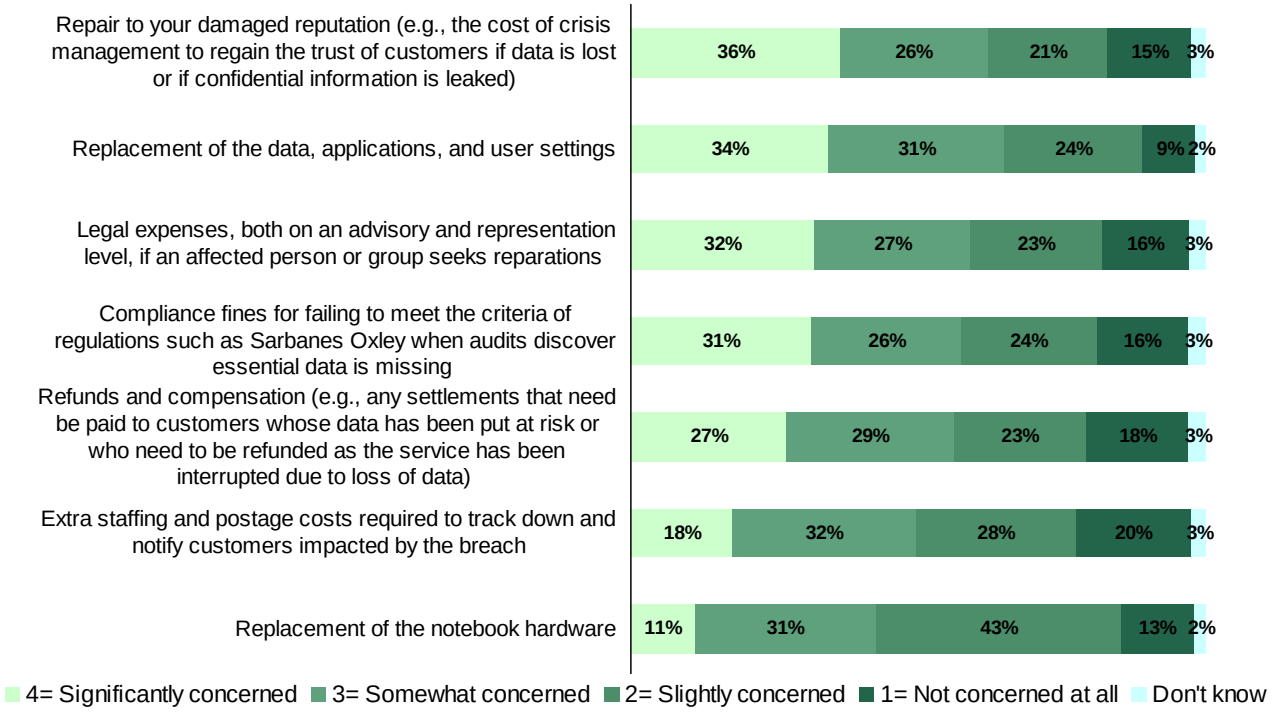
Base: 322 PC decision-makers
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, September 2008

- **Theft.** Twenty-six percent of enterprises cited the risk of theft as too great for further investments in notebooks. When asked to rank their concerns for costs associated with lost or stolen notebooks, enterprises cited significant concerns for: damage to their company's reputation (36%), replacement costs of data, applications, and user settings (34%), legal expenses (32%), compliance fines (31%), refunds and compensation (27%), extra staffing

and postage costs required to track down and notify customers impacted by the breach (18%), and replacement costs of notebook hardware (11%) (see Figure 5).

Figure 5: Evaluating The Financial Impact That Data Loss Has On Companies

If a notebook is lost or stolen, how concerned are you with the following costs when evaluating the financial impact that the data loss has on your company?



Due to rounding, percentage may not equal 100%.
Base: 322 PC decision-makers
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, September 2008

- **Data loss and lack of remote management capabilities.** Enterprises reported that data loss is a significant concern for lost or stolen notebooks. In fact, they reported that it would be worth over $56 per PC per year to their organization for the ability to remotely disable a notebook after it is lost or stolen in the field. Additionally, 36% of North American enterprises reported that they would definitely increase their likelihood of investing in notebooks if they had tools to better protect sensitive data on their employees' notebooks.

