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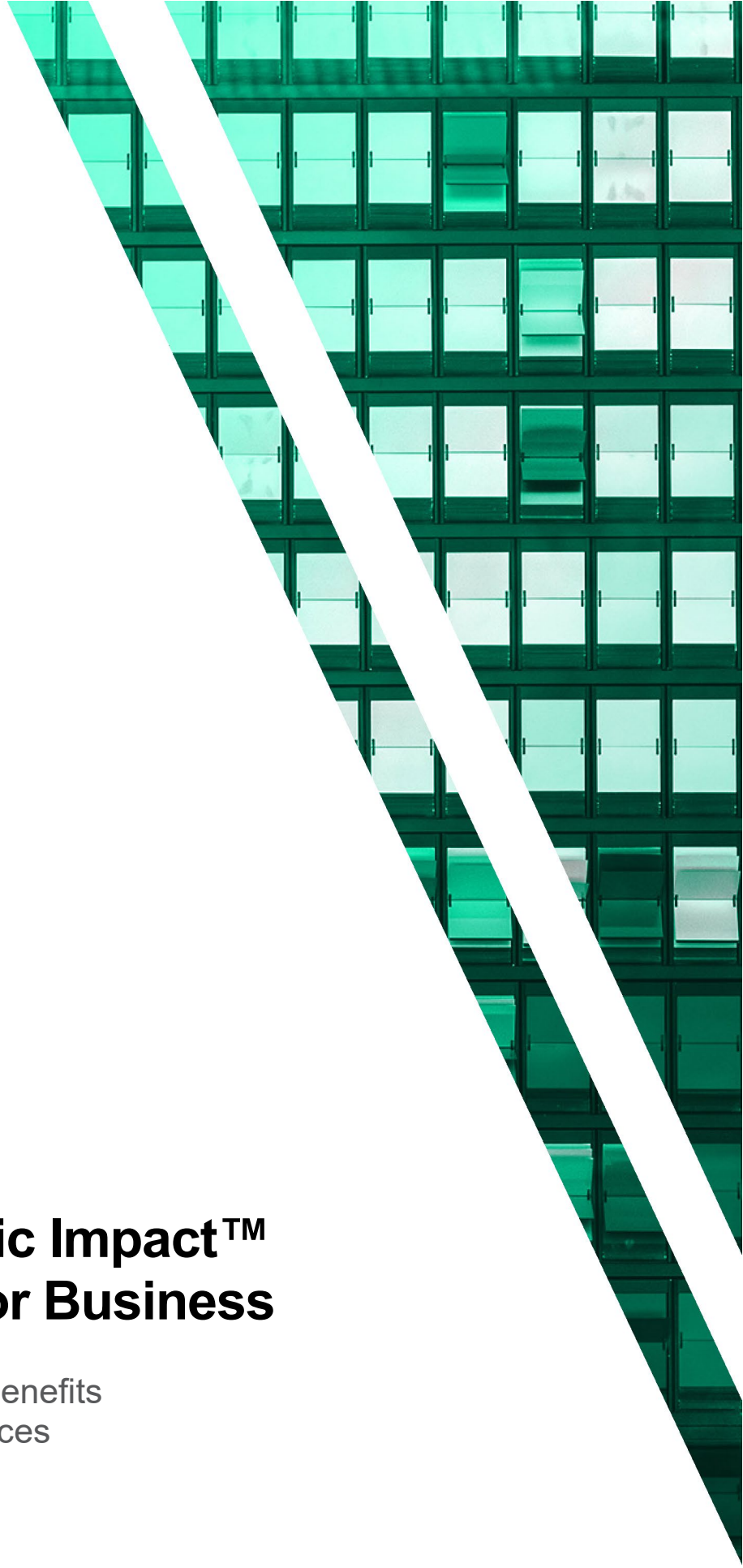

The Total Economic Impact™ Of Google Pixel For Business

Cost Savings And Business Benefits Enabled By Pixel Mobile Devices

DECEMBER 2022

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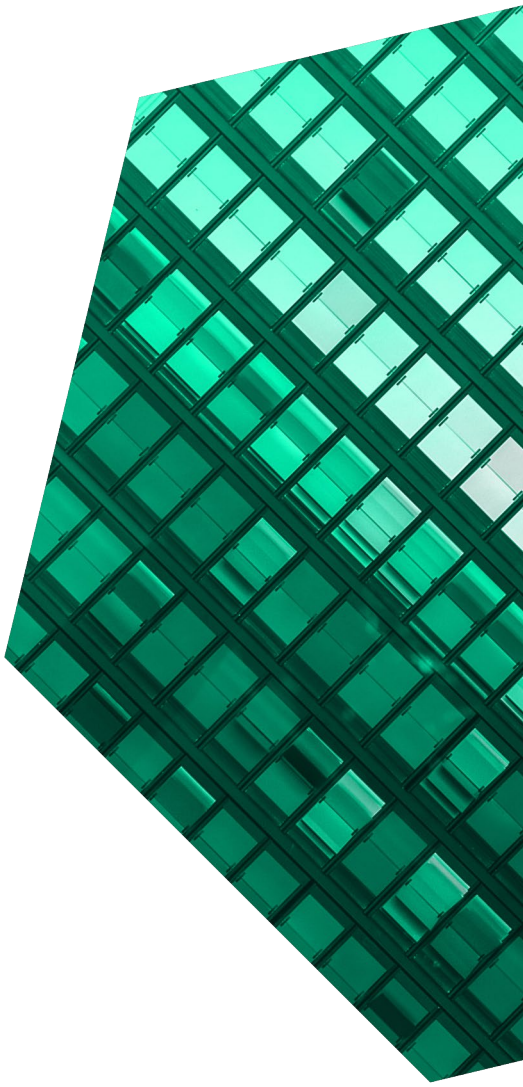


