

Research Study

*Analyzing the Return On Investment of a
BlackBerry Deployment*

Table of Contents

Executive Summary	i
BlackBerry Addresses Productivity and Immediacy	i
ROI Scenarios	ii
Summary	iii
Introduction	1
About This Report	1
Study Methodology	1
About Ipsos-Reid	1
BlackBerry ROI	2
Productivity	2
Immediacy	5
Direct Savings	7
RAS Savings	8
Decreased Wireless Phone Usage	10
Decreased Hardware Costs	11
Total Direct Savings	12
BlackBerry Total Cost of Ownership (TCO)	13
BlackBerry Return On Investment	14
Glossary	16

Executive Summary

Email is increasingly becoming the preferred means of communication. An independent Ipsos-Reid study of 1,000 active Internet users in June 2001 found that 61% agree that they preferred communicating via email than other methods. This same study found that half of active Internet users agree that they couldn't live without their email. While online shopping and other activities receive the most attention, email remains the Internet's true killer application.

The key weakness with email for the busy professional is that keeping up with it can be an arduous task. The study quoted above found that 39% agree that they can hardly keep up with all the email they receive. This is not difficult to fathom. Professionals who find themselves consistently on the road or busy in meetings can become overwhelmed with the number of emails that have accumulated. Additionally, it is unavoidable that many of these emails are time-sensitive and require immediate attention. Not being able to immediately address these types of messages in a timely manner can have severe consequences.

BlackBerry Addresses Productivity and Immediacy

BlackBerry is an effective tool for enhancing productivity. An extensive recent study with BlackBerry™ users has found that almost all users (93%) agree that BlackBerry has allowed them to convert downtime into productive time by giving them access to their email at all times. In fact, the typical user recovers an average of 53 work minutes a day because BlackBerry enabled them to convert what traditionally was downtime (traveling, waiting for meetings, waiting at the airport) into productive time.

Due to its ability to enhance user's responsiveness and awareness, BlackBerry also returns value in the form of immediacy. The same study with BlackBerry users found that almost all BlackBerry users (94%) agree that BlackBerry has improved their ability to stay on top of email without having to exclusively devote time to their inbox. Therefore, regardless of where they are or what they are doing, BlackBerry has empowered users to address immediacy concerns with email. Emails that need to be addressed right away are, rather than when the user returns to the office or has a chance to dial into the corporate network with their laptop.

A third benefit of BlackBerry as found in the study has been users' reductions in usage of devices such as wireless phones, basic PDAs, and laptops. For example, BlackBerry users find that they do not have to dial into the corporate network as frequently as they did before they used BlackBerry, nor do they have to spend as much time dialed in.

ROI Scenarios

The return on investment experienced by BlackBerry users varies in relation to the employee's role within their company and the degree of impact that their activities have on their firm's profitability. Several BlackBerry ROI scenarios for different occupation classes are presented below.

Scenario #1

Source of Value	Dollar Amount
Productivity (salary = \$50,000)	\$5,521
Immediacy (value of time sensitive email = \$2 each)	\$6,630
Direct Cost Savings	\$722.29
TOTAL	\$12,873.29
BlackBerry TCO	\$811.11
BlackBerry ROI	1,587%

Scenario #2

Source of Value	Dollar Amount
Productivity (salary = \$75,000)	\$8,281
Immediacy (value of time sensitive email = \$5 each)	\$16,575
Direct Cost Savings	\$722.29
TOTAL	\$25,578
BlackBerry TCO	\$811.11
BlackBerry ROI	3,153%

Scenario #3

Source of Value	Dollar Amount
Productivity (salary = \$140,000)	\$15,459
Immediacy (value of time sensitive email = \$10 each)	\$33,150
Direct Cost Savings	\$722.29
TOTAL	\$49,331
BlackBerry TCO	\$811.11
BlackBerry ROI	6,082%

Assumptions:

- Annual ROI, based on a 2-year amortization rate for fixed costs
- 100 BlackBerry handhelds and one BlackBerry Enterprise Server deployed throughout the organization

Note: See page 15 for a more detailed breakout of the above ROI tables

Summary

In summation, the value returned by BlackBerry in productivity, immediacy, and direct savings translates to a return on investment that can be nearly immediate. Firms that have embraced BlackBerry are enjoying benefits that are both quantifiable (immediate responsiveness to time-sensitive emails, downtime converted to productive time, direct savings) and unquantifiable (improved quality of life). Although firms buy BlackBerry to attain productivity and immediacy benefits, BlackBerry also provides significant direct savings. In fact, the annual total cost of ownership of BlackBerry is virtually offset by direct savings from displacing other communications costs.

Introduction

About This Report

The purpose of this report is to discuss the findings of a recent research study conducted with BlackBerry™ users. The objectives of the study were to determine the impact of BlackBerry adoption on professionals' usage of other mobile devices. Specifically, the study sets out to explore if BlackBerry usage resulted in a net decline in usage of PDAs, pagers, wireless phones, as well as a decrease in time spent dialed into the corporate network.

Other objectives of the study included: exploring attitudes and opinions of users towards BlackBerry; establishing the impact of BlackBerry on productivity; and collecting basic demographic information on BlackBerry users.

The data collected was used to determine the return on investment a company can expect to receive with the adoption of BlackBerry among staff.

