

ITAD

Meeting IT Life-cycle Challenges to Maximize Value and Minimize Risk

Introduction

The amount of decommissioned IT assets is growing at an accelerated rate due to the rapid advancement of technological change. The resulting challenge is determining how to capture additional asset value from this eWaste and avoid liabilities arising out of data security issues and non-compliance with legislative requirements. This paper explores life-cycle challenges and provides insights into effective ITAD programs. The goal of an ITAD program is to maximize return and minimize the risk associated with asset decommissioning.

The IT life-cycle

There is a continuous life-cycle that drives perpetual change within the IT infrastructure of every organization. This life-cycle is driven by technology manufacturers (OEMs) continuously releasing new “commodity” products that offer increased performance, higher throughput, and lower prices. These “commodity” products also create faster refresh cycles. The IT life-cycle is also driven by end-user organizations in their attempt to harness the newest and latest technologies to spur their growth in the marketplace and create a competitive advantage.

Today, organizations have no adoption barriers and are willing to invest in new technologies for competitive advantage. Technology has no boundaries and vendors have a pool of seemingly endless resources to run research and development programs that, because of their rapid development times, release new technology products at an ever increasing rate. Newer technology and consolidation strategies decrease electrical consumption which has a dramatic impact on the cost justification of information technology purchases by lowering operational costs. These environmental advancements also accelerate the refresh cycle, creating another environmental problem: eWaste.

The IT life-cycle (Figure 1) has three distinct stages. These stages follow a natural progression resulting in a continuous loop. The length or duration of any one stage is dependent on the business issues facing the organization and the organization’s responsiveness to change. In the simplest of terms, the objective of the IT life-cycle is to maximize return on investment (ROI). The way most companies approach maximizing ROI is to focus on the procurement and maintenance stages with the following objectives:

- Procure IT assets at the lowest possible cost
- Maintain IT assets in a manner that will extend their useful life.

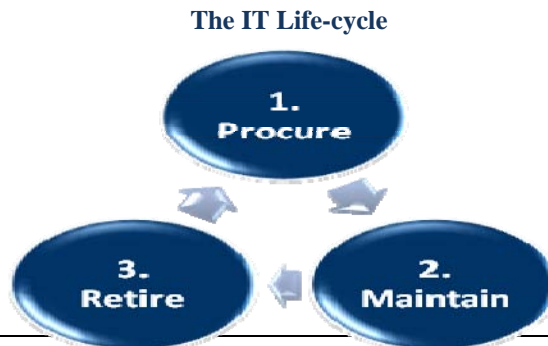
The Overlooked Stage

The focus on ROI leads organizations to place management controls on the procurement and maintenance stages of the IT life-cycle. These are the areas where the investments are most visible.

During the procurement phase, attention is weighted toward defining business requirements and matching technologies to support those requirements. Initial investments are justified based on the benefits that are expected to be received. During the maintenance stage, continued investments are made in the form of support and enhancements. There is a continuous need to update IT investments in order to keep up with changing business requirements, thereby extending return on investment. On-going maintenance investments can be 2-3 times the amount of the initial investment.

The third stage - retirement - is where older technology is taken out of service and replaced by newer technology that will be acquired during the next procurement stage. It seems this stage exists to only provide a continuous loop for the IT life-cycle, having little contribution towards the return on information technology investment. The objective of this stage is straightforward: pave the way for newer technology investments.

Each of the three stages contributes to return on investment - not just the procurement and maintenance stages. Costs, risks and the value-add associated with the retirement stage are often overlooked. By placing equal focus on the retirement stage of the IT life-cycle, organizations can significantly improve return on IT investments and add to their bottom line.



Cost Considerations Within the Retirement Stage of the IT Life-cycle

The most neglected opportunity during the retirement stage is maximizing the residual value from the excess IT assets. The most common approach, because it is effortless, is to trade-in these assets to the vendors supplying new technologies. This approach usually returns the least amount of residual value and tends to lower the discount that would otherwise be available from the vendor. Inability to capture true market value of decommissioned IT assets is a tremendous loss in ROI.

Another loss in ROI comes from carrying costs and disposal costs. IT assets depreciate at 5% to 8% monthly even after being decommissioned. Inventory brings with it carrying costs in the form of warehousing, taxes and insurance. Inevitably unused inventory that isn't part of a trade-in program will be disposed of to eliminate these carrying costs, but this disposal process also carries costs in the form of logistics and labor. These are all real costs that if not controlled, will decrease ROI.

