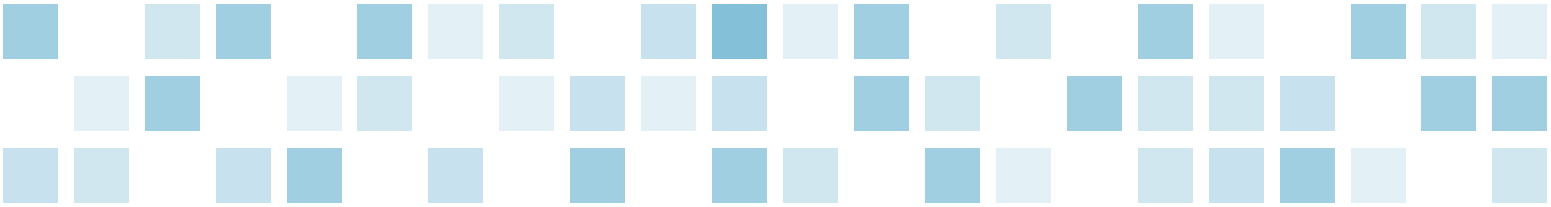
How the third platform is changing business

Mobile devices, social media, cloud solutions, big data and the Internet of Things are disrupting the way business is being done



Prepared by:

Jim Klimkowski, *Principal*

December 2014

It is 4:45 a.m. and your smartphone alarm goes off next to the bed. You use your fingerprint to log in and open your calendar to see what's in store for that day. You open the travel application and discover your flight is delayed by 45 minutes. Once in your car, the navigation system projects traffic congestion on your normal route to the airport. You select an alternate route to avoid the traffic and get to the airport as quickly as possible.

As you enter the airport, you skip the check-in line because you have already checked in for your flight on the airline application. Browsing the application on your smartphone, you notice you are in a middle seat, but that three aisle seats are open. Instead of going to the counter to request a change, you change your seat through the app.

When you arrive in Chicago, you use your smartphone to arrange a ride to your destination through a local ridesharing service. While you ride, you go online to check the day's time to failure measures and adjust your product production schedule accordingly.

What used to be science fiction has become real—and commonplace. According to the 2014 McGladrey Monitor, a survey of more than 900 U.S.-based manufacturers and distributors, nearly three-quarters of participants will increase technology spending in the coming year by a median of 5 percent. Whether the investments are used for upgrading software or infrastructure, they are playing critical roles in productivity and client service, according to the survey.

The evolution of the third platform

Many of the opportunities these companies are identifying and the products and services they are offering have come about as the result of the phase in technological development first discussed in 2008 and popularly known as the third platform. As the name suggests, this is the latest step in a continually evolving technology environment:

The first platform was mainframe-based, with thousands of apps—most of which were custom developed—and available for millions of users. Integration between applications required intensive, complex interfaces that were hard to maintain. The information technology (IT) leader in any organization was a technologist who focused on simply keeping the systems up and running.

The second platform was characterized by client servers (supported by the personal computer) and tiered applications developed using a client server architecture or running on the Web. Tens of thousands of apps were available, accessed via a browser by millions of users. The functionality of these applications became configurable and included application protocol interfaces for easy integration. The role of the IT leader became focused on improving the efficiency of business processes.

The third platform is the aggregate of mobile platforms, social media, cloud solutions, big data and what is known as the Internet of Things. There are millions of applications available to billions of mobile users. The functionalities of these applications are designed and built to work for numerous situations, as well as seamless integration with other apps. The role of the IT leader has now become focused on managing complex relationships and leveraging emerging technologies; the role is no longer limited to simply keeping systems running. The third platform and its capabilities have fundamentally changed who creates IT solutions, who applies them and how they are used.

How we got here

There are several reasons for the emergence of the third platform:

Moore's law, named for Gordon Moore, a co-founder of Intel, is commonly understood to suggest that the processing power in computers doubles every two years and costs half as much to produce. There is every reason to believe that these improvements will continue, dramatically reducing the cost of IT solutions.

Mobile technologies are becoming the new personal computer. By 2017, 85 percent of the world will have 3G wireless coverage, with a tenfold increase in mobile data traffic between 2013 and 2019[i] . It has been predicted that more American consumers will access the Internet through a mobile device than a PC by 2015[ii].

The Internet of Things. These networks of sensors are gathering and tracking data on everything from hand-held devices to appliances, with connected machines increasing 300 percent in the last five years. This has been enabled by mobile sprawl and public access to Wi-Fi spots throughout the world. The Internet of Things is being used in industries ranging from manufacturing to health care to mining and, according to the McKinsey Global Institute, has the potential from sized applications to create an economic impact of $2.7-$6.2 trillion by 2025[iii].

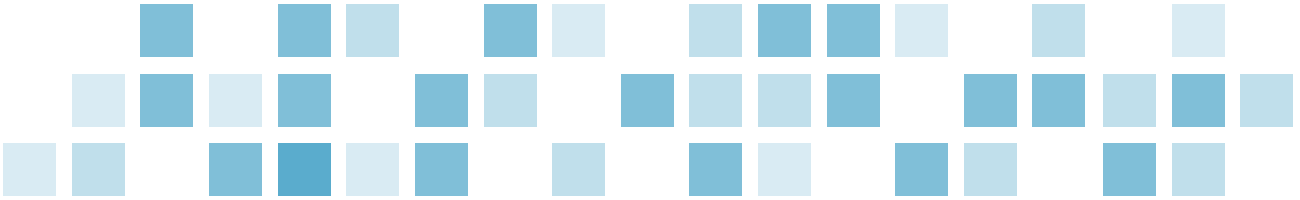
Changing demographics. The millennial generation is quickly becoming the majority in the workforce and, more importantly, makes up many new customers, as well. The characteristics and needs of millennials—multitaskers who are technologically savvy and require work-life balance, flexibility, collaboration and transparency—have driven changes in workforce management and consumer product development.