Executive Summary

With a more distributed workforce, organizations are increasingly reliant on mobile devices to provide flexibility and increase employee productivity. At the same time, this expanded employee access to organizational assets can create security issues if the devices are not properly secured. Google helps businesses reconcile these two sometimes conflicting demands with the Pixel mobile device.

Google Pixel is Google's brand of mobile phone, which runs on Google's own Android platform. Pixel's native connection to Android and Google's Workspace productivity suite, along with Google's commitment to security and feature support for five years, makes the device a contender for inclusion in organizations' mobile device programs.

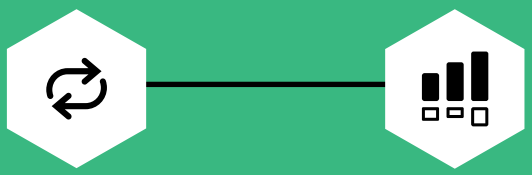
Google commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Pixel.[1] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Pixel on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed eight representatives at six organizations which have adopted Pixel. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization—a $20-billion global company with 40,000 employees called Sencroft.

Prior to using Pixel, these interviewees noted how their organizations experienced increasing growth in employee use of mobile devices for work as well as their level of access to company assets. Their teams worked to ensure that employees had phones that would allow them to be productive while protecting their organizations' security with the result that many of the interviewees and their teams struggled to manage and support an unwieldy array of brands, models, and operating systems.

Several organizations conducted extensive score-card comparisons of security, pricing, manufacturer support, global availability, and fit with their systems to narrow down the list of devices to two brands. They determined that Pixel was that one Android brand they wanted on their approved list.

KEY STATISTICS



Return on investment (ROI)
209%

Net present value (NPV)
$9.22M

Hardware cost savings

$6.7M

After the investment in Pixel, the interviewees told Forrester they were confident that employees had access to a phone that secured company data, reduced their teams' administrative workload, and exceeded employee expectations. Key results from the investment include significant savings in hardware cost and employee productivity, as well as improved security around this potential threat vector for their organizations.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits include:

- **Lowered hardware cost is worth $6.7 million.** Pixel phones are less expensive than most other premium/entry-premium smartphones available, so the composite organization saves money by replacing almost any other brand with Pixel. In addition, Pixel's five-year security support and feature upgrades extend the useful life of the phone, which saves the composite organization even more.
- **Enhanced device performance returns $5.6 million.** Pixel devices come without preloaded third-party apps. This saves users time both at setup and on an ongoing basis. Because Sencroft uses Google Workspace, its users also benefit from a familiar and seamless operating experience, saving additional time while using the device.
- **Reduced risk of breach saves $1.1 million.** Google's monthly patching protects the composite organization's assets, and the lack of bloatware further reduces the chance of malicious code infecting Sencroft's system.
- **Increased IT team productivity frees up $279,000 in technicians' time.** With fewer models and operating system releases to certify and document each year, as well as fewer user issues resulting from non-native apps, the mobility team spends less time on mundane tasks and more on helping other teams to better address business issues using mobile technology.

Unquantified benefits. Benefits that provide value for the composite organization but are not quantified in this study include:

- **Increased IT/mobility team focus on business issues.** IT team members spend the time freed up from administrative tasks on more fulfilling and strategically important work, benefitting both the composite organization and the technicians themselves.
- **Enhanced employee satisfaction with the phone itself.** Although it was not the main reason for including Pixel as an approved device, employees are more satisfied with Pixels than previous phones. They point to the improved camera lens and tools, as well as better experiences with key apps, such as voice-to-text and call screening.
- **Improved sense of data privacy.** With its clear delineation between work and personal profiles, Pixel provides employees assurance that their personal data is not accessible to (and won't be deleted by) their organization

Costs. Three-year, risk-adjusted PV costs for Sencroft include an investment of $4.4 million, which provides qualifying employees with Pixel phones. At a price of $449 each, discounted $200 by the company's carrier, the Pixel devices Sencroft buys for its employees over the three-year period of the analysis cost approximately $4.4 million.

The repFINALresentative interviews and financial analysis found that a composite organization experiences benefits of $13.63 million over three years versus costs of $4.41 million, adding up to a net present value (NPV) of $9.22 million and an ROI of 209%.

