Industry White Paper

New IT Skills = New IT Organizational Models

Closed Loop Lifecycle Planning©
In collaboration with HP®, Microsoft®, and Intel®

April 2025

Submitted by: Jeff Malec, HP Principal Technologist and Lifecycle Subject Matter Expert
Bruce Michelson, Distinguished Technologist Emeritus HP
Close Loop LLC, Manager

Table of Contents

About the Authors

Jeff Malec

Jeff Malec is an HP Principal Technologist and Lifecycle Planning Subject Matter Expert. After a 21+ year career with Microsoft, Jeff joined HP and is driving adoption of the modern workplace, Windows 11, and the related lifecycle elements.

Managing the Microsoft and HP relationship for several years, Jeff is an expert in go to market plans and customer adoption strategies.

Jeff holds multiple technical certifications from Microsoft.

Bruce Michelson

Bruce Michelson is an HP Distinguished Technologist (Emeritus) and the Manager of Close Loop LLC. Bruce has over 36+ years in delivering industry white paper and customer engagements. Bruce has delivered over 1,000+ white papers and over 350+ engagements.

Bruce is the author of seven books regarding aspects of lifecycle management. Bruce has numerous copyrights and patents regarding his expertise in User Segmentation, lifecycle management, cost of change, The Ready State©, and Appropriate Incumbent Behavior©.

Bruce teaches IT in Health Care and Advanced Systems and Design at Florida Atlantic University where he is an adjunct.

Bruce is sponsored by the HP, Microsoft, and Intel Alliance for this engagement.

1.0 Management Summary

While IT is in a constant state of change, we are in a new era. The trends that have been long considered such as the consumerization of IT, the changing demographics, AI, IoT, and the cloud among other trends have now become the new reality. This list is only a short, representative list, the larger list of changes is quite extensive and impressive.

What was considered the “future” vision of many of the creative innovations are now deliverables to the IT organizations today.

Closed Loop Lifecycle Planning has concluded that “change by its very nature is unsettling.”

As a corollary to that conclusion is another that states “there is only so much change an organization can embrace.”

1.1 Objectives of This White Paper

Due to the rapid advancements in the industry, there is an increasing demand for both quantitative and qualitative skills, encompassing technical and business expertise. This White Paper aims to identify some of the essential new skills that IT professionals and organizations need to adopt not only to remain competitive but also to ensure security and deliver optimal experiences to end users and customers.

Additionally, this White Paper highlights the necessity of exploring and adopting a new organizational model. The existing organizational framework may not be able to swiftly adapt to the evolving requirements, necessitating a reconsideration and redesign to address emerging industry trends.

Failure to evaluate and consider both the new skill requirements and potential organizational implications could lead to increased Technical Debt.

1.2 Tech Debt

Technical Debt often pertains to hardware, software, governance, and other aspects of information technology. Frequently, Technical Debt is a consequence or outcome of insufficient modernization.

Similarly, Technical Debt can also arise from an outdated organizational model. Should an organization be unprepared for or resistant to change, it may become entrenched in legacy practices, resulting in Technical Debt.

Most organizational models have existed since the business's inception. Operations were established, and incremental organizational changes were simply integrated into the existing infrastructure framework. Given the myriad trends and innovations currently unfolding, there is a considerable potential for increased Technical Debt.

2.0 Representative Skill Sets

This section highlights various skillsets essential in the new era of trends and technologies. Many of these new skills are validated through updated curricula and courseware available at colleges and universities.

With the incorporation of these new skills and roles into organizations, it prompts a critical evaluation of whether traditional organizational structures should integrate these roles or if there is a need to redesign the organization to align with modern and agile infrastructure strategies.

2.1 Program and Project Managers

Closed Loop Lifecycle Planning differentiates between program and project managers. Project managers are specific to drive initiatives that have defined objectives, timelines, and deliverables for the organization. Often the project managers are certified in several disciplines such as PMI©, ITIL©, Six Sigma©, Agile Scrum©, or others.

A program manager has multiple project managers reporting to them with a broader set of deliverables. While the program manager might and often does have similar credentials to the project manager, there is also a skill in terms of the business maturity and knowledge that differentiates the role.

One of the key conclusions from Closed Loop Lifecycle Planning in the post-pandemic era is that "every initiative requires a business case and must be quantified." A related conclusion asserts that "if it is not quantified, it does not count."

These conclusions indicate that project and program managers need to develop a new skill set, which includes the ability to quantify benefits and create a robust business case. Moreover, these professionals must possess the capability to monitor and track the timing and realization of those benefits.

It is no longer sufficient to merely deliver a project or initiative; the anticipated outcomes must be clearly defined and quantified for the effort to be deemed fully successful.

2.2 Mobility

For years, mobility has been defined by products sets—laptops, tablets, or phones. There were (and continues to be) various OEMs engaged in each of these markets. The IT infrastructure was fashioned around the technologies and in some cases the OEMs who supplied that technology. In some cases, the devices are commercial and in others the devices could be consumer.

Fast forward to today's environment. Mobility is a common denominator across all the technologies, the difference now is the form factors.