Study Methodology

Research In Motion® (RIM®) sent a total of 1,100 BlackBerry users an email invitation to complete an online questionnaire hosted at RIM's website. A total of 320 users completed the full questionnaire for a response rate of 29%. The questionnaire was fielded between July 18th, 2001 and August 10th, 2001. A sample size of 320 provides a margin of error of $\pm 5.5\%$, 19 times out of 20. Subsamples will have a smaller base size and greater margin of error.

RIM also sent a total of 250 email invitations to IT Managers responsible for administering BlackBerry in their organization. A total of 48 questionnaires were completed for a response rate of 19%. The margin of error on a sample size of 48 in a universe of 250 is $\pm 11.4\%$, 19 times out of 20.

BlackBerry is an end-to-end wireless extension of users' corporate email and data. BlackBerry includes a RIM Wireless Handheld™, the client software on the handheld, the BlackBerry Enterprise Server and the wireless airtime. A sample of each of the RIM 850™, RIM 857™, RIM 950™ and RIM 957™ wireless handhelds available in market at the time of this study was achieved. The study also captured a sample each of companies with BlackBerry for Microsoft® Exchange, BlackBerry for Lotus® Domino™ and BlackBerry Internet Edition™.

All data was collected by RIM and verified by Ipsos-Reid.

About Ipsos-Reid

Founded by Angus Reid, Ipsos-Reid has conducted extensive market and social research in 80 countries and in 40 languages, and serves clients around the world through more than 300 professionals and 1,000 data collection staff in twelve offices. The company is a member of the Paris-based Ipsos Group, ranked among the top ten research companies in the world. (web site www.ipsos-reid.com)

BlackBerry ROI

The value returned by BlackBerry, on the lives and work practices of users, is a direct result of several key distinguishing features of BlackBerry such as: integration with an existing email address, "Always On, Always Connected"[®] functionality and ease-of-use.

BlackBerry returns value in three fundamental ways:

1. By increasing **Productivity**;
2. By providing **Immediacy** and improving responsiveness;
3. By offering **Direct Savings** in the form of alternate communications and mobile device expenses.

Productivity

BlackBerry creates value by enabling the user to convert downtime into productive time. The vast majority (93%) of BlackBerry users agree that the solution has allowed them to convert downtime into productive time by giving them access to their email (67% strongly agree and 26% somewhat agree) [figure 1].

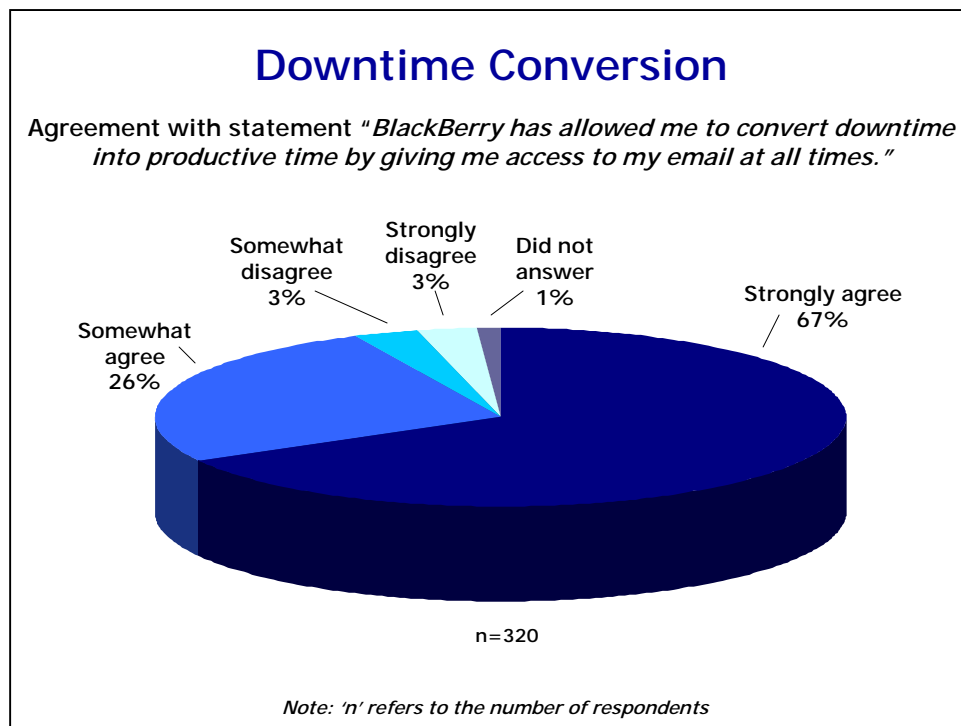


Figure 1

Not only do the majority of users feel that BlackBerry converts downtime into productive time, but the typical BlackBerry user states that they recover 53 minutes in downtime during each workday because of BlackBerry [figure 2]. Fifty-three minutes translates into just under 221 hours on an annual basis.

