

The Total Economic Impact Of Microsoft Office 365 For Healthcare Organizations

Healthcare organizations are using cloud technologies to increase access to care, improve quality of care, and lower the cost of delivery. Forrester Consulting looked at ways these organizations benefit from Microsoft Office 365 — the cloud-based version of Office Professional Plus, Exchange, Skype for Business (formerly Lync), SharePoint, Yammer, and OneDrive for Business— and found it lowered the solution total cost of ownership (TCO), streamlined both medical and administrative activities, and increased information sharing to higher quality care services. Specifically, healthcare organizations shared how Office 365 helped them:

- › Capture examination and other medical information in a secure and compliant environment.
- › Share real-time information, discuss complex cases between specialist physicians, specialists, nurses, case managers and administrative staff, and minimize medical errors.
- › Ensure that quality-based procedures (QBP) are being followed.
- › Merge acquired healthcare facilities into the organization in an increasing market consolidation.
- › Streamline administrative/medical committee meetings and disseminate information.
- › Expansion into new services including Virtual Health
- › Leverage evidence-based care.

More information on improved business processes can be found in the Appendix, which quantifies benefits defined in Microsoft's Value Discovery Workshop methodology.

To explore the potential benefits of using Office 365 in a healthcare organization, Forrester created a composite organization that had the characteristics of the interviewed and surveyed organizations. The composite organization was a hospital with several campuses, and it moved 2,500 users from an on-premises 2010 version of Microsoft solutions to Office 365 in the cloud. The Total Economic Impact™ study looks at the financial impacts to the composite organization.

Key Findings

Forrester's study yielded the following key findings for the composite organization:

ROI:
212%

IRR:
375%

NPV:
**\$5.1
million**

Payback:
5 months

METHODOLOGY

Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study to provide business and IT leaders with an understanding of how healthcare organizations can benefit by moving from an on-premises Microsoft Office solution to Microsoft Office 365.

To achieve these objectives, Forrester conducted two in-depth phone interviews with a teaching hospital and an operator of private hospitals, along with an online survey of 35 healthcare organizations that have migrated to Office 365.

Forrester then designed a composite organization based on the characteristics of these companies. A representative financial model was constructed using the TEI methodology.

Lastly, Forrester risk-adjusted the financial model based on issues and concerns the surveyed organizations highlighted. Some cost and benefit categories included a broad range of responses or had a number of outside forces that might have affected the results. For that reason, some cost and benefit totals have been risk-adjusted and are detailed in each relevant section.

The Five Benefit Pillars And Results Summary

Forrester looked at business and IT benefits across five broad areas. These pillars, as Microsoft defines them, encompass business transformation, cost savings, and user productivity gains. In each pillar, we explored the various ways that the interviewed and surveyed healthcare companies have benefited from moving users to Office 365. We also included at least one example from each pillar in the ROI analysis portion of the study. All of the responding companies experienced benefits across the areas highlighted in Figure 1.

Figure 1
Microsoft Office 365 Benefit Pillars And Risk-Adjusted Financial Benefits

Pillar	How	Financial Impact	Goal
 Technology	Hardware, software, and IT labor savings	\$1,636,949	Reduce cost of patient care delivery.
 Mobility	Worker efficiency with anytime access	\$3,934,570	Improve medical staff efficiency and availability of care.
 Control & Compliance	Lower compliance costs	\$815,625	Ensure medical best practices and regulations are being followed.
 Business Intelligence	Savings through better decisions from more timely access to data	\$2,789,063	Streamline access to patient information and make better medical decisions.
 Real-time Communication	Greater efficiency and improved productivity	\$172,125	Reduce administrative activities and foster better collaboration between medical staff.

Source: Forrester Research, Inc.

The financial results calculated in the Benefits and Costs sections can be used to determine the return on investment (ROI), internal rate of return (IRR), net present value (NPV), and payback period for the composite organization's investment in Microsoft Office 365.

The table below shows the risk-adjusted ROI, IRR, NPV, and payback period values.