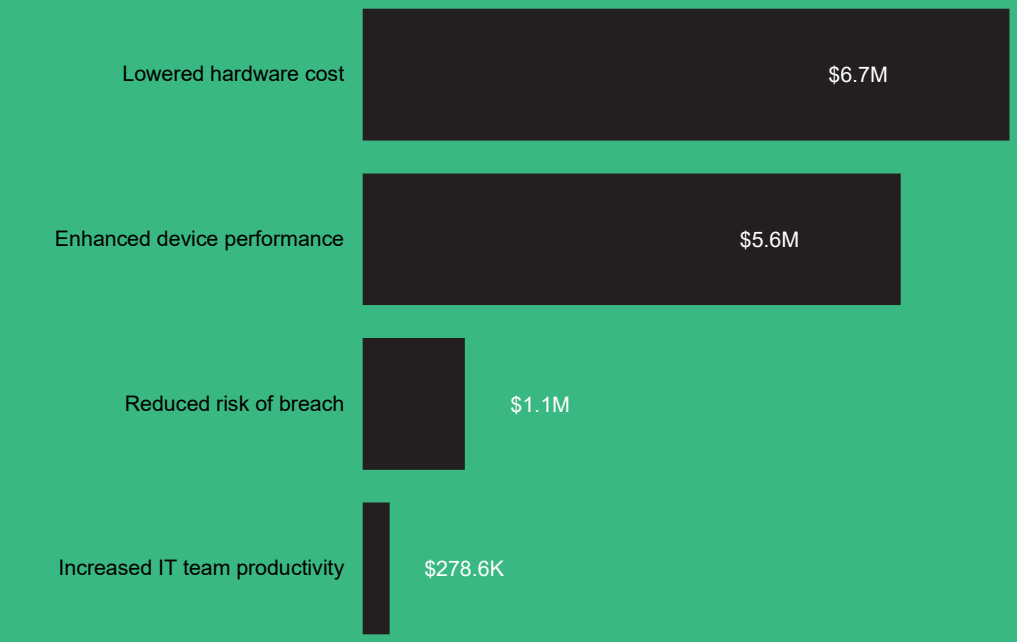
ROI
209%

BENEFITS PV
$13.63M

NPV
$9.22M

PAYBACK
<6 months

Benefits (Three-Year)



“If I needed to choose only one Android device for enterprise purposes, it would definitely be Pixel.”

— Senior IT consultant, technology

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in Pixel.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that Pixel can have on an organization.

Forrester Consulting conducted an online survey of 351 cybersecurity leaders at global enterprises in the US, the UK, Canada, Germany, and Australia. Survey participants included managers, directors, vice presidents, and C-level executives who are responsible for cybersecurity decision-making, operations, and reporting. Questions provided to the participants sought to evaluate leaders' cybersecurity strategies and any breaches that have occurred within their organizations. Respondents opted into the survey via a third-party research panel, which fielded the survey on behalf of Forrester in November 2020.

The Google Pixel Customer Journey

Drivers leading to the Pixel investment

Interviews

Role	Industry	Revenue	Mobile Phones
Client infrastructure analyst	Manufacturing	$9.7 billion	~10,000 Direct purchase/BYOAD
Tech operations and support	Entertainment	$30.4 billion	~9,000 Corporate liable
Technical support consultant	Technology	$32.5 billion	~88,000 CYOD/BYOAD
Senior IT consultant	Technology	$32.5 billion	~88,000 CYOD/BYOAD
Head of engineering and development, enterprise mobility	Government	N/A	~40,000 Corporate liable
Wireless and mobile SME	Financial services	$40 billion	~5,500 corporate liable ~40,000 BYOAD
Enterprise mobility engineer	Financial services	$40 billion	~5,500 corporate liable ~40,000 BYOAD
Systems engineer	Technology	$9.6 billion	~15,000 CYOD/BYOAD

KEY CHALLENGES

The interviewees worked in organizations that recognized the importance — and the productivity benefits — of providing employees with smartphone technology that empowered them to work from anywhere. In their drive to provide these tools, though, especially during the COVID-19 pandemic, many teams found themselves supporting a confusing array of different brands and models from the most recent flagships to those with operating systems that were badly out of date.

Interviewees related that their management wanted to provide employees with the choice of which phone they preferred rather than dictating that to them, and most interviewees believed the trend was moving away from dictating a single work-only phone. Some companies, however, required that at least a portion of their workforce (those with access to more sensitive data and applications or who need proprietary apps to do their jobs) use a locked-down phone of the company's choice. Those companies also tended to have a separate company-paid option for other employees who were not required to use the work-only device.

> **"We had a mixed bag of everything and it was getting out of hand. Security came to my team saying, 'We need standards here.' We did a bake-off and determined Pixel was the right one for us to buy."**
>
> *Systems engineer, technology*

Finally, virtually all of the interviewees noted that their organizations also provided a bring-your-own-approved-device (BYOAD) option that allowed employees, who did not qualify for a company-paid

phone, to access a limited set of work-related functions, such as email.