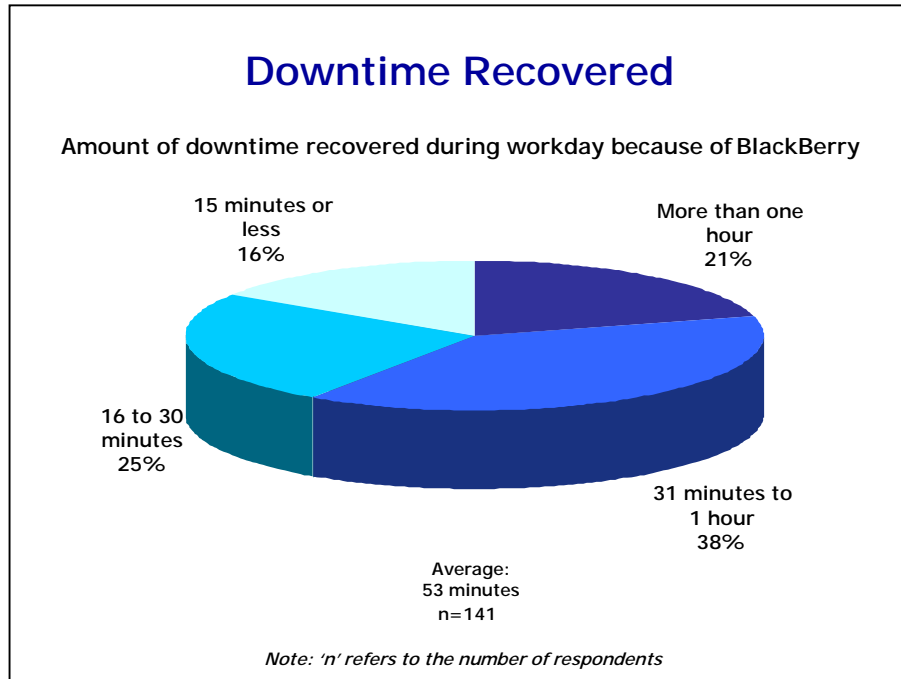


Figure 2

The impact of this recovery is dramatic and can most appropriately be measured in direct relation to the user's salary, as the value of their daily productivity is assumed to be accurately reflected in their salary level. As an example, if a BlackBerry user has an annual salary of \$50,000, BlackBerry saves that company \$5,521 annually in recovered productivity. If the user has an annual salary of \$140,000, \$15,459 is recouped on an annual basis [figure 3].

Salary of BlackBerry User	Annual Recovered Downtime
\$40,000	\$4,416
\$50,000	\$5,521
\$60,000	\$6,625
\$75,000	\$8,281
\$100,000	\$11,042
\$140,000	\$15,459

Figure 3

While the value of turning downtime into productive time is quantifiable, an intangible benefit also arises. Ninety-one percent of BlackBerry users agree that BlackBerry has improved their quality of life (42% strongly agree and 49% somewhat agree) [figure 4].

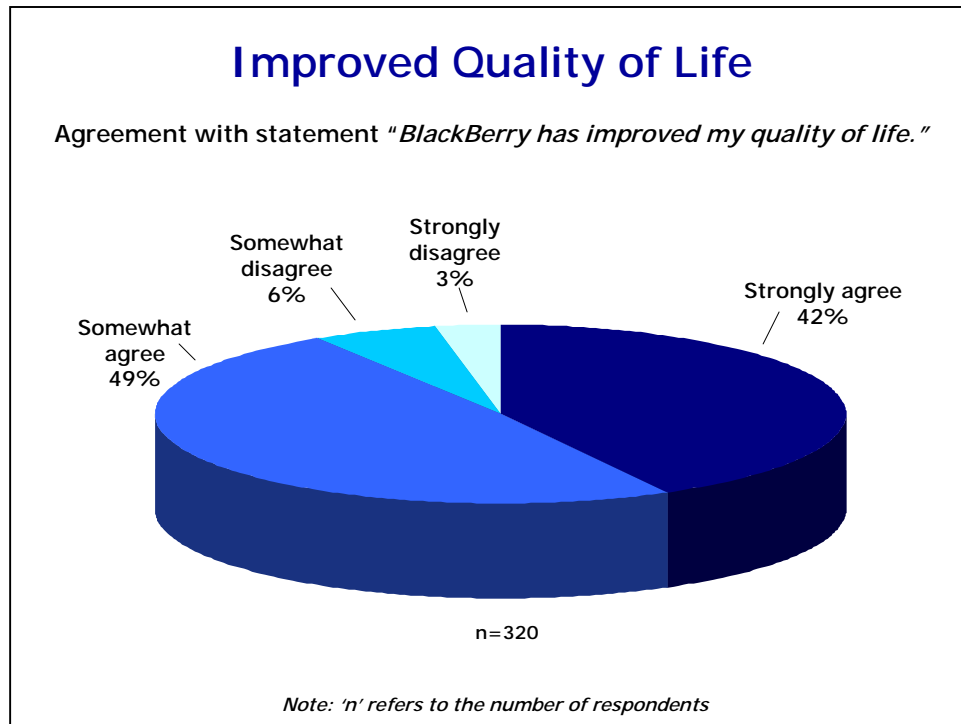


Figure 4

There are many employer benefits to employees feeling that they have an improved quality of life. Satisfied workers are more productive, have less absenteeism, have lower turnover rates, and have greater loyalty to the firm. Although a dollar value cannot be attributed to quality of life issues, it is clear that BlackBerry has resonated as a solution that has improved users' quality of life. Some selected comments from respondents include:

"It is difficult to separate work time and personal time these days ... one blends into the other. BlackBerry gives me flexibility to stay in control of time-sensitive demands. I can respond while coaching on the baseball field. That helps give me back a bit of my personal life and personal time from the office."