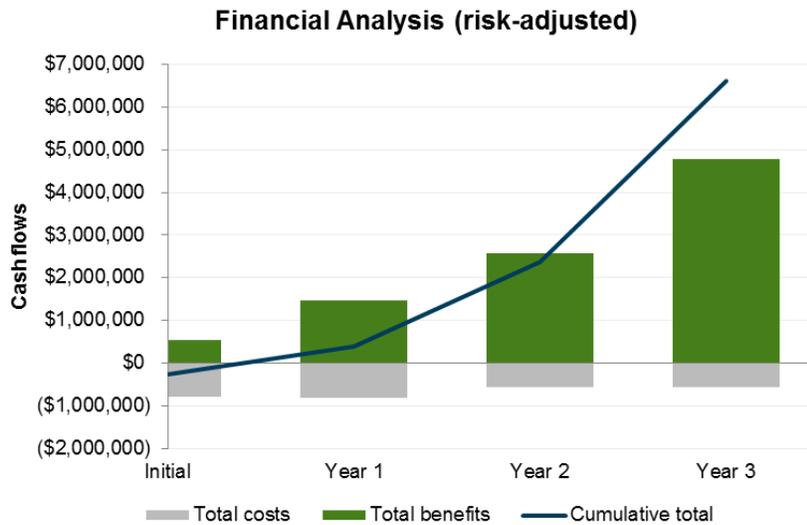
Results Summary

	Initial	Year 1	Year 2	Year 3	Total	PV
Costs	(\$800,458)	(\$822,170)	(\$557,569)	(\$561,368)	(\$2,741,564)	(\$2,430,449)
Benefits	\$537,402	\$1,463,112	\$2,559,458	\$4,788,360	\$9,348,332	\$7,580,324
Net benefits	(\$263,056)	\$640,942	\$2,001,889	\$4,226,992	\$6,606,768	\$5,149,875
ROI	212%					
IRR	375%					
Payback period	5 months (after go-live)					

Source: Forrester Research, Inc.

The graph below shows the risk-adjusted cash flow.

Risk-Adjusted Cash Flow



Source: Forrester Research, Inc.

Benefits

For each of the above pillars, the interviewed organizations and online survey respondents spoke to multiple benefits. In each area, Forrester quantified at least one benefit that is specifically highlighted and comprises the ROI analysis component of this study.

Technology Benefits

In interviewing and surveying healthcare organizations, Forrester uncovered that these organization realized the following benefits by moving to Office 365 compared with an on-premises solution:

- 15% reduction in Microsoft licensing costs.
- 16.5% reduction in third-party license and software costs, e.g., other email solutions, anti-spam, web conferencing, etc.
- 13.3% reduction in IT support costs for legacy systems.

In addition, Forrester quantified four benefit areas within the technology pillar:

- › **The healthcare organization avoided adding new infrastructure hardware.** The move from the 2010 version of the Microsoft solutions to the Office 365 cloud-based solution meant that new infrastructure did not need to be purchased, installed, and maintained for the different healthcare facilities. In total, 27 highly virtualized physical servers were not added over the life of the study, and storage area network (SAN) requirements were reduced by half. The total three-year risk-adjusted savings to purchase, maintain, and host the hardware amounted to \$641,813.
- › **Server licenses for various Microsoft solutions were no longer needed.** An on-premises solution comparable to Office 365 would have required 141 Windows Server licenses, 11 Exchange Server licenses, four Skype for Business Server licenses, and seven SharePoint Server licenses. The total three-year risk-adjusted avoided purchase cost plus annual maintenance totaled \$57,637.
- › **The implementation effort was 43% less than for a comparable on-premises solution.** Had a traditional on-premises deployment of the 2013 version of the Microsoft products been implemented within the healthcare organization, the internal effort and professional services fees would have been 50% and 40% greater, respectively. This total three-year risk-adjusted savings across all phases equaled \$420,000.

› **The manpower required to support the solution was reduced.** The total number of resources required to maintain and grow the Microsoft solutions — Office Professional Plus, Exchange, Skype for Business, SharePoint, Yammer, and OneDrive for Business — was reduced. Much of this was in the form of avoiding additional hires as well as redeploying an existing system administrator who could focus on other, higher-value activities. The total three-year risk-adjusted associated savings was \$517,500.

In the interviews, Forrester heard more specifics about some of the technology benefits achieved, such as lower IT administration costs, lower costs to integrate newly acquired medical facilities, and less user downtime during system upgrades. As one organization told us: “We used to have someone spending 80% of their time supporting Exchange. Now it only takes one day per month, and all he is doing is implementing more value-add solutions around email.”

Another organization reported that it would have needed “one-third more resources to do database and Exchange administration” if it hadn’t moved to Office 365. It also said that “user downtime has absolutely decreased during upgrades,” and that it was doing upgrades three to four times per year with its on-premises solutions.

Table 1 below highlights the total quantified technology benefits for our composite healthcare organization.