In 2025, the organization might consider aligning the overall mobility strategy into a single pillar complete with full cross-training of the resources. Policy, process, procedures and governance should be crafted to reflect mobility operational definition which would include all technologies.

2.3 AI

In today's IT, each organization has a part of the AI solution. IT has NPUs (to be discussed in a later section), the application team may have AI such as Microsoft Copilot, lines of business have AI modules to be considered, and management tools under various teams will have their portfolio including AI driven solutions.

In other words, there is not a single source of contact for all things AI regardless of which pillar has access or a role in its adoption.

As a part of the new IT infrastructure, in a separate White Paper, a role was proposed called the AICIO (the AI Chief Information Officer).

This new role should be not only the subject matter expert(s) on AI, but the approver for "all things AI" in the organization.

Without this focus, AI might represent risk to the organization by those who are less qualified making decisions that otherwise would be more thoroughly vetted by the experts.

2.4 Configuration Management

With the emergence of new innovations in chipsets such as the NPU, IT must establish a new discipline for configuration management. The NPU represents an initial step in the development of additional features to be integrated into chipsets. Future chipsets, although not yet in production, are part of the planning phase and have been discussed at various industry events where statements of intent were made, highlighting the need for a structured approach to configuration management.

IT should be responsible for configuration management as a business practice. The entitlements for the supplier base should align with IT responsibilities to ensure that all potential benefits are communicated to the various pillars and lines of business. This entails a new responsibility for IT.

One-way communication is no longer sufficient; IT needs to communicate entitlements comprehensively and in detail to enable optimization where appropriate. IT should be the accountable organization since it is essential to fully understand the technical requirements. Therefore, IT needs to expand its scope to become subject matter experts, identifying which features and entitlements should be communicated internally for consideration.

2.5 Data Analytics

In an Industry White Paper, "The Ready State©," Closed Loop Lifecycle Planning identified data analytics as "table stakes."

Businesses utilize various types of data analytics, each requiring specialized knowledge and understanding. Organizations often employ both internal and external data analytics.

Despite unique requirements across different organizations and business lines, the essential components remain the data analytics themselves, along with the tools and technologies that facilitate data collection and assessment.

The presence of diverse groups with varying skill sets can lead to sub-optimization and potential duplication of resources and costs. As a strategic practice, organizations may benefit from centralizing data analytics under a governing body of subject matter experts responsible for overall management. This approach is analogous to those considered for AI and other emerging technologies.

2.6 Networking

With increased mobility and with more applications both on-premises and in the cloud, the network bandwidth has become more than topology and design. Networking needs to be more dynamic.

In the Industry White Paper, "The Accelerated State©," the stress placed on the networks are significant with many of the volume and traffic considerations being "bursty" and often less predictable than previous iterations.

Networking involves its own data analytics and traffic management. Included in these discussions are the entitlements from incumbent providers that can supplement, complement, or replace certain tools and functionality. However, due to the organizational model, there might be limited awareness within the networking community of these capabilities.

From an organizational perspective, new organizational models should define integration levels and provide an OLA for internal organizations to supply baseline and enablement information to other business lines to prevent sub-optimization.

Many organizations have established formal liaison positions that address a structured approach to integration as part of quality assurance of solutions.

2.7 Security

Security is fundamental to all organizations due to its critical importance. Data indicates that both the frequency and sophistication of cyberattacks are expected to rise, with innovations such as AI being used to develop new methods of attack as well as defensive strategies.

Security must be integrated into every aspect of an organization and business line. Establishing formal liaison positions would aid in this integration.

Governance and workflow processes should place security at the center of lifecycle management.

Without a designated source of ownership and accountability, distributing security responsibilities can lead to technological debt, which prioritizes legacy systems and rigid boundaries over flexibility and responsiveness.

3.0 Subject Matter Experts

Not every organization has the resources to employ experts in all emerging technologies. The demand for these skills is high, and cost considerations are significant. In economic downturns, training and education budgets are often reduced first, under the belief that certain knowledge is optional rather than essential. This approach can lead to a reliance on legacy systems until external factors necessitate change.

Expertise in advanced and best practices will be provided by subject matter experts. Certifications in new technologies are highly recommended to prevent gaps from occurring. The ability to recruit, attract, and retain top talent is increasingly challenging for organizations. Without subject matter experts, there is a higher risk of gaps and unanticipated outcomes.

Organizations should identify the necessary subject matter expertise and ensure that it is addressed within their skill sets and models. Additionally, integration and communication among various pillars are essential for sharing trends, messaging, entitlements, and direction. Duplication of efforts is becoming common as each organization addresses gaps in its specific line of business.

3.1 Third Parties

Organizations are increasingly using third parties as subject matter experts. While third parties can address gaps, it is essential for organizations to have in-house expertise to evaluate the recommendations and considerations of any third parties. Third parties have their own areas of focus and comfort zones. It is often necessary to identify where preferred solutions should be secondary to providing multiple alternatives for the organization to consider. Therefore, regardless of the third parties involved, businesses must routinely assess any recommended solutions.