"Feeling of being in touch at all times makes leisure time more available, and more enjoyable too."

Immediacy

Immediacy is a second but distinct form of productivity because individuals contribute value to their firm not only in direct relation to their salary but also in relation to their personal responsiveness, timeliness and effectiveness. Types of distinct immediacy gains enhanced by BlackBerry include client retention and acquisition through improved responsiveness, transaction gains, and workforce productivity gains. Quantifying the immediacy benefits provided by BlackBerry requires placing a value on each time-sensitive communication that is facilitated using BlackBerry while the user is mobile.

The typical BlackBerry user reports that they receive an average of 59¹ business emails per day of which an average of 35% (or 21 emails a day) are time-sensitive. In fact, 26% of BlackBerry users state that at a minimum, half of the emails they receive are time sensitive [figures 5 and 6].

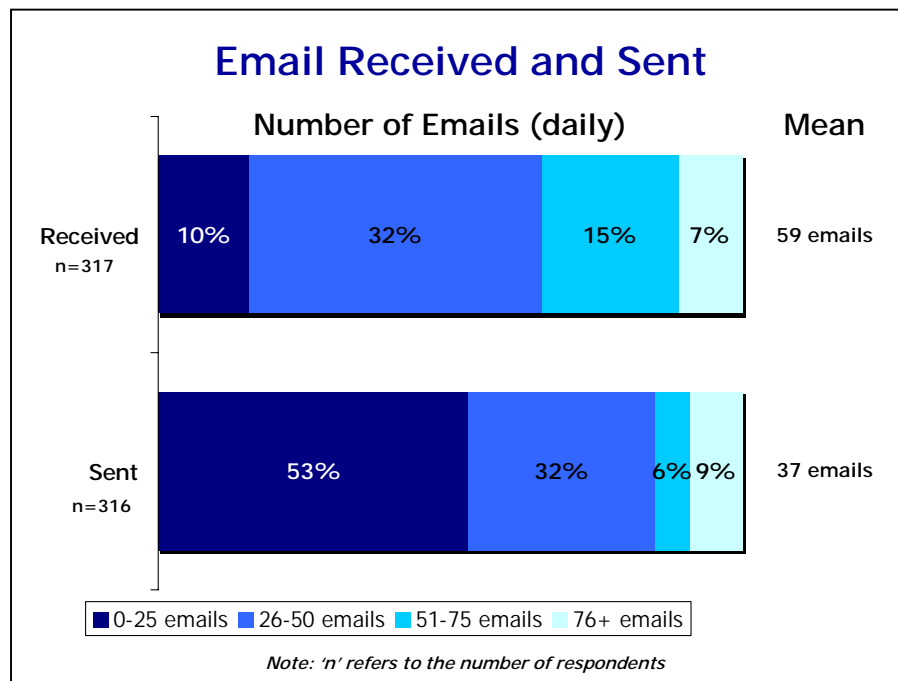


Figure 5

¹ This average refers to all emails received, not just emails received on the BlackBerry handheld.

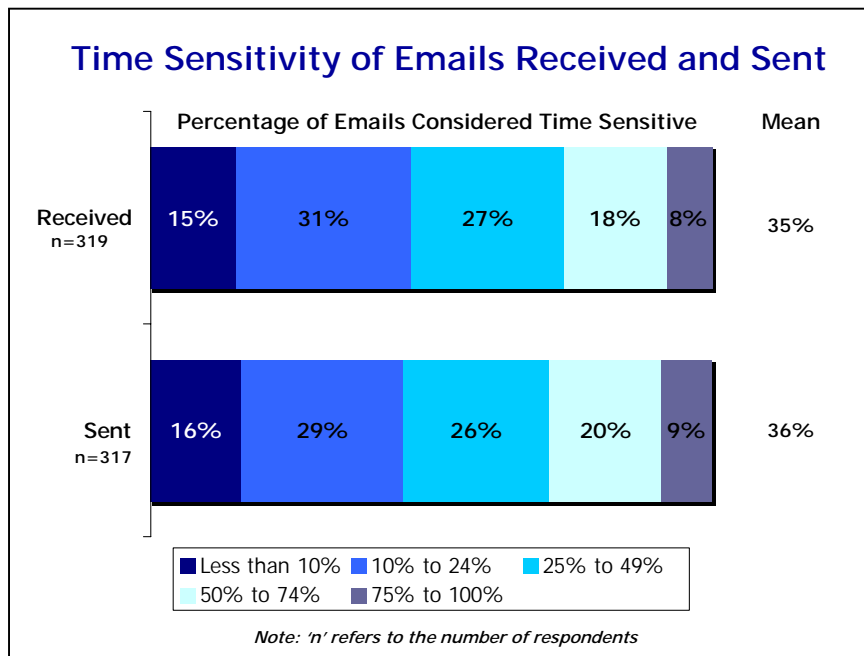


Figure 6

This pattern is replicated in emails sent on a daily basis. BlackBerry users indicate that they typically send an average of 37 business emails a day. Of these messages, the average BlackBerry user finds that 36% of these (or 13 emails) are time-sensitive and 29% report that at a minimum, half are time-sensitive [figures 5 and 6].