Environmental Considerations Within the Retirement Stage of the IT Life-cycle

There is yet another reason to focus on the retirement stage of the IT life-cycle. Greenspace International estimates that nearly 50 million metric tons of electronic products are discarded annually and that eWaste is the fastest growing solid waste component. In the United States, the Environmental Protection Agency (EPA) estimates that only 12.5% is collected for recycling. The balance, or 87.5%, of eWaste ends up in landfills or incinerators. Unquestionably this has become a problem that state and federal legislation is attacking with governmental regulations.

State driven legislation in the form of Waste Recycling Acts puts strict restrictions on how IT assets can be disposed. RoHS (Restrictions on Hazardous Substances) laws are being adopted throughout the United States and Europe in an effort to control the recycling of eWaste. Because legislation is moving rapidly at a state level, it's hard for companies to keep current with the laws. Failure to comply with these and other 'green' regulations carries huge financial penalties to organizations found in violation.

Security Considerations Within the Retirement Stage of the IT Life-cycle

Confidential company and customer information is easily compromised through improper handling of de-commissioned IT assets. Deleting data with a computer command does nothing to actually remove data. All it does is erase the directory, leaving the data stored on the disk drive. Information DNA goes farther than disk drives, however, and can be traced to computer memory and printers as well.

Data elimination is an expense that must be dealt with; failure to do it properly can open the organization to financial liability and the loss of public trust. In order to comply with

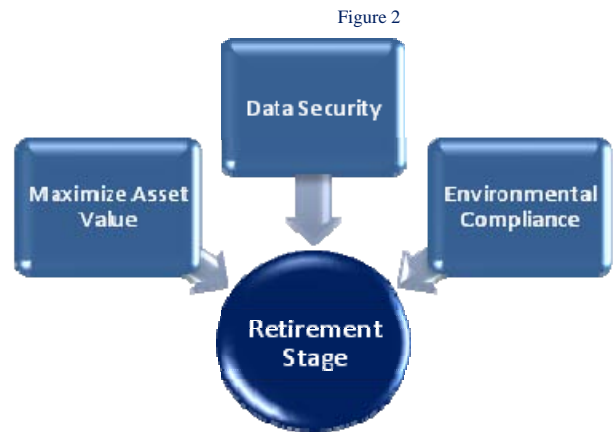
information security laws and regulations such as Sarbanes-Oxley, Gramm-Leach-Bliley, HIPAA, and the Federal Information Security Act, proper procedures and practices must be followed.

Adherence to the U.S. Department of Defense requirements (DOD 5220.22-M) became the accepted standard in 1995 for information technology security procedures ranging from chain of custody, storage and retention, and methods of data destruction. In September 2006, the U.S. Department of Homeland Security and the National Institute of Standards and Technology (NIST) published newer standards for data destruction (Guidelines for Media Sanitation: Document 800-88). As technology advances, there will inescapably be an on-going need for updated procedures.

Actions to Take

Information Technology Asset Disposition (ITAD), the retirement stage of the IT life-cycle, is often underestimated in its importance. If organizations are to maximize their return on IT investments while avoiding the risk of data loss and compliance violations, ITAD must be adopted as a critical business process.

The ITAD Role
Maximizing Value and Minimizing Risk
Within the IT Life-cycle



The ITAD Role in the IT Life-cycle

There are two aspects of asset disposition. In the case of asset recovery, the asset has future productive value that can be captured. In the case of asset disposal, the asset has no future productive value that can be captured. In preparing for comprehensive ITAD programs (Figure 2), three factors should guide decision making: (1) maximizing the residual value of IT assets, (2) ensuring data security, and (3) complying with environmental mandates.

In-house ITAD Programs

One way to approach information technology asset disposition is to use internal resources. The most apparent

advantage is maintaining control over the process, but this is often at the expense of not having comprehensive processes in place. In a study conducted by Gartner, 25% of the companies were found to be using formatting as their primary data sanitization method, putting their companies at great risk. More sophisticated techniques should be used. Many organizations make attempts to implement employee buy-back programs, particularly for personal computers and laptops. They discover, however, that the costs and risks associated with organizing and managing these efforts far outweigh the return.