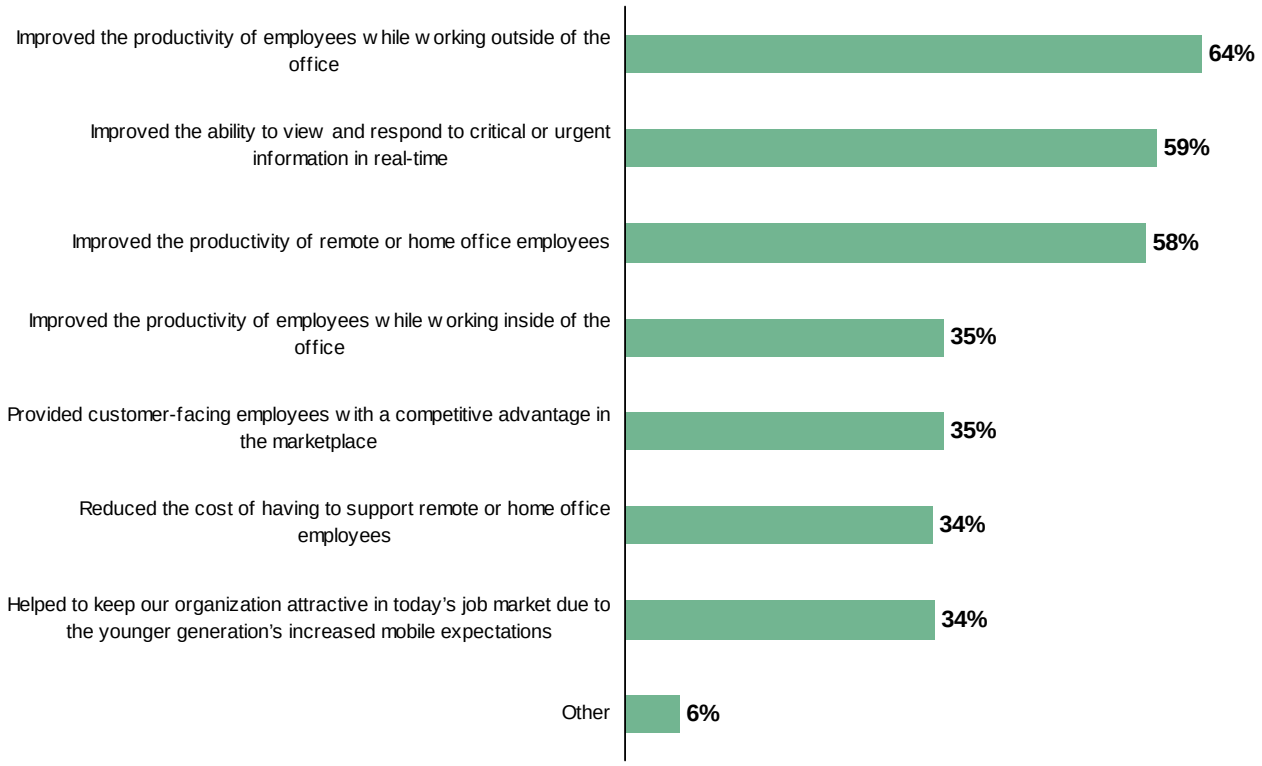
Productivity, Responsiveness, Cost Savings, And Attractiveness Are The Top Benefits Of Notebooks

Enterprise IT managers often cite employee productivity as the primary benefit of notebooks. While this is true, the study also found that all segments of employees benefit from increased productivity when provided notebooks — not just road warriors or heavy travelers. Five key benefits that are driving increased investments in notebooks for enterprises include:

- **Improved productivity of mobile, remote, home-based, and desk-bound workers.** With notebook users working an average of 51 minutes more per day than desktop users and almost 60% of workers productive often while away from their desks/local work environments, it's no surprise that enterprise PC decision-makers responded that 64% have experienced improved productivity of employees working outside of the office, 58% have experienced improved productivity of remote or home office-based workers, and 35% have experienced improved productivity of employees while working inside of the office (see Figure 6).

Figure 6: Benefits Firms Have Experienced As A Result Of Increased Notebook Penetration

Can you provide us with an idea of the different types of benefits your organization has experienced as a result of increasing employee mobility through increased notebook penetration?



