# Information Technology Research And Planning Monograph Series

## Information Systems
**BUDGET PLANNING**

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# INTRODUCTION

In order to effectively provide students with top-quality educational practices, school districts must embrace the efficiencies that technology offers.

At NEOnet, the Northeast Ohio Network for Education Technology, our goal is to provide school districts with the tools they need to be successful at a cost-effective price. As such, NEOnet would like to share a series of research monographs that explore the most pertinent topics in school information technology (IT) today.

This article, which focuses on budget planning for technology, is the first in our series.

We hope this article highlights the strategic information that's necessary for school district decision-makers to integrate the best practices in IT for the benefit of every member of their community. If you would like more information on the ways in which NEOnet can improve your budget planning efforts, contact Matt Gdovin at gdovin@neonet.org.

# INFORMATION SYSTEMS
# BUDGET PLANNING

The Ohio Education Computer Network (OECN) was created in 1979 by the Ohio Legislature. Since then, the role of technology in Ohio schools has become central to their day-to-day operations and success.

The OECN was created in part to make industry-standard computing resources available to school districts across Ohio. In 1979, the legislature recognized that in order for Ohio schools to improve and compete, they needed access to high-end computing tools – including hardware, software, connectivity and most importantly, knowledgeable people to make it all work. As the demand for information increased alongside the complexities of technology, the importance of information technology in school districts has expanded dramatically.

An ongoing problem for districts has remained how to plan, pay for and support the technology infrastructure required to be successful. Most school district technology personnel have neither degrees in computer science nor certifications in the latest technologies. Few technology directors have backgrounds in accounting and/or budget management. This makes successful technology adoption, use and sustainability difficult. Fortunately, there are models for implementation and standards that can be followed to guide districts.

Unlike many other functions of K-12 districts, information technology is very similar when deployed in the private sector or in schools. Telecommunications is telecommunications; servers are servers; tech support is tech support. Models for planning, budgeting, deploying and supporting these solutions already exist – if only the availability of funding were the same!

***Let's begin with some basic assumptions.***

**01.** Information technology is just as important as any other core infrastructure in a school district. Like water or electricity, IT powers school buildings and makes them go. We've come to expect and rely on our technology working 24/7. Paychecks, communications, instruction, high-stakes testing, IEP's and more all depend on this basic infrastructure.

**02.** Very few districts have the technical personnel necessary to develop strategic technology plans that effectively and cost-efficiently support the core mission of the district. Moreover, few districts have the personnel to build and maintain high-end computing environments. Unfortunately, people with these skills are expensive and are highly sought-after in both the public and private sectors. This puts pressure on district compensation.

**03.** IT budgets have evolved organically; that is, they've increased over the years either as a reaction to demands placed on a district by the Ohio legislature or through the gradual adoption of "stuff" over time by staff members. As a result, linking IT to the various core initiatives of the district doesn't often occur, or if it does, it is specious at best. As a result, there are few, if any, metrics demonstrating IT's return on investment (ROI).

In consideration of the third assumption, The Journal of Accountancy suggests that when planning IT budgets:

"Good IT budgeting is like good financial planning... Each organization should answer the following questions: Do the selected IT initiatives align with and support the organization's strategic objectives? Should any initiatives that weren't selected for the budget be reconsidered? Would any of the organization's strategic initiatives make one of the selected IT initiatives obsolete?"

https://www.journalofaccountancy.com/issues/2012/mar/20114439.html

In every situation, a district's IT investment should have some measurable benefit. Perhaps it is to improve the on-boarding (registration) of new students. It could also be used to reduce the amount of time it takes a student to move off of a Reading Improvement and Monitoring Plan (RIMP).