As a result of these overlapping and sometimes unclear policies, interviewees noted how their organizations struggled with challenges, including:

- **Ensuring enterprise security while expanding remote access via mobile devices.** The challenge most on the minds of interviewees was how to keep their organizations' data and technology assets safe while providing maximum access for employees to work from remote locations and at any time of day. As more employees made use of their phones more often for business purposes, mobility and security teams were very aware of the growing threat posed by that accessibility. As a senior IT consultant at a technology company reminded us: "The risk associated with mobile devices is increasing all the time because you have so much on your mobile device and you use it for everything. The corporate data is in a secure cloud, but you have access to that via your mobile device and that's why the risk is getting higher and higher. I'm not sure if senior management understands the risk, and that it's growing."
- **Excessive IT time spent administering mobile phones.** With a growing number and array of mobile devices tapping into company assets, mobility teams found themselves spending the majority of their time on administrative tasks. They assisted a growing number of users who had problems connecting and working with their devices. They were constantly managing the deployment of new models and operating systems, including certifying and creating documentation for each of them.

  Finally, they chased down security threats in the form of outdated operating systems, inconsistent patching, disconnects with their endpoint management tools, and unauthorized apps and workarounds.

> **"Even if you have settings to remove [unauthorized apps], it's just another administrative nightmare that my team now has to manage. I don't want us to have to think about that."**
>
> *Head of engineering and development, enterprise mobility government*

- **Inability to leverage workforce size to negotiate more favorable pricing.** Although several of the interviewees bought mobile devices for tens of thousands of employees, their ability to leverage that volume for discounts from their carriers or the manufacturers was limited by the diversity of brands and models of authorized devices they allowed.

INVESTMENT EVALUATION PROCESS

In order to mitigate some of the preceding issues, interviewees described changes in their organizations' policies and device selection process. In some cases, these were prompted by concerns from security teams and in other cases by changes in the mobility marketplace.

Most of the interviewees told Forrester that their teams had recently limited the selection of phones available for their corporate liable programs in order to reduce the administrative workload on the IT team. While they still provided some degree of choice, it was often limited to two brand options. Several organizations conducted an extensive score-card comparison of security, pricing, manufacturer support, global availability, and fit with their systems.

They determined that Pixel was the one Android brand they wanted on their approved list.

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected. The composite organization is representative of the six companies participating in the study, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The organization, Sencroft, is a $20-billion company with global operations and 40,000 employees. It has a mobile policy that provides company-paid devices for 60% of its workforce. One-third of these are corporate choice Android phones the Sencroft mobility team selected. They are provisioned with proprietary apps these employees require to do their jobs. The remaining two-thirds of the corporate liable phones do not need to work with these apps, so they are provided via a choose-your-own-device (CYOD) portal where employees select from a list of approved devices, including Pixel.

Sencroft also allows nonqualifying employees to BYOAD to access certain work-related functions, as long as it meets the company's requirements for a recent (usually N-1) OS release and acceptable patching cadence. Since Sencroft does not pay for these devices, they are not included in this study's analysis.

Key Assumptions

- **$20 billion revenue**
- **40,000 employees**
- **24,000 corporate liable phones**
- **1,000 Pixels**

Analysis Of Benefits

Quantified benefit data as applied to the composite

Total Benefits						
Ref.	**Benefit**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Lowered hardware cost	$2,430,432	$2,430,432	$3,313,926	$8,174,790	$6,707,907
Btr	Enhanced device performance	$2,243,102	$2,243,102	$2,243,102	$6,729,307	$5,578,264
Ctr	Reduced risk of breach	$268,193	$480,512	$558,734	$1,307,439	$1,060,714
Dtr	Increased IT team productivity	$112,039	$112,039	$112,039	$336,118	$278,625
	Total benefits (risk-adjusted)	$5,053,766	$5,266,085	$6,227,802	$16,547,654	$13,625,510

LOWERED HARDWARE COST

Evidence and data. Interviewees described two primary ways in which they lowered hardware costs with Pixel. First, the list price of Pixels tends to be lower than most other premium or entry-premium devices, despite offering competitive or superior features (such as the Pixel 6 camera with Real Tone). As a result, when the organizations added Pixel to their CYOD programs or switched their direct purchase devices to Pixel, their cost to purchase the devices dropped in line with the portion of corporate liable phones that were Pixel.

Second, the interviewees all agreed that Pixels had a longer lifecycle than most other phones, which allowed them to extend the useful life of the phones they did buy and, therefore, buy fewer phones overall. These decision-makers told Forrester that Pixels have a longer lifecycle because: 1) Google supports the devices with monthly security patches for five full years and 2) Google also provides feature upgrades when new models are released. They agreed that these upgrades made the device feel more like a new phone to users who were, therefore, more willing to keep their phone longer.

> **"Pretty much every product cycle, Pixel comes in at a lower price point than other devices, which we really appreciate."**
>
> *Tech operations & support, entertainment*

As a senior IT consultant in the technology industry stated: "You can keep [Pixel] longer. We usually replace after about three years, but we can keep the Pixel device for at least four years because we get Google's support on it. That extra year or more makes Pixel an even less expensive option."