Table 1
Total Technology Benefits

Ref.	Benefit Category	Initial	Year 1	Year 2	Year 3
Atr	Avoided back-end hardware	\$256,388	\$106,965	\$132,975	\$145,485
Btr	Avoided Microsoft Server licenses	\$26,015	\$12,288	\$9,381	\$9,953
Ctr	Reduced implementation effort	\$255,000	\$165,000	\$0	\$0
Dtr	Reduced IT support effort	\$0	\$112,500	\$202,500	\$202,500
Total technology benefits		\$537,402	\$396,753	\$344,856	\$357,938

Source: Forrester Research, Inc.

Mobility Benefits

Mobility for healthcare organizations can mean much more compared with other types of companies. The classic definition of “being on the road” and travelling between locations still applies. However, there are many mobile workers who never leave a single building but spend all their day moving around and are not based at a single desk. Nurses, doctors, and a wide range of medical technicians fall into this category. Making them more productive and ensuring they have access to the correct information can improve both access to and quality of care.

“Doctors will not waste their time trying to do something again if it doesn’t work right the first time. Mobile access in Office 365 works perfectly, and our doctors are using it.”

~CIO, healthcare organization

Forty-six percent of the surveyed organizations said mobile access has created greater end user productivity due to improved communications and knowledge sharing; 37% said it has led to a decrease in the time it



takes to conduct daily business; and 34% reported that their mobile users are affected less by PC crashes, as they can access all the material from their mobile device.

For the financial analysis, Forrester looked at improved productivity for 450 mobile professionals (increasing to 525 by Year 3 of the study), which includes doctors, medical staff, and some administrators. Their productivity is improved by reducing time to access systems, as Office 365 means they can get information without having to seek out an available kiosk and by having a more seamless user experience with less downtime across devices.

In Year 1 of the study, the daily time savings is a quarter of an hour. This increases to a half hour per day by Year 3 as Skype for Business and SharePoint are fully integrated and users become more comfortable working in this new paradigm. This productivity gain can be used to deliver more care, or it can be a source of cost savings through avoided additional hiring. Forrester discounted this benefit by 50% since not all productivity gains translate into additional work.

As there are a variety of forces that could affect productivity outcomes within a healthcare organization, this benefit was risk-adjusted and reduced by 15%. The risk-adjusted total benefit resulting over the three years was \$3,934,570. Table 2 highlights how this benefit was calculated.

Table 2
Increased Team Member Productivity

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Number of workers		450	475	525
E2	Hours per day saved with use of Office 365 on mobile devices		0.25	0.25	0.50
E3	Average hourly salary		\$75	\$75	\$75
E4	Number of work days per year		250	250	250
E5	Percent of benefit realized		50%	50%	50%
Et	Increased worker productivity	$E1 * E2 * E3 * E4 * E5$	\$1,054,688	\$1,113,281	\$2,460,938
	Risk adjustment	↓15%			
Etr	Increased worker productivity (risk-adjusted)		\$896,484	\$946,289	\$2,091,797

Source: Forrester Research, Inc.

Control And Compliance Benefits

Compliance is critically important to healthcare organizations. Compliance with regulations such as HIPAA will reduce fines and embarrassing publicity, and compliance with medical standards and protocols can save lives. Sixty-three percent of survey respondents said that it is easier to manage policies across all devices, and 37% reported lower costs because of best practices built into Office 365. Further analysis of the online survey findings showed that, on average, the respondents reduced compliance costs by 9.3% and reduced time spent on eDiscovery efforts by 13.8%.

The most frequently cited regulations in the survey included HIPAA, ISO 27001, OSHA, SSAE 16, and PIPEDA. Improved IT and data security was also very important to the interviewed organizations. One of the interviewed CIOs said: “There are so many regulations around IT and patient data security. You shouldn’t be spending your time trying to secure things like on-premises email. You should focus your internal IT

resources on patient data and those types of things. Let the experts like Microsoft handle email and SharePoint security.”

“Quality-based procedures is how you treat a patient based on what is wrong with them. These are standards mandated by the [government]. It would be extremely difficult to make sure we were following these standards without SharePoint. The time has been reduced by 90%.”

~CIO, healthcare organization

For the ROI analysis, Forrester included the example of less time spent on reviewing procedures. This benefit started slowly in Year 1 as the Office 365 solutions were rolled out and the necessary training took place. It ramped up significantly in Year 2 as different procedure types were added to the process. Table 3 shows how this was calculated.

While this specific example of streamlined compliance may not apply to all organizations, Forrester believes that, because of the highly regulated nature of the healthcare industry, there will be at least one example of similar size for most organizations. The absolute size of the benefit will vary based on the size of the organization and the amount of time spent on regulatory compliance. To compensate for this variance, this benefit was risk-adjusted and reduced by 10%. The risk-adjusted total benefit over the three years was \$815,625.