On an annual basis, the typical BlackBerry user is sending and receiving approximately 8,500² time-sensitive emails. As well, BlackBerry users are away from their desk or office, on average, 39% of the time.

For discussion purposes, the following table displays the dollar benefit of addressing time-sensitive emails at different arbitrary levels of value [figure 7]. This allows the selection of average values for immediacy for distinct users or user groups, based on criteria such as whether they are in a client-facing role, have subordinate staff reporting in to them, and the industry they work in.

Dollar value of time-sensitive email (per email)	Annual BlackBerry Return ³
\$1	\$3,315
\$2	\$6,630
\$5	\$16,575
\$10	\$33,150
\$15	\$49,725
\$20	\$66,300

Figure 7

² Time sensitive emails received (21 per day) + time sensitive emails sent (13 per day) x 250 workdays per year = 8,500.

³ Dollar value x Time spent mobile (39%) x 8,500 time sensitive emails

Direct Savings

Prior to discussing the direct savings associated with the deployment of BlackBerry, it is important to discuss the incidence of other communications and computing devices also used by BlackBerry users.

The most popular communications and computing tools used by BlackBerry users are laptops (67%), wireless phones (56%) and advanced wireless phones (35%). Other devices used by BlackBerry users are PDAs (23% for basic PDAs and 6% for wireless PDAs) and pagers (5% each for numeric and alphanumeric) [figure 8].

It is important to note that these figures represent the usage rates of competing and complementary devices after users have adopted BlackBerry. The savings incurred apply only to the proportion of users utilizing those devices. These numbers are significant for calculating Remote Access Server (RAS) and mobile phone airtime savings.

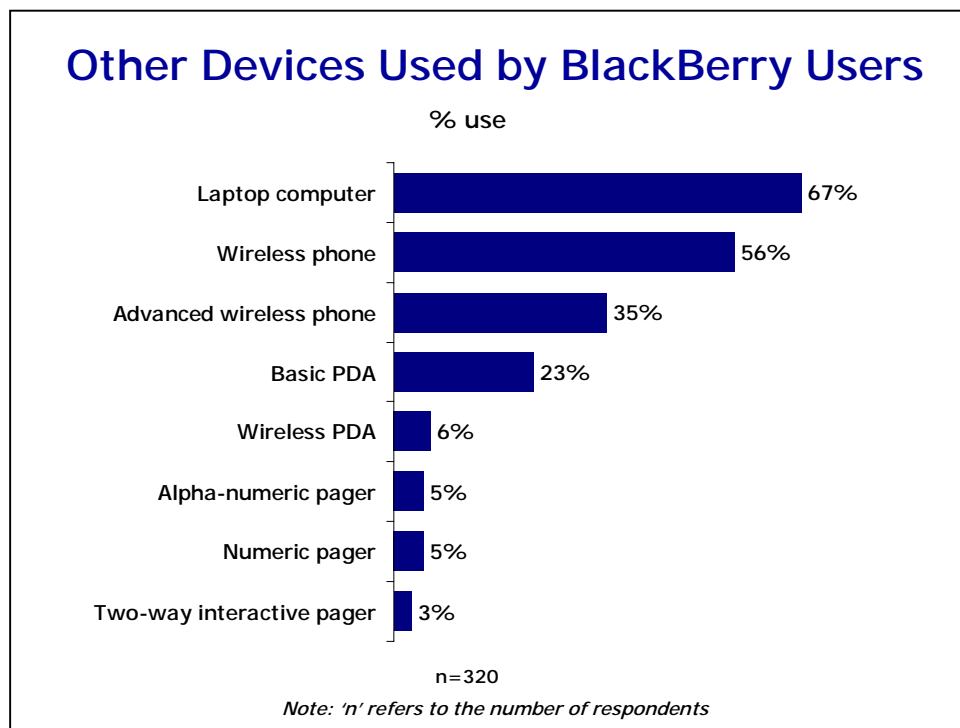


Figure 8

RAS Savings

Prior to becoming a BlackBerry user, respondents were using their laptop to dial into their corporate network an average of 18.3 times a month [figure 9]. Given an average session length of 56 minutes [figure 10], respondents were spending 1,025 minutes a month dialed in.⁴