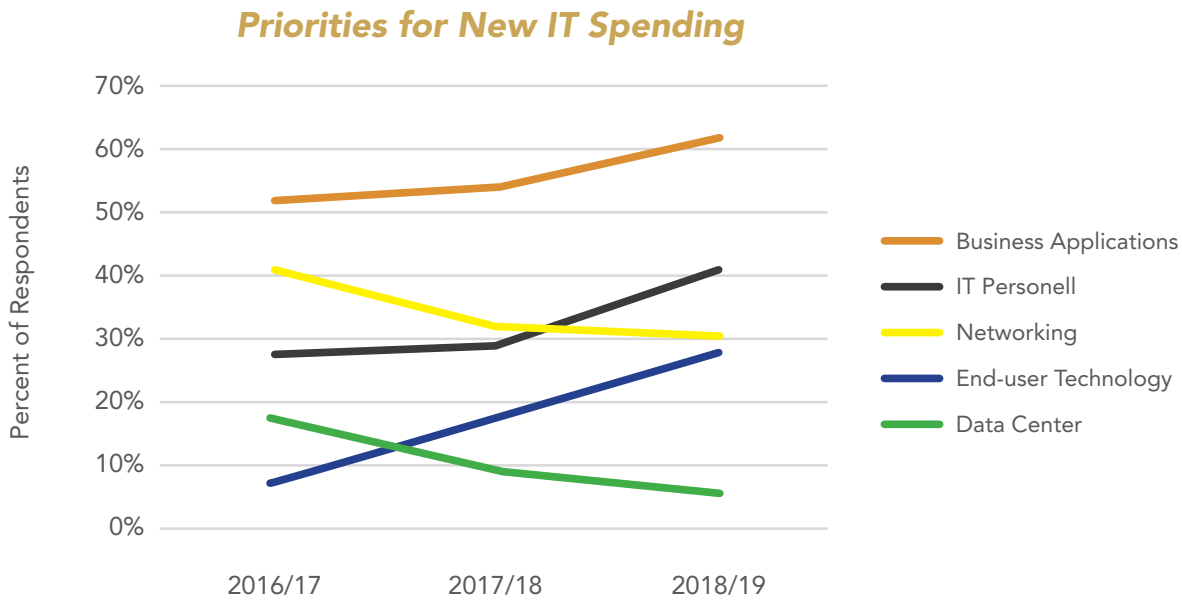
No matter the case, there should be a clearly defined goal of the investment with clearly defined measurable objectives and timelines. Once this is established, districts can calculate their ROI and over time decide whether the investment is worthwhile.

Our second assumption is relevant to the ongoing personnel problem with IT. Compounding matters is the enormous shift from in-house data centers to external cloud-based technologies, which provide significantly greater flexibility, security and performance at lower costs. Recent data from ZDNet, Gartner, and Forrester confirm this move.

https://www.zdnet.com/article/tech-budgets-2019-surveys-and-projections/

Today's datacenters utilize virtual machines that can be expanded and contracted "on the fly" as customers' demands and budgets change. Cloud-based virtual technologies like Kubernetes, an open-source container-orchestration system for automating deployment, scaling and management of containerized applications, is beyond the reach and understanding of all but a few school district personnel. High-availability fail-over, advanced security, "hot site" disaster recovery, new development languages—this is today's computing environment.

As a result, the days when a teacher could move out of the classroom to lead these initiatives without deep technical education and training are coming to an end. This means that districts will either be left behind or, like everyone else, need to shift to more sophisticated, cloud-based datacenters staffed by capable computer science professionals.



The good news is that this move usually results in savings. Transitioning to an external IT provider shifts your labor costs to a purchased service. This purchased service must include service level agreements (SLAs), which allow districts to hold these IT service providers accountable. One added benefit of this model is they are not bound by the collective bargaining agreement.

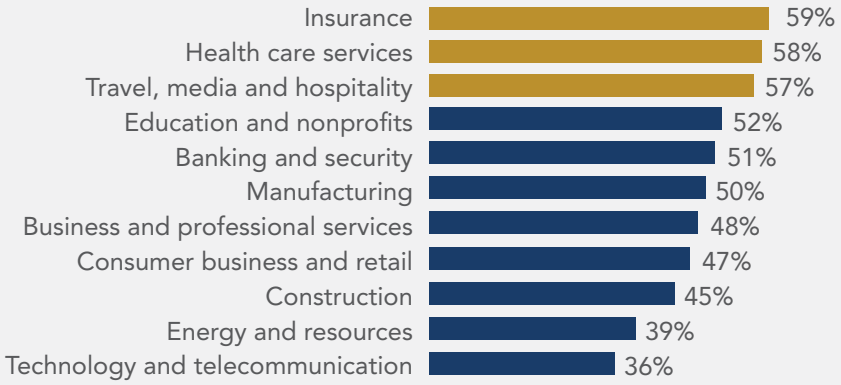
Finally, our first assumption posits that information technology is a necessary utility. As such, it should be budgeted and accounted for – just like electric and water. IT is an ongoing cost that will only continue to increase over the coming years.