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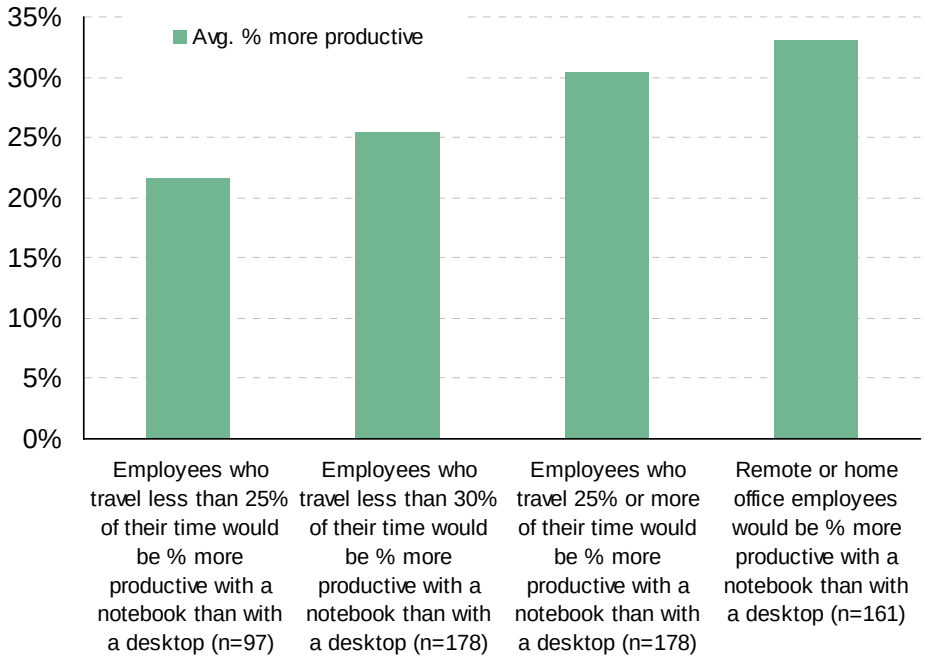
- **Improved responsiveness and access to information not necessarily accessible by handhelds.** Rounding out the top two benefits of increased notebook adoption is the improved ability to respond to critical or urgent information requests in real-time, a benefit cited by 59% of North American enterprises. Desktop users without real-time response capabilities afforded by notebooks are typically delayed 4.85 hours per work day when they're away from their desk, and this happens on average of 4.58 times per work day.

- **A competitive advantage provided to customer-facing employees.** Thirty-five percent of North American enterprises with notebook investments cited the benefit of providing customer-facing employees with a competitive advantage. In fact, these IT decision-makers

reported that their notebook users are anywhere between 22% and 33% more productive than desktop users depending on their level of travel (see Figure 7).

Figure 7: Notebook Users Are Between 22% And 33% More Productive Than Desktop Users

For those employees who travel and are currently using desktops, how much more productive would those employees be if they were given notebooks?



Base: 322 PC decision-makers
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- **Reduced cost of supporting remote and home office-based workers.** The primary reason why over one-third of North American enterprise reported that they have experienced reduced costs when supporting remote of home office-based workers using notebooks is due to the improved hardware-assisted remote management tools that are widely available today and becoming increasingly robust. In fact, 83% of enterprises that cited this benefit felt that improved remote management of PCs can reduce the need for desk-side support and have found that through these tools, it is on average 29% less expensive to service a notebook than a desktop due to fact that you don't need to send a technician into the field.

- **Remaining attractive in today's job market.** As the oldest of the 78 million US Baby Boomers reach retirement age, they're being replaced with a younger, more tech-savvy generation of Millennials or Gen Yers. It's important that IT departments are ready to meet their loftier mobility expectations because members of this generation has little patience for communication delays, regularly multitasks, and often knows what hardware and applications they need in order to be most productive. To remain attractive in tomorrow's competitive job market, firms need to ensure that mobility is a way of life within the business, and not just a perk for executives and heavy travelers.

Study Conclusions

Forrester's in-depth interviews with 322 PC decision-makers revealed that firms can increase productivity, enhance customer satisfaction, and drive operational costs down through expanded notebook investments across all employee segments — not just road warriors and heavy travelers. To continue on this extended mobile enterprise trajectory, companies need to execute on three imperatives.

- Make mobility a strategic asset if you haven't already to better align IT initiatives with business objectives.
- Move beyond a one-size-fits-all model to better serve your diverse, ever-changing, and increasingly demanding workforce needs.
- Look to new remote management and anti-theft tools to better manage PCs, even when off or the operating system is inoperable, and to better protect sensitive data, even in the event of a lost or stolen machine.

Appendix A: Methodology

Forrester conducted an online survey of 322 PC decision-makers at companies with 1,000 and more employees across multiple industries in the United States and Canada. The focus of the study was to develop an independent and objective thought leadership paper that educated the market on recent trends regarding the use and value of notebooks and rich mobile PCs. The survey respondents were screened by geographic region, company size, and the specific functions respondents had authority over in IT. The online survey was administered in August 2008 and completed in October 2008.

Appendix B: Related Research

"The State of Mobile Infrastructure: 2008" by Chris Silva, August 1, 2008.

"Forrester TechRadar™: Enterprise Mobility Infrastructure, Q3 2008" by Chris Silva, July 14, 2008.

"The Business Mobility Imperative" by Chris Silva, Benjamin Gray, June 9, 2008.

"The PC Purchase Process For SMBs" by Benjamin Gray, April 25, 2008.

"Forrester TechRadar™: Enterprise-Class Mobile Devices And Management Solutions, Q1 2008" by Benjamin Gray, January 31, 2008.

"The Rise Of Ubiquitous Mobility Solutions" by Chris Silva, September 14, 2007.

"How Enterprise Buyers Rate Their PC Suppliers And What It Means For Future Purchases" by Benjamin Gray, November 12, 2007.

"Answering 10 Of The Most Frequently Asked Corporate PC Configuration Questions" by Benjamin Gray, August 6, 2007.