In-house programs are best suited for companies with the fewest IT assets to deal with. The economies of scale may not be sufficient enough to warrant a great deal of scrutiny when it comes to maximizing asset residual value. With even a small amount of IT assets however, the concern for data security and the environmental impact are not relinquished. Using companies that have clearly defined ITAD procedures is prudent even if only on an occasional basis.

Outsourced ITAD Programs

International Data Corporation (IDC) reports that one-third of the companies it surveyed now use a third party company because of data security, and other reasons including the ability to maximize the residual value of decommissioned IT assets and ensure compliance with environmental regulations.

Partnering with an ITAD services company will provide the

greatest return on investment and will mitigate the risks associated with asset disposal. Companies outsourcing their IT asset disposal processes often have not been able to maximize their return. The reason for this is that the ITAD industry is still fragmented with many divergent players: vendors experienced in recycling, not maximizing value. Furthermore, large organizations using multiple companies for disposing a variety of IT asset types are not able to receive the advantages of standardized and controlled business processes.

Implementing an ITAD Program

The dependence on information technology and its rapid rate of change are driving all organizations to evaluate returns on investment throughout the entire IT life-cycle. As the used and obsolete stockpile of IT assets continues to grow, environmental stewardship has become a corporate responsibility.

The third stage of the IT life-cycle, the Retirement Stage - once overlooked - is today an area of increased management focus. In developing corporate-wide ITAD programs, the waste management hierarchy (Figure 3) provided by the Environmental Protection Agency (EPA), provides a helpful guideline. It provides a useful way of prioritizing the overall process of IT asset disposition. The highest value is received when the decommissioned asset is placed back into productive use. In some cases, assets can be redeployed within the

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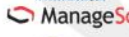
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organization to provide other uses. In most cases, however, these assets are refurbished and resold in the marketplace. Asset value continues to decline downward through the hierarchy. Effective recycling can return value by salvaging component parts and materials for resale. Environmental concerns become most important toward the bottom of the hierarchy when eWaste is ultimately disposed.



Picking an ITAD Partner

Information Technology Asset Disposition programs require specialized resources skilled at maximizing the value of decommissioned IT assets. Processes must be in place to ensure adherence to strict security and environmental practices.

Picking an ITAD partner is not as simple as locating an asset disposal or recycling company. The market is fragmented and immature with respect to Information Technology Asset Disposition. There is more to it than moving products into landfills. The following guidelines provide a comprehensive approach in determining the best partner to maximize value and minimize risk.

1. **Ability to capture highest residual value** – As depicted in the EPA Waste Management Hierarchy (Figure 3), the place to start is reuse. Environmentally sound, reuse is also a prudent business practice. ITAD partners which have the capability of refurbishing used IT assets and also remarketing through a broad direct end-user channel capture higher resale value. Those having the ability to reconfigure and upgrade IT assets to meet specific end-user requirements are able to increase the asset’s marketability and improve sales cycles. These combined capabilities capture the highest retail value rather than settling for wholesale or abandonment value.
2. **Completeness of service offering** – The optimum approach for disposition is not the same for all IT assets. Many factors are at play in determining value. An ITAD partner should be a specialist in both asset recovery (refurbishment and remarketing) and asset disposal (recycling and elimination). If done correctly, asset disposal can yield

great return to the organization. In all cases, there must a documented and stringent process in place to ensure data security to protect both company and customer confidential data.

3. **Security** – Data elimination is not straightforward when it comes to IT assets and is not restricted to magnetic media like disk and tape. Safeguarding data is also a concern with respect to printers, servers, and networking equipment. An ITAD partner must at a minimum meet DoD 5220.22-M standards with their data degaussing, disk wiping and destruction procedures. Due to the lowresale value of disk storage and the high risk associated with compromised data, onsite disk destruction should be strongly considered. ITAD partners with onsite data wiping, disk shredding and utilizing their own trucks present best-in-class security assurance.
4. **Environmental practices** – Environment safekeeping is a non-transferable corporate burden. Just as liability for data protection continues, after asset transfer, so does the responsibility for adherence to governmental mandates with respect to the proper disposal of electronic assets. Governed heavily by diverse state legislation and the adoption of local RoHS laws along with the Waste Electrical & Electronics (WEE) Directive, an ITAD partner should demonstrate the ability to keep up with current public policy on a state-by-state basis. They must also ensure their disposal processes are in conformance with all security and regulatory procedures and provide an audit trail.
5. **Global coverage** – The world is flat with regard to Corporate America today: its reach spans the entire globe. An organization’s assets may be spread among many geographic regions and the value of their displaced assets is maximized by leveraging international markets. Consequently, an ITAD partner must have global reach both to properly service international business structures and to have access to broad distribution channels and resale markets.
6. **Financial viability** – Information Technology Asset Disposal deals with huge investments and risk. In performing ITAD services and meeting service level agreements (SLAs), service providers have huge investments in process, logistics, and remarketing. To ensure maximum return and lowest cost, an ITAD provider must have sufficient financial backing to cover the large project implementations and deliver contracted services without deviation.