Deloitte Insights reports that for 2016-17, education spent 5.77% of its operating budget on IT. This metric does not discriminate between K-12 and higher education, but it does provide a metric to measure the impact of IT on district budgets.

And this expenditure is only likely to increase. The same research found that, for the past year, IT spending is trending upwards.

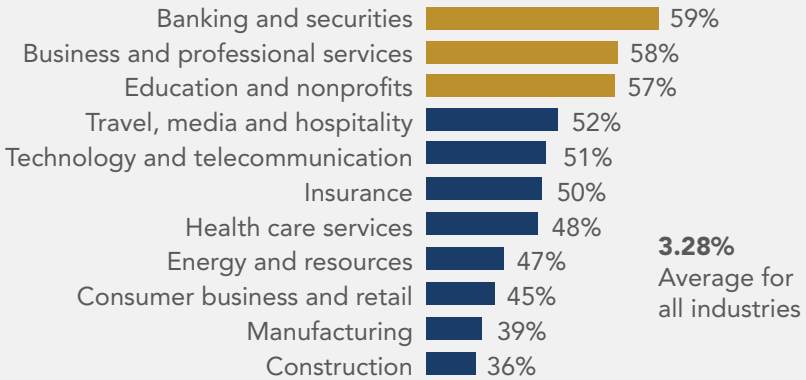
Further, the latest Gartner Group research suggests a worldwide increase, across all industries, of 3.2%.

***Figure 2. CIOs reporting increase in IT budget over the last year***




*Source: Deloitte 2016-2017 Global CIO Survey, N=1,133.* *Deloitte Insights | deloitte.com/insights*

***Figure 1. IT budget as a percentage of revenue***




*Source: Deloitte 2016-2017 Global CIO Survey, N=747* *Deloitte Insights | deloitte.com/insights*

## *Worldwide IT Spending Forecast (Billions of U.S. Dollars)*

| | 2017 Spending | 2017 Growth (%) | 2018 Spending | 2018 Growth (%) | 2019 Spending | 2019 Growth (%) |
|---|---|---|---|---|---|---|
| **Data Center Systems** | 181 | 6.4 | 192 | 6.0 | 195 | 1.6 |
| **Enterprise Software** | 369 | 10.4 | 405 | 9.9 | 439 | 8.3 |
| **Devices** | 369 | 5.7 | 689 | 3.6 | 709 | 2.4 |
| **IT Services** | 931 | 4.1 | 987 | 5.9 | 1,034 | 4.7 |
| **Communica-tions Services** | 1,392 | 1.0 | 1,425 | 2.4 | 1,442 | 1.2 |
| **Overall IT** | **3,539** | **3.9** | **3,699** | **4.5** | **3,816** | **3.2** |

Source: Gartner (October 2018) https://www.gartner.com/en/newsroom/press-releases/2018-10-17-gartner-says-global-it-spending-to-grow-3-2-percent-in-2019

### *So what should districts do?*

1. Districts that have not done so should create permanent line items in their budgets for IT.
2. Districts should expect the cost of IT to be anywhere from 3-6% of their total operating budget, depending on the number of initiatives they are engaging.
3. IT expenditures will increase over time. School districts should therefore reflect on the impacts of EMIS, the Third Grade Reading Guarantee, online testing and 1:1 computing on the demand for technology, and therefore budget.
4. To the extent possible, districts should move their high-end technology functions to an ITC to reduce costs and improve performance.
5. District initiatives requiring technology should be aligned. They should include clearly defined goals and measurable outcomes. Some type of ROI should also be used to measure the efficacy of the technology investment; if not, they will have spent many thousands of dollars with little to show for it.

Budgeting effectively for technology is an ongoing process. Districts are not immune to the vagaries of state legislature or their local constituents at levy time. However, effective planning as new IT-based initiatives are launched will demonstrate a "business-like" approach to this work. The next step is to monitor the efficacy of these initiatives to ensure that the public is getting a return on its investment.

In our next paper, we will discuss analytics and decision support as it relates to maintaining a "business-like" approach to IT planning and implementation.

If you would like more information on the ways in which NEOnet can improve your budget planning process and planning efforts for IT, contact us today at www.neonet.org.