Table 3
Reduced QBP Compliance Effort

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
F1	Number of procedural reviews		20,000	50,000	75,000
F2	Time savings per review	(15 minutes -> 5 minutes)	10	10	10
F3	Times savings (hours)	F1*F2 / 60 minutes	3,333	8,333	12,500
F4	Average hourly fully burdened cost	\$150,000 / 2,000 hours	\$75	\$75	\$75
F5	Percent of benefit realized		50%	50%	50%
Ft	Reduced QBP compliance effort	F3*F4*F5	\$125,000	\$312,500	\$468,750
	Risk adjustment	↓10%			
Ftr	Reduced QBP compliance effort (risk-adjusted)		\$112,500	\$281,250	\$421,875

Source: Forrester Research, Inc.

Business Intelligence Benefits

The importance of business intelligence and the value of data within an organization have become more important over the past several years. For healthcare companies, there are two main information types — medical and business — with different priorities and associated benefits. For patient medical information, the goal is to have access to all the right information at the right time to provide the best care. For business-related information, one of the goals is to find ways to streamline operations and reduce the cost of care.

Sixty-six percent of survey respondents said that employee performance has improved because of anytime, anywhere access to information. Forty percent of respondents reported that corporate memory and knowledge have improved because information is no longer “lost” on local computers or various systems. Twenty-six percent said that due to better access, the “time-to-decision” has decreased. Interviewed companies described how the elimination of multiple repositories and the ability to find information more quickly has resulted in demonstrable benefits.

One organization we spoke with said: “The physicians don’t have a lot of time to spend looking for patient information, let alone administrative-type information. It is now easier for them to find the information they need. Also, they are no longer carrying around files on USB drives, which is another great thing.” For the composite organization, Forrester looked at how easily having access to all patient information made physicians more efficient. Beginning in Year 2 of the study, 400 doctors saved 15 minutes per day logging into various systems and calling around looking for information. This increased to 30 minutes per day by Year 3. This time savings can be used to provide greater access to care or reduce the cost of care at the existing levels. Because not all time savings result in added work, Forrester discounted this benefit by 50%. Table 4 shows how this was calculated.

Since the number of affected workers and the time saved vary greatly from one organization to another, this benefit was risk-adjusted and reduced by 15%. The risk-adjusted total benefit over the three years was \$2,789,063.

Table 4
Reduced Physician Patient Information Review Time

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
G1	Number of physicians			400	400
G2	Hours saved per day			0.25	0.50
G3	Workdays per year			250	250
G4	Total man-days saved	$G1 * G2 / 8 \text{ hours} * G3$		3,125	6,250
G5	Average daily salary	$\$175,000 / 250 \text{ workdays}$		\$700	\$700
G6	Total potential savings	$G4 * G5$		\$2,187,500	\$4,375,000
G7	Percent of benefit realized			50%	50%
Gt	Reduced physician patient information review time	$G6 * G7$		\$1,093,750	\$2,187,500
	Risk adjustment	↓15%			
Gtr	Reduced physician patient information review time (risk-adjusted)			\$929,688	\$1,859,375

Source: Forrester Research, Inc.

Real-Time Communications Benefits

The way individuals live their personal lives in terms of using online social interaction services and other real-time communication tools is affecting how people communicate and collaborate in the workplace. A major component of Office 365 is enabling these interactions to improve knowledge sharing, collaboration, and productivity.

The interviewed organizations shared with us the variety of ways they are using these features to improve their operations. For example, we heard that “all of our committees, and we have a lot of them, are now able to collaborate a lot better. This saves them at least 30 minutes per day.” Another interviewee said: “By creating a complementary communication channel, things have become more efficient. People can now learn what they need to faster.”

There are many ways that the real-time communication features of Office 365 can have an impact on an organization. For the quantified portion of the real-time communication benefits pillar, Forrester looked only at the improvement in committee operations. While this may be one of the smaller examples, it was chosen because it is entirely independent from the productivity improvements included in the other pillars and because committee work can be a great source of frustration for healthcare professionals. The model assumes that 120 employees who spend a lot of time involved in committee activities save 15 hours per month. This is primarily achieved through having fewer meetings or being able to reduce the number of attendees since individuals can quickly reach out to each other using the real-time communication tools built into Office 365 — Skype for Business, Yammer, and Office 365 groups.