3.2 Trends

One of the key areas where third parties can provide substantial value is in identifying industry trends. These trends should encompass not only the broader industry but also the specific vertical that a business operates within.

All incumbent providers of an organization, along with a comprehensive understanding of their entitlements, should be delivering roadmaps as a baseline requirement. Frequently, the focus tends to be on a planning horizon of 2 to 3 years. While this short-term perspective is necessary from a tactical standpoint, it is equally important to consider longer-term perspectives, where the impact could be more significant for the organization.

For a long-term vision, incumbents and engaged third parties should have the opportunity to interact with multiple lines of business to ensure consistent messaging delivery. There is often a "need-to-know" approach, but the pertinent question is: what information do the lines of business require if future investments are not fully committed? A forum allowing one-on-many interactions is precisely what the next generation of technologies will necessitate, as emerging trends will directly and indirectly affect all lines of business.

4.0 Digital End User Experience

With changes and innovations occurring, organizations need to reconsider how Digital Employee Experience (DEX) is monitored and measured. An annual survey reflects past behaviors, which may not align with current expectations due to ongoing innovation. Although the annual survey remains part of the organizational culture and may not undergo significant changes, the validation of the collected information could be adapted to ensure actions are appropriate and responsive.

Organizations have invested in IT infrastructure to support end users. It would be beneficial to compare data points from these investments with survey responses.

One of the conclusions from Closed Loop Lifecycle Planning is that “a bad experience is long remembered, while positive experiences tend to fade quickly.”

The purpose of investment in infrastructure is to improve, secure, and anticipate end user issues so that the hurdle for optimization can occur. Consider these significant investments and data points and how they might be leveraged in conjunction to the survey (as examples):

- Help desk data and metrics
- Data analytics and empirical data for end experience
- Technology refresh strategies
- Current level of employee retention by role of category
- Demographics of the organization’s workforce

4.1 “What Have We Done for You Lately?”

One of the actions that IT and the organization in general (your organization’s mileage may vary) is quantifying and communicating what IT has delivered to the end users and the lines of business. IT is often assumed that end users may not care or that it is simply not necessary to advise them of the outcomes.

With a technologically savvy workforce and given the pace of innovations, IT needs to change its perspectives on communications.

Closed Loop Lifecycle Planning has concluded that - “in this post-pandemic era, everything needs a business case and needs to be quantified.”

A further extension of this conclusion is “if you cannot quantify it, it does not count.”

As innovations are implemented, IT should focus on quantifying the outcomes of the solutions being drive. The other action is to address the overall communication vehicle.

This skill set for quantification is also new to the majority of IT, but the quantification of the outcomes is no longer assumptive, it should be fully documented and defined. Otherwise, IT will struggle to change the perception of being a cost center to being a cost optimization center with a focus on the DEX.

5.0 Observations and Conclusions

New technologies require new strategies and tactics to optimize the adoption. The changes occurring based upon the industry trends suggests that the same organizational model and the same skill sets, while relevant, may not be the vision for the future IT deliverables.

Today, the gaps are becoming readily visible and will become more pronounced in the future. Being optimized on previous technology generations may not only be less desirable from a development of staff perspective, but from a security, cost, and experience approach. Change is inevitable.

Change management will become its own discipline; it is already a part of most business practices such as continuous process improvements. However, change management is core to innovation.

The organizations need to recognize this trend and create a CMCIO (Change Management CIO) with the primary mission of driving change.

Organizations have long struggled to find change agents. The role is very stressful, and often the tenure is brief since many organizations while often claiming to embrace change, the culture does not change as rapidly. Culture is often the greatest inhibitor of change, which partially explains Tech Debt.

Whether or not there is consensus regarding skill sets and organizational changes, this is a discussion that needs to occur in this era of such scaled innovations.

Appendix

1. Closed Loop Lifecycle Planning - A Complete Guide to Managing Your PC Fleet, Bruce Michelson, published by Addison-Wesley Division of Pearson Education, ISBN 978-0-321-47714-9.
2. Appropriate Incumbent Behavior©, copyright Bruce Michelson.

Other Books by Bruce Michelson

1. Closed Loop Lifecycle Planning©, Client Computing in the Health Care Industry, by Bruce Michelson, Published by IDG, ISBN 978-1-61623-045-6.

2. Closed Loop Lifecycle Planning© - What It Is and Why It Is Important to You, by Bruce Michelson, Published by Bookmasters, ISBN 0-9667607-0-0.

3. We Are All Retail, The Race to Improve the Retail Experience in a Post Covid World, by Bruce Michelson and Leif Olson, Published by Archway Publishing, ISBN 978-1-6657-3394-6.

4. IT Strategies in the Post-Pandemic Era, Part of the Closed Loop Lifecycle Planning© Series, published by Archway Publishing, March 2023, ISBN 978-1-6647-3856-9.

5. Zero Trust, by Bruce Michelson and Cody Gerhardt, published by Archway Publishing, May 2023, ISBN 978-1-6657-4191-0.