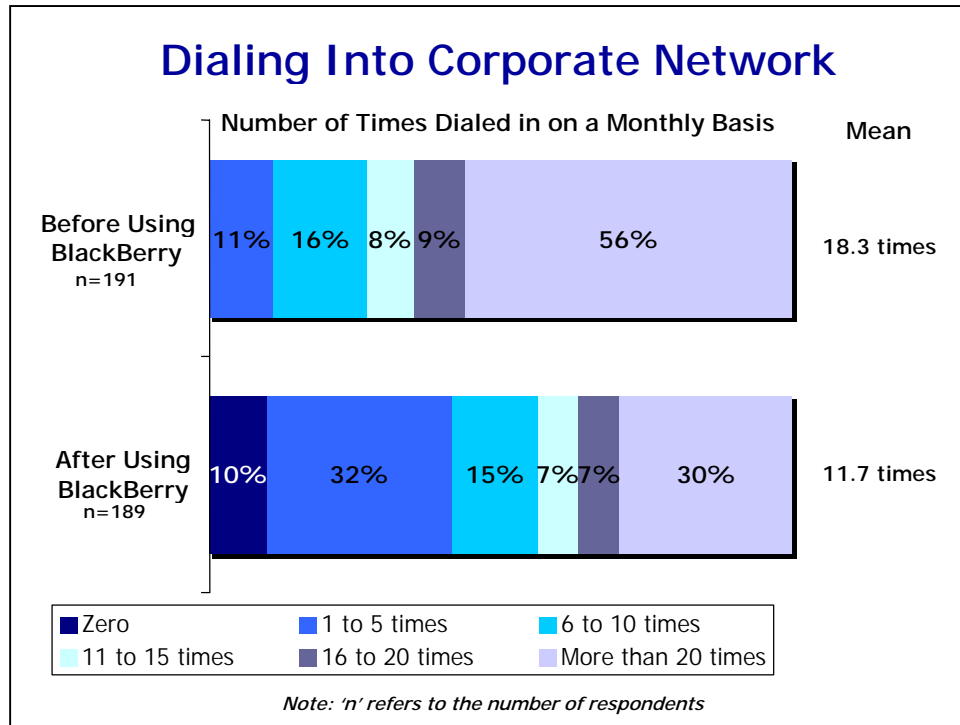


Figure 9

⁴ 18.3 sessions a month x 56 minutes per session = 1025 minutes per month

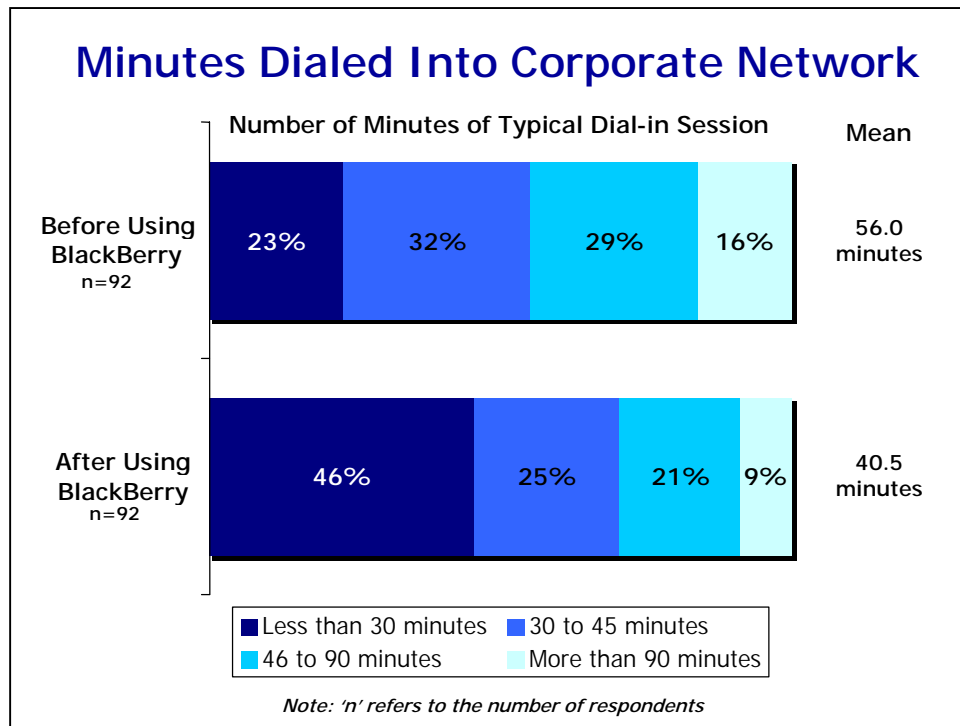


Figure 10

However, since commencing usage of BlackBerry, users are now dialing in an average of 11.7 times a month [figure 9], with an average session length of 40.5 minutes [figure 10]. This savings is equivalent to 474 minutes a month⁵, which is a reduction of 54%. Assuming a 10-cent per minute average charge for dialing in (dial-in and support costs) results in annual savings to the company of \$403.13 per user.

The calculations for these RAS savings are detailed in the table below (figure 11).

A	B	C	D	E	F	G
% with Laptops	% that dial-in	Pre-BlackBerry Dialed-in Minutes (monthly)	Dialed-in Minutes After Commencing BlackBerry Use (monthly)	Annual Minutes Saved (C-D x 12 months)	Cost per minute	Annual Savings per user (A x B x E x F)
67%	91%	1,025	474	6,612	\$.10	\$403.13

Figure 11

⁵ 11.7 sessions a month x 40.5 minutes per session = 474 minutes per month

Decreased Wireless Phone Usage

BlackBerry users who use standard or advanced wireless phones are also discovering that they are spending less time on their wireless phone. Standard wireless phone users were using a total of 715.2 minutes a month prior to using BlackBerry. Since using BlackBerry, these monthly wireless minutes have dropped to 606.7. Over one year, this decrease results in savings of \$72.91 per average BlackBerry user (assuming a charge of 10 cents per minute and adjusting for the proportion of BlackBerry users with standard wireless phones).