Modeling and assumptions. In order to model a value for this benefit, Forrester assumes the following:

- The organization begins with a combination direct purchase and CYOD program, in which 24,000 employees qualify for corporate-liable phones.

- Eight thousand of those employees receive direct purchase Androids (not Pixels), which are required to do their jobs properly.
- In addition, 9,000 CYOD employees choose competitor phones and 7,000 choose Androids, 1,000 of which are Pixels.
- The company generally replaces phones every two years to benefit from the latest security features and in keeping with their carrier's standard contract period.
- In Year 1, Sencroft purchases an incremental 4,640 Pixels, rather than other phones it would have purchased instead.
- In Year 1, it switches its direct purchase phone brand to Pixel and replaces the 4,000 phones due for upgrade to Pixels.
- An additional 8% of the 8,000 employees in the CYOD program whose phones are due for upgrade choose a Pixel in Year 1.
- The phones Sencroft replaces with Pixels in Year 1 are primarily other Android brands priced at $475, but also include competitor phones priced at $799 (including an assumed $200 discount from its carrier in both cases). Thus, the company avoids the purchase of 4,640 phones at a weighted price of $582.
- In Year 2, the same dynamic holds as Sencroft replaces the other half of the phones due for upgrade and another 8% of CYOD employees choose Pixel.
- With all 8,000 direct purchase phones switched to Pixel, 1,720 additional CYOD users choose Pixel in Year 3, primarily switching from a competitor. Sencroft avoids purchasing 1,720 phones at $799 each.
- Pixels from Year 1 (including both the 4,640 new direct purchase phones and the 500 Pixels owned by CYOD employees which were upgraded that year) are due for upgrade. Because the Pixel lifecycle is three to four years, Sencroft does not purchase those Pixels in Year 3, avoiding paying $449 each for them (with the same assumed $200 discount from the carrier).

Risks. Other organizations may experience a different value from this benefit based on the following factors:

- The organization's mobile device purchase policies before and after the switch to (or addition of) Pixel.
- The resulting mix of brands and their prices in place in the organization.
- The prices paid for mobiles and level of discount from carriers or other resellers.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $6.7 million.

Lowered Hardware Cost					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
A1	Number of Pixels managed	Composite	5,640	10,280	12,000
A2	Number of new Pixels purchased	Composite	4,640	4,640	1,720
A3	Number of Pixels replaced	Composite	500	500	0
A4	Average price of non-Pixel purchases avoided	Interviews	$582	$582	$799
A5	Subtotal: Total purchase price savings	A2*A4	$2,700,480	$2,700,480	$1,374,280
A6	Pixel purchases avoided due to longer lifecycle	Interviews	0	0	5,140
A7	Price of Pixels (discounted by carrier)	Interviews	$449	$449	$449
A8	Subtotal: Savings on purchase of replacement phones	A6*A7	$0	$0	$2,307,860
At	Lowered hardware cost	A5+A8	$2,700,480	$2,700,480	$3,682,140
	Risk adjustment	↓10%			
Atr	Lowered hardware cost (risk-adjusted)		$2,430,432	$2,430,432	$3,313,926
	Three-year total: $8,174,790			**Three-year present value: $6,707,907**	

ENHANCED DEVICE PERFORMANCE

Evidence and data. Interviewed decision-makers agreed that the end-user experience on Pixel was superior to other Android-based devices. They explained that this was particularly true in organizations that used the Google Workspace productivity suite, but that even those using other productivity software had a better user experience with Pixel.

The Pixel user experience exceled in several ways, according to interviewees:

- It was easier to set up Pixel out of the box than most other devices with fewer screens to respond to and fewer third-party software connections to be made. A systems engineer at a technology company related: "I feel like as we introduce more Google Suite into our company, people want Pixel due to the compatibility, the out-of-the-box experience. And the fact that all the apps are there natively."

> **"The main benefit is that the operating system that comes on a Google is far better than any other Android. There's much better integration with the Google suite, and there's no bloatware. It's a very powerful device that responds quickly."**
>
> *Client infrastructure analyst, manufacturing*

- It operated more cleanly because those same third-party connections and apps were avoided, making the phone more responsive. Users could also find the apps they need to use more quickly without scrolling through pages of icons to find what they need. As the client infrastructure analyst in manufacturing described it: “Pixel is snappy and it’s clean. Being snappy and clean means it’s a good user experience.”
- Its direct connection to Google and Android also sped up response time and eliminated hang-ups or other problems related to third party licensing services. For instance, the wireless and mobile subject matter expert (SME) at a financial services company told Forrester: “The third-party licensing service could go down and it has done that in the pastThen you get an activation error and the device wi. pes and reactivates, so the user has to start over. The Pixel device allows us to eliminate that kind of thing.”
- Finally, for those organizations or users working with the Google Workspace productivity software, the experience was even better due to the innate compatibility between two of Google’s own products. The tech operations and support interviewee in the entertainment industry stated: “As soon as you’re signed in, you have access to everything. All of our docs are in Google Drive and it’s already on the phone. You can seamlessly jump between apps. You can book calendar events and it automatically adds Google Meet so you just have to tap on it. Document links open right in the app and you can collaborate in real time from the phone.”