Because the amount of time spent on committee work can vary greatly, the benefit was risk-adjusted and reduced by 15%. The risk-adjusted total benefit over the three years was \$172,175. Table 5 highlights how this benefit was calculated.

Table 5
Reduced Committee Time

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
H1	Number of people on committees			120	120
H2	Average hourly salary	\$150,000/2,000 hours		\$75	\$75
H3	Hours saved per month			15	15
H4	Percent of benefit realized			50%	50%
Ht	Reduced committee time	$H1*H2*H3*H4$		\$67,500	\$67,500
	Risk adjustment	↓15%			
Htr	Reduced committee time (risk-adjusted)		\$57,375	\$57,375	\$57,375

Source: Forrester Research, Inc.

“Physician communication has improved. It is now much easier for specialists to exchange information because of Skype, SharePoint, and Yammer.”

~CIO, healthcare organization

Total Quantified Benefits

The total quantified benefits, as well as present values (PVs) discounted at 10%, are shown in the table below. Over three years, the composite healthcare organization expects risk-adjusted total benefits to be a PV of over \$7.5 million.

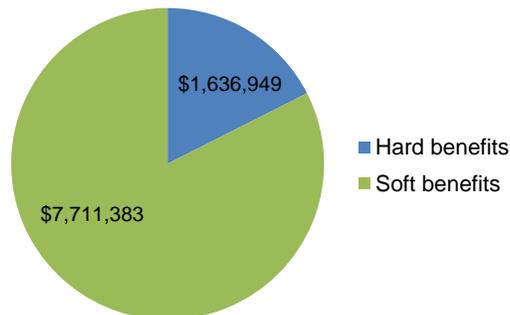
Table 6
Total Quantified Benefits (Risk-Adjusted)

Ref.	Benefit Category	Initial	Year 1	Year 2	Year 3	Total	Present Value
Atr	Avoided back-end hardware	\$256,388	\$106,965	\$132,975	\$145,485	\$641,813	\$572,830
Btr	Avoided Microsoft Server licenses	\$26,015	\$12,288	\$9,381	\$9,953	\$57,637	\$52,416
Ctr	Reduced implementation effort	\$255,000	\$165,000	\$0	\$0	\$420,000	\$405,000
Dtr	Reduced IT support effort	\$0	\$112,500	\$202,500	\$202,500	\$517,500	\$421,769
Etr	Increased worker productivity	\$0	\$896,484	\$946,289	\$2,091,797	\$3,934,570	\$3,168,641
Ftr	Reduced QBP compliance effort	\$0	\$112,500	\$281,250	\$421,875	\$815,625	\$651,672
Gtr	Reduced physician patient information review time	\$0	\$0	\$929,688	\$1,859,375	\$2,789,063	\$2,165,313
Htr	Reduced committee time	\$0	\$57,375	\$57,375	\$57,375	\$172,125	\$142,683
Total benefits (risk-adjusted)		\$537,402	\$1,463,112	\$2,559,458	\$4,788,360	\$9,348,332	\$7,580,324

Source: Forrester Research, Inc.

While all of the benefits included in the ROI analysis are very important, Forrester looked at the soft benefits versus hard benefits delivered by Office 365. Hard benefits include specific, external cost savings such as reduced license payments to Microsoft and discreet labor savings such as reduced implementation time. Soft savings include general process efficiency gains that can improve the productivity of many workers; this included Etr, Ftr, Gtr, and Htr in Table 6 above. Approximately 18% of the benefits included fall into the hard category.

Hard Versus Soft Benefits



Source: Forrester Research, Inc.

Costs

The quantified costs include:

- › **Internal implementation labor.** The full deployment of Office 365 was undertaken in two phases. Phase one, completed in the initial period, consisted of standing up the Office 365 solution; migrating all email accounts and users to Exchange Online from Exchange 2010 on-premises; moving all users to Office 365 Professional Plus from Office Professional Plus 2010 local clients; and deploying OneDrive for Business for all users. Seven internal FTEs worked on this for six months. Phase two, completed in Year 1, consisted of a completely new deployment of Skype and Yammer, as well as migrating from SharePoint 2010 on-premises to the latest version of SharePoint Online. Six FTEs worked on this for five months. The total internal implementation labor, risk-adjusted up 10%, was \$660,000.
- › **Professional services.** The composite organization used Microsoft Consulting Services during all phases of deployment. These professional services were used to properly set up the solutions and help with any especially challenging areas. The amount of professional services required was higher than what is required for some other industries because of the increased complexity as a result of regulations like HIPAA. The total professional services cost, risk-adjusted up 10%, was \$330,000.
- › **Training.** Training was required for the IT team on the new and updated solutions being deployed, as well as some training on the differences in administering Office 365 compared with on-premises versions. One hundred days of IT training took place in the initial period, with an additional 60 days of training in years 1, 2 and 3. Additionally, one internal employee provided user training to the rest of the composite organization. In total, the external training charges for IT and the internal costs for user training, risk-adjusted up 10%, amounted to \$422,400.
- › **Ongoing system administration.** The Benefits section describes the number of system administrator positions that did not need to be added or could be reassigned. The remaining system administration team consisted of two full-time equivalents (FTEs) in Year 1, and the team grew to three FTEs in Year 2 to handle additional requirements with the overall greater usage and additional users. The three-year associated costs, risk-adjusted up 10%, were \$880,000.
- › **Incremental Microsoft licenses.** For individual user licenses, Office 365 was compared with the Software Assurance (SA) pricing model to provide the best apple-to-apple comparison of a solution that always has users on the latest version of Microsoft technologies. Office 365 cost \$24.12 more per year for each user compared with the Software Assurance licenses. The accumulated additional cost over three years, risk-adjusted up 5%, was \$232,999.
- › **Federation hardware.** The composite organization desired to use identity federation for improved single sign-on (SSO) internally and with partner organizations. This required the installation and ongoing maintenance of two Active Directory Federation Services (ADFS) servers. The three-year cost to purchase, maintain, and host the servers, risk-adjusted up 5%, was \$41,265.
- › **Additional bandwidth.** Moving to Office 365 resulted in a net increase of bandwidth required. Some areas, such as Exchange, saw a reduction, while other areas, such as a new deployment of Skype, saw an increase. There was also additional bandwidth required during the initial data migrations. Over three years, the additional bandwidth required, risk-adjusted up 10%, cost \$174,900.

Total Costs

The total costs, as well as present values (PVs) discounted at 10%, are shown in the table below. Over three years, the composite healthcare organization expects risk-adjusted total costs to be a PV of \$2.7 million.

Table 7
Total Costs (Risk-Adjusted)

Ref.	Cost Category	Initial	Year 1	Year 2	Year 3	Total	Present Value
Itr	Internal implementation labor	\$385,000	\$275,000	\$0	\$0	\$660,000	\$635,000
Jtr	Professional services fees	\$220,000	\$110,000	\$0	\$0	\$330,000	\$320,000
Ktr	Training costs	\$115,500	\$102,300	\$102,300	\$102,300	\$422,400	\$369,905
Ltr	Ongoing system administration	\$0	\$220,000	\$330,000	\$330,000	\$880,000	\$720,661
Mtr	Incremental Microsoft licenses	\$31,658	\$63,315	\$67,114	\$70,913	\$232,999	\$197,960
Ntr	Federation hardware	\$25,200	\$5,355	\$5,355	\$5,355	\$41,265	\$38,517
Otr	Additional bandwidth	\$23,100	\$46,200	\$52,800	\$52,800	\$174,900	\$148,406
Total costs (risk-adjusted)		\$800,458	\$822,170	\$557,569	\$561,368	\$2,741,564	\$2,430,449

Source: Forrester Research, Inc.

About Microsoft Office 365

The following information is provided by Microsoft. Forrester has not validated any claims and does not endorse Microsoft or its offerings.

Office 365 is the same Office you already know and use every day — and then some. Because Office 365 is powered by the cloud, you can get to your applications and files from virtually anywhere — such as a PC, Mac, and select mobile devices — and they're always up to date. The same goes for updates to features; you get them automatically. Business-class email and calendaring put you in sync and help you avoid communication glitches. With business-class email and shared calendars that you can get to from virtually anywhere, people stay in sync and on schedule.

Specific feature-related benefits include:

- › Office 365 is a powerful suite of HIPAA-compliant products that are perfect for healthcare organizations. Office 365 provides anywhere access to familiar Office applications, e-mail, calendar, videoconferencing, and most up-to-date documents, across your devices—from PCs to Macs to iOS and Android mobile devices.
- › SharePoint Online enables organizations to create a secure website that employees can use to store, organize, share, and access information from almost any device.
- › Office 365 Groups are ideal for small healthcare teams that do not want to rely on IT to create shared workspaces. Group members can leverage email, conversations, file attachments, and calendar events within the group to conveniently collaborate and quickly get stuff done. Office 365 Groups applies to Outlook 2016, Outlook Web App, SharePoint Online, and OneDrive for Business. Groups can be public or private, and help you and your colleagues collaborate better.
- › OneDrive for Business also gives clinicians a place to store and access critical files from anywhere. Discharge summaries are a prime example: Since discharge summaries are often only available on-site, physicians rush through them at the end of the day. This creates opportunities for errors or missed summaries. With OneDrive for Business, physicians can access these summaries from anywhere on any device, giving them time to review the summaries in detail. Modern attachments enable physicians to email approved summaries back to the appropriate nurses without having to worry about setting individual permissions.
- › Exchange Online Advanced Threat Protection is a new capability in advanced protection against unknown and sophisticated threats in end-user email, attachments, and URLs.
- › Data Loss Prevention helps significantly reduce the risk of leaking sensitive data, by giving IT admins tools to centrally create, manage and enforce policies for content authoring and document sharing. DLP is now available in Word 2016, Excel 2016, PowerPoint 2016 and OneDrive for Business, enabled by SharePoint and SharePoint Online. Policy tips are integrated throughout Office desktop apps—from Outlook and now to Word, PowerPoint and Excel—providing consistent notification across all of their productivity applications.
- › Skype for Business enables clinicians and patients to communicate in a variety of methods, including IM, voice, video and web conferencing. Skype for Business desktop sharing and HD video conferencing also enable them to share information in real time. What's more, Skype connectivity means healthcare organizations can connect with anyone that has Skype for Business or Skype for consumers. Skype for consumers enables the same kind of connectivity and communication for patients, family members and others outside the healthcare system.
- › Excel 2016 is the most powerful analysis tool in your arsenal, with integrated publishing to Power BI and new modern chart types to help you make the most of patient data. Use one-click forecasting to quickly turn your historical data series into an analysis of future trends. New chart types, including Treemap and Waterfall, help you visualize complex data. And now, you can publish directly to Power BI from Excel.

DISCLOSURES

- › The study is commissioned by Microsoft and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.
- › Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in Microsoft Office 365.
- › Microsoft reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.

GLOSSARY

Discount rate: The interest rate used in cash flow analysis to take into account the time value of money. Companies set their own discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Readers are urged to consult their respective organizations to determine the most appropriate discount rate to use in their own environment.

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.

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.

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.

Return on investment (ROI): A measure of a project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

Internal rate of return (IRR): The interest rate that will bring a series of cash flows (positive and negative) to an NPV of zero.

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ABOUT TEI

Total Economic Impact™ (TEI) 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. The TEI methodology consists of four components to evaluate investment value: benefits, costs, risks, and flexibility.

<http://www.forrester.com/marketing/product/consulting/tei.html>

Appendix — Value Discovery Workshop

According to Microsoft, the Value Discovery Workshop is “a tool to help [companies] make the business case for Office 365. This tool will help create a step-by-step assessment of process improvement opportunities tied to business objectives/needs, identify the relevant Office 365 capabilities, and automatically generate the right set of customized workshop content.”¹ Forrester surveyed more than 500 organizations across multiple industries to assess how these processes have improved and define specific KPI and financial impacts. Specifically, Forrester looked at the impact that Office 365’s capabilities have on the time and labor involved with each process. Below is a summary of the findings.

For healthcare organizations, Microsoft specifically investigated the CXO, clinicians, and IT roles. Microsoft identified benefits across 10 process areas. Tables 8 to 10 show the mean results for each process improvement by role.

Table 8
Summary Value Of Discovery Workshop Improvements — CXO

Process	Hours Per Week Before Office 365	Percent Reduction In Hours	Number Of FTEs Before Office 365	Percent Reduction In FTEs	Financial Impact (Risk-Adjusted)
Discover insights to identify trends	18.6	19.3%	187	19.1%	\$4,069,146
Discover content and context to quickly make informed decisions	15.8	17.5%	122	16.3%	\$2,010,437
Conduct meetings from anywhere, anytime to get work done	13.0	10.6%	73	9.8%	\$619,199
Communicate securely to ensure privacy	14.7	16.6%	158	14.8%	\$2,265,525
Manage client privacy and security	16.5	16.1%	171	20.8%	\$3,190,333
Secure access to work from anywhere	11.5	10.5%	110	11.5%	\$886,431
Collaborate in real time on document development and review	13.6	11.2%	166	16.2%	\$1,946,662
Find and leverage collective intelligence to produce higher-impact deliverables	17.9	19.8%	183	19.0%	\$3,868,044
Protect sensitive client information to ensure compliance	13.2	15.6%	149	18.1%	\$2,046,609
Maximize sales to have an impact on your bottom line	17.3	16.5%	132	17.6%	\$2,400,860

Source: Forrester Research, Inc.