The same pattern emerges with advanced wireless phones. The average usage minutes per month per BlackBerry user were 854.9. After deploying BlackBerry these minutes dropped to 761.2 per month, for an annual reduction of 1,124 minutes a year and cost savings of \$39.34 per average BlackBerry user [figure 12].

A	B	C	D	E	F	G
Type of Wireless Phone	% with Wireless Phones	Pre-BlackBerry Wireless Phone Minutes (monthly)	Wireless Phone Minutes After Commencing BlackBerry Use (monthly)	Annual Minutes Saved (C-D x 12 months)	Cost per minute	Annual Savings per user (B x E x F)
Standard	56%	715.2	606.7	1,302	\$.10	\$72.91
Advanced	35%	854.9	761.2	1,124	\$.10	\$39.34
						\$112.25

Figure 12

Decreased Hardware Costs

The percentage of BlackBerry users who stop using PDAs and pagers is quite significant. For example, as detailed in the graph below, 48% of BlackBerry users that had a basic or wireless PDA stopped using it once they started using BlackBerry. Almost 25% of pager users stopped using their pagers once they started using BlackBerry (figure 13).

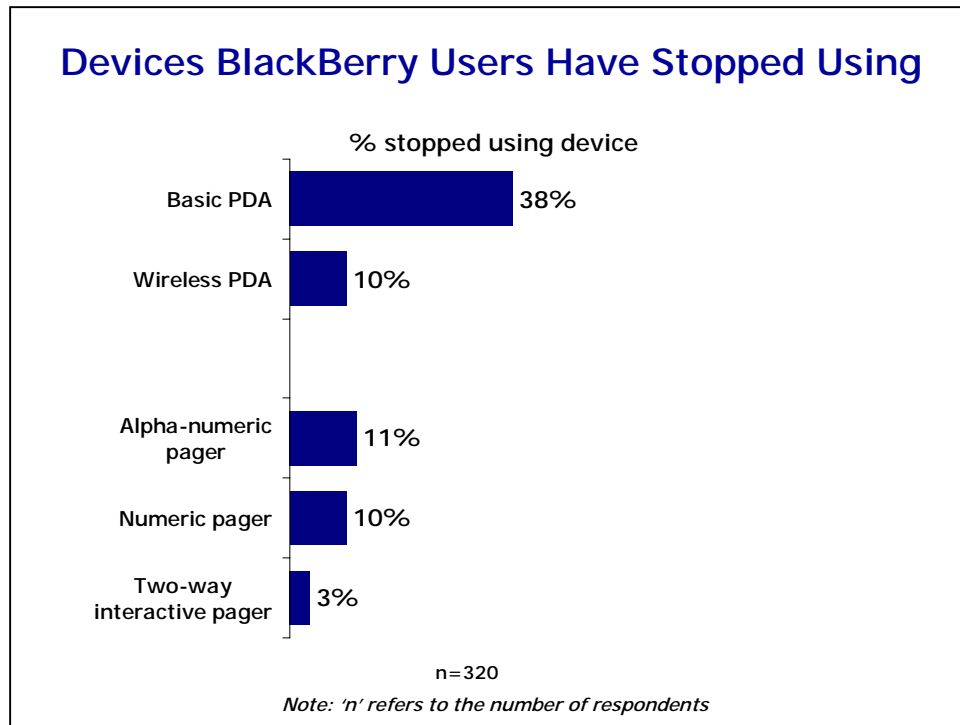


Figure 13

This displacement of PDAs and pagers also adds to the company's bottom line as per the following table (figure 14).

A	B	C	D	E	F
Product	Avg. Cost	% Use Before	% Stop Using	% Use After (C - D)	Savings per user (B x D)
PDAs	\$248.56 ⁶	77%	48%	29%	\$119.31
Pagers	\$365 ⁷	37%	24%	13%	\$87.60
					\$206.91

Figure 14

⁶ Weighted average cost of PDA makes and models, includes airtime costs where applicable

⁷ Weighted average cost of numeric and alphanumeric pager costs, includes airtime costs where applicable

Total Direct Savings

Accordingly, when adding up the savings in reduced RAS, reduced wireless phone minutes, and discontinued usage of PDAs and pagers, implementing BlackBerry results in direct cost savings of \$722.29 per user (figure 15).

Reduced RAS Savings	\$403.13
Reduced Wireless Phone Minutes Savings	\$112.25
Discontinued Usage of PDAs and Pagers Savings	\$206.91
TOTAL	\$722.29

Figure 15

BlackBerry Total Cost of Ownership (TCO)

Given the various sources of value enjoyed by BlackBerry users, it is possible to calculate the return on investment experienced by firms that have embraced BlackBerry. Prior to conducting this calculation, it is necessary to determine the total cost of ownership (TCO) of the BlackBerry solution. The following calculation is based on the investment required by a firm with 100 BlackBerry users (figure 16).