“Personally, I use a Pixel because I don’t want all the extra apps that are installed on other Android phones.”

Senior IT consultant, technology

All these advantages considered, several interviewees estimated that Pixel operated 5% to 10% more efficiently than phones they currently support or previously supported in their organizations.

Modeling and assumptions. In order to model a value for this benefit, Forrester assumes the following:

- The total number of Pixels purchased each year is as outlined in Benefit A in keeping with the rollout of the company’s new mobile policies.
- It takes the average user less than 10 minutes to set up a new Pixel, while other Androids take approximately 30 minutes.
- The average mobile user at Sencroft uses their mobile 10 hours per week for business, and Pixel operates a conservative 6% more efficiently overall than other Androids, saving them 26 hours per year.
- The average fully burdened hourly wage of mobile phone users is $42.
- Since the improved productivity resulting from Pixel accrues to users in small increments, Forrester assumes that 40% of that time savings is redeployed into productive work for Sencroft.

Risks. Other organizations may experience a different value from this benefit based on the following factors:

- The number of incremental Pixels involved.
- The mobile usage rate of the average user (e.g., remote workers are likely to use their phone for business more than those sitting in the office).
- The average salary of mobile users.

- The amount of time savings users put back into productive work for the organization.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $5.6 million.

Enhanced Device Performance

Ref	Metric	Source	Year 1	Year 2	Year 3
B1	Pixels purchased per year	Composite	5,140	5,140	1,720
B2	Average minutes to provision and set up Pixel	Interviews	10	10	10
B3	Average minutes to provision and set up other Androids	Interviews	30	30	30
B4	Value of provisioning time saved	B1*(B3-B2)*B6	$71,960	$71,960	$71,960
B5	Hours saved per Pixel per year due to improved operating performance	Interviews	26	26	26
B6	Average fully burdened mobile user hourly wage	TEI standard	$42	$42	$42
B7	Subtotal: Value of time saved due to superior device performance	B5*B6*A1	$6,158,880	$6,158,880	$6,158,880
B8	Productivity recapture rate	TEI standard	40%	40%	40%
Bt	Enhanced device performance	(B4+B7)*B8	$2,492,336	$2,492,336	$2,492,336
	Risk adjustment	↓10%			
Btr	Enhanced device performance (risk-adjusted)		$2,243,102	$2,243,102	$2,243,102
	Three-year total: $6,729,307			**Three-year present value: $5,578,264**	

REDUCED RISK OF BREACH

Evidence and data. This benefit was the driving force behind most of the decision-makers' choices to switch to Pixel or add it to their list of approved devices. There were several reasons they gave for their conviction that Pixel offered better security than other Android devices.

- Most stated that Google's commitment to monthly patching for five years was longer than other brands. A client infrastructure analyst in the manufacturing industry claimed: "The backwards support for Pixel has been fantastic. Their longevity is longer than the models that others come out with. Google says, 'We're going to support it for five years. No ifs, ands, or buts.'"
- In addition to its longevity, interviewees also pointed to Google's speed and reliability in its monthly patching. Several pointed out specific threats or events that had been fixed on Pixel within weeks, while other devices took months to secure their phones. The senior IT consultant at a technology company told Forrester, "Other phones could very easily be three or four months behind."
- Interviewees also pointed out that the presence of third-party apps on some phones could create vulnerabilities that they could not protect against. The head of engineering and development, enterprise mobility in a government agency explained, "If there's bloatware on there and then an app from a company we know nothing about is infected with something malicious, it has just increased our threat vector without us even knowing it."

Modeling and assumptions. In order to model the value of this benefit, Forrester assumes the following:

- The average cost of a breach at Sencroft is $1,363,479 and they occur 2.5 times a year.[2]
- Breaches cause system disruptions that affect 15% of the workforce (not just mobile phone users) for an average of 6 hours.[3]
- The average fully burdened hourly wage of workers affected by system disruptions is $42.
- Sencroft experiences an incremental 17% reduction in security breach costs with Pixel, over and above the protection the devices it replaces provides. This is a function of the organization's base security effectiveness, the portion of breaches mobile devices cause, and the additional protection Pixel provides.
- Pixel's contribution to avoided security events increases as its penetration of Sencroft's mobile fleet grows from 24% to 50%.

Risks. Other organizations may experience a different value from this benefit based on the following factors:

- The frequency with which the organization experiences security breaches each year.
- The chance that an organization may experience a highly visible breach with much higher costs than the average used in the model.
- The total external and internal cost of recovering from those breaches.

> **"Our security guys love Google Pixel. If it was up to them, we wouldn't be offering any other Androids. It would be all just Pixel."**
>
> *Technical support consultant, technology*

- The extent of the workforce disruption involved with each event.
- The average salaries of affected workers.
- The proportion of the organization's mobile fleet that Pixels represent.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of over $1.1 million.