ITAD Implementation Process

The goal of an ITAD program is to maximize return and minimize the risk associated with asset decommissioning. A

critical success factor is to implement a program that becomes an integral part of every IT decision and is supported by standard, repeatable processes. The following presents a viable methodology for accomplishing these goals.

The ITAD Implementation Process



Implementing an ITAD Program

1. Select an ITAD Partner – Information Technology Asset Disposition falls outside traditional business functions of the organization and requires specialized resources. The implementation will weigh heavily on the capabilities provided by the ITAD partner and how those capabilities integrate with the organization’s capabilities. The ITAD partner should have equally strong competencies and comprehensive procedures for both asset recovery and asset disposal.
2. Define a Beta Program – Beginning with a very manageable task is a proven approach for successful new program development. Starting an ITAD program with a specific requirement or a planned IT project accomplishes

two things: (1) the program can easily be adjusted as nuances are discovered, and (2) the ITAD partner can be tested before making unchangeable commitments.

3. Institutionalize the Program Rollout – Once the beta program has been completed, and the results verified, the program model can be extended to other parts of the organization. Processes are documented and integrated into the organization’s IT life-cycle planning process. Finally, responsibilities are defined for both internal stakeholders and the ITAD service provider to provide a newly created closed-loop business process.
4. Continuously Improve the Program – Lean strategies (patterned along Lean Six Sigma practices) provide the foundation for a comprehensive ITAD program. Lean processes identify and remove causes of defects and errors in business processes. Defining the sequence of steps in the disposal process can provide cost reduction. Accelerating asset recovery can bring higher asset resale value. Both combined can increase the ROI.

Conclusion

This is a new age of corporate responsibility to stakeholders and the environment. Information technology asset disposition is rapidly becoming a very visible component of that responsibility because it has implications for both bottom line profit and environmental stewardship.

For organizations that have taken actions to implement ITAD programs, the opportunity moving forward is continuous improvement in processes, procedures, auditing of security, adherence to state and federal regulations and environmental compliance. Lean practices can also create accountability for cost reduction and asset resale value to increase ROI. For those organizations that have not yet formalized their IT asset disposition processes, the time to begin is now. The following provides insight which should be used in development of these processes:





1. ITAD has profit, cost, security and environmental considerations

Information Technology Asset Disposition has traditionally been a non-consequential stage in the IT life-cycle. Failure to treat this stage with equal importance results in lost profits and unrealized return on investment. Organizations are open to significant financial risk without comprehensive procedures in place for data security and environmental compliance.

2. Reuse maximizes IT asset value

Obtaining the highest value from decommissioned IT assets is achieved when that asset is returned to productive use. The way this is accomplished is through a refurbishment and remarketing process. Effort should be made to use ITAD partners that market to end-users instead of just to intermediaries (brokers, dealers, etc.) where profit sharing reduces the net revenue received by the original supplier.

3. ITAD is a business process

Information Technology Asset Disposition is process driven. Without comprehensive procedures in place, many points for failure rob the process of efficiency and profit. Equally important is the susceptibility of unnecessary business risks and associated liabilities. Gartner has recommended that outsourcing is the most viable way to

implement ITAD business processes. Care must be taken when selecting an ITAD partner to ensure completeness of solution and soundness of procedures.

4. ITAD adds profit to the bottom line

Increased return on investment is one of the benefits achieved from an ITAD program. This is accomplished by lowering the overall costs of disposition (asset recovery and disposal) while increasing IT asset residual value.

5. ITAD expands a "green" culture

Socially responsible organizations are looking for ways to improve their business as well as the environment. Effective ITAD programs reduce harmful eWaste from the environmental ecosystem while protecting organizations from the financial penalties for non-compliance with legislative mandates.

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