Cost	Annual Cost Per User
BlackBerry Handheld	\$225.00
BlackBerry Software	\$45.10
Airtime	\$480.00
Client Internal Support (IT hours)	\$55.20
Additional Upgrade and Application Loading	\$5.81
TOTAL	\$811.11

Figure 16

Assumptions for the above table include:

- The RIM 857 and RIM 957 handhelds cost: \$499; the RIM 850 and RIM 950 handhelds cost: \$399.
 - Assuming a 50/50 split gives an initial cost of \$450 per handheld. The BlackBerry handheld is amortized over two years (\$450 initial cost divided by two years)
- The BlackBerry software cost includes the cost for the BlackBerry Enterprise Server, additional Client Access Licenses and the Software Upgrade Program, with the software amortized over two years⁸
- The airtime cost is based on a \$39.99 per month flat-rate fee x 12 months
- IT managers responsible for administering BlackBerry in their organization report a total of 4.8 hours per month required for handheld support and 4.4 hours per month required for BlackBerry Enterprise Server support. Based on an IT manager's salary of \$100,000, this is equivalent to \$55.20 per user⁹
- 7% of IT managers report requiring additional upgrade and application loading costs of \$8,300 per year for all users (this is equivalent to \$5.81 per average BlackBerry user calculated as follows: 7% x \$8,300 divided by 100 users).

⁸ BlackBerry Enterprise Server cost = \$2999; additional Client Access Licenses cost = 8 sets of 10 x \$490 each = \$3920; Software Upgrade Program cost = [\$450 per server x 2 years] + [8 sets of additional CALS x \$75 x 2 years] = \$900 + 1200 = \$2100

[((\$2999+3920+2100)/100 users)]/2years= \$45.10 per user, per year

⁹ \$100,000 divided by 250 working days of 8 hours per day = \$50 per hour

\$50 per hour x 9.2 hours per month in support x 12 months = \$5,520 per year

\$5,520 divided by 100 users equals \$55.20 per user

BlackBerry Return On Investment

The return on investment experienced by BlackBerry users varies in relation to the employee's role within their company and the degree of impact that their activities have on the firm's profitability. Several BlackBerry ROI scenarios for different occupation classes are presented below.

Scenario #1

- Salary of average BlackBerry User = \$50,000
- Value of Time Sensitive Email = \$2 each
- Annual ROI, based on a 2-year amortization rate for fixed costs
- 100 BlackBerry handhelds and one BlackBerry Enterprise Server deployed throughout the organization
- Annual BlackBerry TCO = \$811.11

Source of Value	Dollar Amount	Cumulative Savings	BlackBerry ROI ¹⁰	Payback Period ¹¹
Direct Cost Savings	\$722.29	\$722.29	89%	281 days
Productivity (\$50,000 salary)	\$5,521.00	\$6,243.29	770%	32 days
Immediacy (\$2 per time sensitive email)	\$6,630.00	\$12,873.29	1,587%	16 days

Scenario #2

- Salary of average BlackBerry User = \$75,000
- Value of Time Sensitive Email = \$5 each
- Annual ROI, based on a 2-year amortization rate for fixed costs
- 100 BlackBerry handhelds and one BlackBerry Enterprise Server deployed throughout the organization
- Annual BlackBerry TCO = \$811.11

Source of Value	Dollar Amount	Cumulative Savings	BlackBerry ROI ¹⁰	Payback Period ¹¹
Direct Cost Savings	\$722.29	\$722.29	89%	281 days
Productivity (\$75,000 salary)	\$8,281.00	\$9,003.29	1,110%	23 days
Immediacy (\$5 per time sensitive email)	\$16,575.00	\$25,578.29	3,153%	8 days

Scenario #3

- Salary of average BlackBerry User = \$140,000
- Value of Time Sensitive Email = \$10 each
- Annual ROI, based on a 2-year amortization rate for fixed costs
- 100 BlackBerry handhelds and one BlackBerry Enterprise Server deployed throughout the organization
- Annual BlackBerry TCO = \$811.11

Source of Value	Dollar Amount	Cumulative Savings	BlackBerry ROI ¹⁰	Payback Period ¹¹
Direct Cost Savings	\$722.29	\$722.29	89%	281 days
Productivity (\$140,000 salary)	\$15,459.00	\$16,181.29	1,995%	13 days
Immediacy (\$10 per time sensitive email)	\$33,150.00	\$49,331.29	6,082%	4 days

¹⁰ BlackBerry ROI = Cumulative Saving/BlackBerry TCO

¹¹ Payback Period = BlackBerry TCO/(Cumulative Savings/250 business days)

Glossary

2-way Interactive Pager – A pager that can send and receive full-length text messages.

Advanced Wireless Phone – A wireless phone with SMS, wireless browser, and/or email functionality.

Alphanumeric Pager – A pager that receives text and numeric messages

Basic PDA – A PDA without wireless capability.

BlackBerry TCO - Total Cost of Ownership: The MSRP (Manufacturer's Suggested Retail Price) BlackBerry handheld and server costs, including internal client support costs as reported by IT managers responsible for BlackBerry in their organizations.

Direct Savings - The displacement of other communications costs including Remote Access Server (RAS) costs, mobile phone airtime costs and similar product hardware savings including PDAs and pagers.

Immediacy - The number of time sensitive emails sent and received, multiplied by the value of each critical correspondence.

Numeric Pager – A pager that receives numeric messages only.

Productivity - The number of work minutes saved by BlackBerry users per day, multiplied by average salary.

Standard Wireless Phone – A wireless phone with voice-only functionality.

Wireless PDA – A PDA with built-in or add-on wireless capability.