While this modeled value is smaller than the hardware cost and productivity benefits, interviewees clearly valued this benefit above all others in their evaluation of Pixel for their enterprises. The average cost of a breach may be $1.4 million, but these IT professionals are very well aware that the cost of any given breach could climb into the hundreds of millions or billions of dollars. This is why they assign a much higher value than the modeled value to the additional protection Pixel provides.

Reduced Risk Of Breach

Ref.	Metric	Source	Year 1	Year 2	Year 3
C1	Average cost of breach	Forrester research	$1,363,479	$1,363,479	$1,363,479
C2	Average number of breaches per year	Forrester research	2.5	2.5	2.5
C3	Employees affected by outage due to breach	Assumption	6,000	6,000	6,000
C4	Hours of lost productivity per breach	Forrester research	6	6	6
C5	Average fully burdened mobile user hourly wage	TEI standard	$42	$42	$42
C6	Subtotal: Expected total breach costs per year	(C1*C2)+(C3*C4)	$7,303,717	$7,303,717	$7,303,717
C7	Expected risk reduction due to Pixel	Interviews	17%	17%	17%
C8	Pixel percent of mobile fleet	Interviews	24%	43%	50%
Ct	Reduced risk of breach	C6*C7*C8	$297,992	$533,902	$620,816
	Risk adjustment	↓10%			
Ctr	Reduced risk of breach (risk-adjusted)		$268,193	$480,512	$558,734
	Three-year total: $1,307,439			**Three-year present value: $1,060,714**	

INCREASED IT TEAM PRODUCTIVITY

Evidence and data. Interviewed senior mobility team members recounted that they recouped a significant amount of the time previously spent managing issues with their organizations' mobile devices. For instance, there were often specific pre-installed apps of concern to their security teams that they needed to remove from other Android devices. This process varied in complexity and could take anywhere from a few hours to multiple days depending on the app and the phone model. They avoided all this work with Pixel because there were no ancillary apps installed.

The IT/mobility teams spent a significant amount of time (50% of an FTE or more) responding to questions and issues from mobile phone users. With multiple brands, models, and operating systems deployed, these questions took time to investigate and remediate. Once the organizations switched to Pixel, not only were there fewer issues, but they were easier to resolve because of the greater uniformity of devices across the organizations and Pixel's consistency from one model or system release to another.

This consistency also saved the IT team additional work during deployment of new Pixel models or new system rollouts. Rather than spending hours testing and recertifying devices and revising documentation as each new model/system was released, they had a much more streamlined process and only one or two new releases a year for Pixel. The wireless and mobile SME at a financial services firm reported, "We don't have to adjust so much documentation because when you're moving from one Pixel to another, it's basically the same device."

Modeling and assumptions. In order to model a value for this benefit, Forrester assumes the following:

- The composite spends 96 hours previously removing questionable apps from multiple Android models' new operating system releases each year.
- One employee spends 50% of their time answering questions and resolving issues for users with non-Pixel Androids.
- The IT team spends 40 hours per phone model to recertify and revise documentation and manage deployment of each new operating system release.
- The IT team spends 30 hours twice per year to resolve systemwide issues with Sencroft's endpoint management software after operating system refresh.
- The mobility experts on Sencroft's IT team earn an average fully burdened hourly wage of $78.

Risks. Other organizations may experience a different value from this benefit based on the following factors:

- The number of Android models previously approved for corporate liable phones.
- The level of day-to-day assistance required by its workforce.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of over $279,000.

Increased IT Team Productivity					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
D1	Hours avoided removing third-party apps from phones	Interviews	96	96	96
D2	Hours avoided managing other devices	Interviews	1,500	1,500	1,500
D3	Average IT team hourly wage	TEI standard	$78	$78	$78
Dt	Increased IT team productivity	(D1+D2)*D3	$124,488	$124,488	$124,488
	Risk adjustment	↓10%			
Dtr	Increased IT team productivity (risk-adjusted)		$112,039	$112,039	$112,039
	Three-year total: $336,118			**Three-year present value: $278,625**	

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **Increased IT/mobility team focus on business and strategic issues.** Several interviewees felt that their teams were both more effective and happier as a result of their organizations' Pixel deployment. These employees spent the time they saved dealing with mundane, often frustrating, tasks on work that was more challenging for technicians as well as more valuable to the organization.

  Focusing these resources on helping business leaders use technology to solve strategic problems had a larger and more long-term impact on their organizations' success. It also provided learning opportunities and more fulfilling work for IT team members, resulting in more energized employees and better retention of valuable technical human resources.

- **Enhanced employee satisfaction with the phone itself.** Interviewees reported that employees were generally happier with their Pixels than with their previous phones. Users in their organizations pointed to hardware improvements, such as the impressive camera lens, as well as better experiences with AI-driven tools. Interviewees called out the editing tools on the camera, smarter voice-to-text capabilities, and the "Screen Call" function as particularly appealing for Pixel users in their organizations.