Survey respondents shared the following specific statements about how processes improve:

- › “Office 365 has assisted by forming trends through numerical counts in excel programming.”
- › “Enables data analysis we didn’t have before.”
- › “A computer cannot replace a human however it can sure expedite our work and that’s what Office 365 aims to do and it does deliver.”
- › “Skype has assisted greatly in team meetings, both in staff and department meetings. Skype allows us to have individuals present from off site.”
- › “Patient and client records are now available from anywhere allowing for after hours and weekend access.”

¹ More information on Microsoft’s Value Discovery Workshop methodology and deliverables can be found at www.valuediscoveryworkshop.com.

Table 9
Summary Value Of Discovery Workshop Improvements — Clinician

Process	Hours Per Week Before Office 365	Percent Reduction In Hours	Number Of FTEs Before Office 365	Percent Reduction In FTEs	Financial Impact (Risk-Adjusted)
Discover insights to identify trends	10.4	13.6%	103	6.4%	\$375,042
Discover content and context to quickly make informed decisions	6.3	18.6%	158	14.0%	\$546,467
Conduct meetings from anywhere, anytime to get work done	5.0	8.2%	76	12.3%	\$135,573
Communicate securely to ensure privacy	12.3	11.7%	170	12.9%	\$883,679
Manage client privacy and security	9.1	7.4%	244	10.3%	\$688,322
Secure access to work from anywhere	8.8	8.2%	123	11.8%	\$377,038
Collaborate in real time on document development and review	10.4	7.8%	89	9.8%	\$285,204
Find and leverage collective intelligence to produce higher-impact deliverables	15.0	13.0%	75	20.5%	\$634,892
Protect sensitive client information to ensure compliance	13.7	11.7%	113	10.6%	\$596,701
Maximize sales to have an impact on your bottom line	3.5	8.0%	31	5.0%	\$25,021

Source: Forrester Research, Inc.

Survey respondents shared the following specific statements about how processes improve:

- › “[Office 365] enables me to communicate with my employees and staff and with other important sectors within the healthcare community.”
- › “Information needed for direct patient care as well as hospital guidelines are available at any computer and easy to read.”
- › “Company Regional Quarterly meetings now have 1 hour allocated with Microsoft Office rather than 4 hours. Insight is enormous personnel time savings.”
- › “While being involved in a meeting with representatives of a corporation of healthcare delivery products, had to make a decision with people not present in person. [We were] able to quickly come to a decision.”
- › “Provides security so I do not worry about HIPPA non-compliance.”
- › “Allows me the freedom to multitask and still communicate with other doctors around the globe.”
- › “[Office 365] gives me complete protection and access to all my sensitive information around the clock, that is very important in my line of work.”

Table 10
Summary Value Of Discovery Workshop Improvements — IT

Process	Hours Per Week Before Office 365	Percent Reduction In Hours	Number Of FTEs Before Office 365	Percent Reduction In FTEs	Financial Impact (Risk-Adjusted)
Discover insights to identify trends	8.6	12.4%	46	7.0%	\$134,178
Discover content and context to quickly make informed decisions	10.3	14.4%	100	14.9%	\$511,895
Conduct meetings from anywhere, anytime to get work done	11.2	10.1%	85	15.4%	\$417,244
Communicate securely to ensure privacy	13.2	9.1%	131	15.0%	\$719,521
Manage client privacy and security	10.8	8.8%	156	18.5%	\$791,610
Secure access to work from anywhere	11.4	7.3%	208	18.6%	\$1,065,087
Collaborate in real time on document development and review	8.3	11.8%	287	14.9%	\$1,087,404
Find and leverage collective intelligence to produce higher-impact deliverables	9.8	11.0%	225	21.1%	\$1,201,772
Protect sensitive client information to ensure compliance	12.6	8.9%	135	14.0%	\$674,133
Maximize sales to have an impact on your bottom line	25.0	20.5%	175	20.5%	\$2,946,454

Source: Forrester Research, Inc.

Survey respondents shared the following specific statements about how processes improve:

- › “[Office 365 is] a very integrated system that allows employees to get their work done in a more efficient way.”
- › “No longer need to use a shared drive that can only be accessed from certain computers and with certain connections.”
- › “[It] allows a wider scope for collaboration (cross-divisional collaboration was very difficult when trying to used shared network drives).”
- › “It works well with our software and is user friendly and easy to teach, so it’s more likely to be used by our doctors and clinicians – it expands our reach.”