- **Improved sense of data privacy.** Because Pixel provided a clear separation of work and personal profiles and data on the device, employees knew that their IT team did not have access to their family photos and other personal data. As a systems engineer at a technology company related, "[Employees] like the separation of work and personal. Unlike [some other phones] where it's all or nothing, especially when it goes to

"I can now deploy my team to focus on real issues in the organization versus managing bloatware and vulnerabilities."

Head of engineering and development, enterprise mobility, government

wiping the device or forcing upgrades or any policies that we may send to the phones. The one thing that Pixel users have been very vocal about is the fact that they like the idea that we don’t mess with their data.”

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Etr	Hardware cost	$0	$2,187,528	$2,187,528	$810,894	$5,185,950	$4,405,773
	Total costs (risk-adjusted)	$0	$2,187,528	$2,187,528	$810,894	$5,185,950	$4,405,773

HARDWARE COST

Evidence and data. Interviewees unanimously agreed that Pixels were generally their least expensive option of the premium mobile devices. Benefit A described the savings Sencroft realized by not buying these more expensive devices in the cases where users switched to Pixel from another brand. Hardware costs captured the other side of that savings — the cost Sencroft does incur for Pixels it provides to qualifying employees.

Modeling and assumptions. The model for this cost assumes the following:

- Sencroft buys the same number of incremental Pixels as assumed in Benefit A. The cost of the 1,000 Pixels updated in Years 1 and 2 are not included because those employees already use Pixels. The $449 is incurred even if the company's shift in corporate liable policy did not take place.
- Each Pixel costs $449, reflecting a $200 discount from Sencroft's carrier.
- Pricing and discounts will vary. Contact Google or your carrier for additional information.

Risks. The risk that other organizations will not experience this same benefit are related to the number of incremental Pixels purchased and the final price the company pays per device.

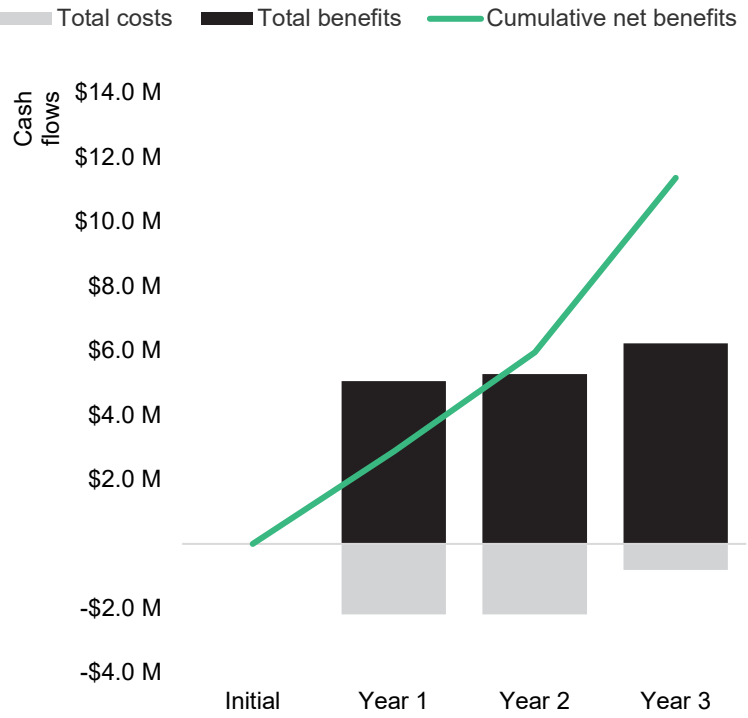
Results. In order to account for this risk, Forrester adjusted the benefit upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $4.4 million.

Hardware Cost						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	Number of incremental Pixels purchased	B1		4,640	4,640	1,720
E2	Cost per Pixel	Interviews		$449	$449	$449
Et	Hardware cost	E1*E2	$0	$2,083,360	$2,083,360	$772,280
	Risk adjustment	↑5%				
Etr	Hardware cost (risk-adjusted)		$0	$2,187,528	$2,187,528	$810,894
	Three-year total: $5,185,950			**Three-year present value: $4,405,773**		

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	$0	($2,187,528)	($2,187,528)	($810,894)	($5,185,950)	($4,405,773)
Total benefits	$0	$5,053,766	$5,266,085	$6,227,802	$16,547,654	$13,625,510
Net benefits	$0	$2,866,238	$3,078,557	$5,416,908	$11,361,704	$9,219,737
ROI						209%
Payback period						<6 months

Appendix A: Total Economic Impact

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

TOTAL ECONOMIC IMPACT APPROACH

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

PRESENT VALUE (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

NET PRESENT VALUE (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made unless other projects have higher NPVs.

RETURN ON INVESTMENT (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

DISCOUNT RATE

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

PAYBACK PERIOD

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

Appendix B: Endnotes

[1] Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

[2] “”Source: Forrester Consulting Cost Of A Cybersecurity Breach Survey, Q1 2021.

[3] Ibid.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