Breaking down the third platform

Let's break down the third platform into its basic components:

Mobile

All mobile devices are now offered in a mode that keeps the user connected wherever they are. Smartphones are allowing for additional storage, applications and a screen that enable users to interact with more complex applications. Among health care solutions, for example, is a device that can send a family member a health alert, along with your location when you are having an epileptic seizure[iv].



Cloud computing

The cloud computing revolution is similar to the evolution of electrical generation. In this case, the Internet is the transmission wire and the data centers are power plants. Just like electricity, cloud-based solutions are pay as you go, pay as you use solutions.

There are three types of cloud solutions:

1. Infrastructure as a service (IaaS) delivers networking, storage, servers, virtualization and an operating system as a service.

2. Platform as a service (PaaS) delivers all these things, plus middleware and a database.

3. Software as a service (SaaS) builds on PaaS and provides data and applications.

For users, these technologies are accessible from anywhere there is a connection to the Internet. There is no software to install and the applications are typically operating system-agnostic. These solutions are scalable for both users and functionality—allowing for additional infrastructure or modules as required. For technologists, there is no need to worry about backups as these solutions are readily available and have redundancy built in to avoid unnecessary business interruption.

Social media

Social media continues to evolve and become more integral to everyday lives. What started with basic email from home quickly morphed into sites and applications for professional and social interaction. These tools not only allow companies to communicate with important stakeholders, enabling management to gather feedback from the field, provide product training and track product usage. They also allow companies to collect customer information and preferences that might otherwise take years to gather through nonsocial, traditional media channels.

The Internet of Things

The Internet of Things refers to technology that connects everyday products to a network and collects information for the management of these products. This information can be applied to help increase efficiency, enhance product services or otherwise improve the quality of the products. Connected products can be found in:

1. Wearables, such as products in fitness, watches, glasses and cameras

2. Homes that include connected thermostats, appliances, sump pumps, security, lighting and entertainment systems

3. Cars that utilize sensors to improve safety, navigation, diagnostics, infotainment and fleet management

4. Industries that can access real-time analytics, identify factory automation opportunities and enhance supply chain efficiency

5. Cities that are using real-time analysis of information from parking meters, traffic lights and traffic itself to monitor traffic speed, flow and congestion

Big data

Big data is a relatively new term that is used to describe the extraction of actionable intelligence from disparate, nontraditional and often unstructured data sources. Of course, big data also includes structured data, such as normalized databases, sensors enabled by the Internet of Things, clickstream recording and location data. Additional components include unstructured data, such as email, HTML, social media data, blogs, audio recordings, video and static images. After extraction, actionable information can be represented visually and manipulated in ways that allow it to be analyzed with traditional data. Ultimately, the information can help organizations answer numerous questions regarding where and how to focus resources.

Leveraging the third platform

From enhancing customer service with personalized solutions to increasing efficiencies in production and distribution, companies are using third-platform technologies in a wide range of products, services and functions.

Maintenance

- Hewlett-Packard (HP) installs devices in their products to monitor individual components. These devices use the Internet of Things to send diagnostics to HP and alert the company regarding the potential risk of failure. This enables HP to anticipate the need to replace the part, analyze quality assessment data and ensure that production will meet predicted demand. The data could be used for demand forecasting for consumers by household, state or region.

- For consumers, the interaction of products and devices allows for the mobile management of appliances and utilities. Nest Labs, for example, offers a thermostat that can be accessed from a mobile device to maintain temperature levels; the thermostat even "learns" the home schedule and adjusts accordingly. Nest's developer program also enables other companies to leverage the data in the thermostat for use in the features of various health, energy, safety and automotive products.

- Manufacturers are using monitoring devices to extend the useful life of their facilities, making improvements or replacing parts before they become problems[v].

Services

- To improve performance for its clients, GE Aviation shares fuel-use data gathered through its smart, connected products to help clients identify flight procedures that reduce fuel use. Similarly, wind turbine blades can be adjusted to capture maximum wind energy—and minimize the impact on nearby turbines—through the use of microcontrollers[vi].

- Health care device makers are using sensors to monitor the health of users, as well as to alert both patients and their doctors if medication or immediate help is needed.

- Farm machinery makers, such as John Deere and AGCO, coordinate data from their own products, as well as weather, price and other sources to provide farmers with information to improve performance[vii].

- Bike-sharing programs provide real-time information on bike availability and even send targeted updates on the status of previously used docking stations to individual users.

Supply chain

- A distribution company used a mobile application to speed product request fulfillment. By tracking the inventory on their trucks in real time, the company could direct individual trucks in their fleet that were nearest to the customer to deliver the appropriate supplies where and when they were needed.

- A trucking company developed a mobile application that connected companies with space on their outgoing trucks to companies that needed products shipped. Ultimately, the technology helped the trucking company grow revenue by $200 million.

Marketing

- One high-profile (and somewhat controversial) use of big data enabled a retailer to examine and interpret shopping patterns. The store was able to identify with some accuracy when a shopper was pregnant and thus susceptible to promotions for baby items[viii].

The third platform effectively changes the role of traditional information technology. IT professionals can no longer be concerned simply with keeping internal systems running; the function needs to interact directly with internal and external clients via third platform applications.

Making the case for using the third platform

Before companies will allow their IT budgets to shift priorities or increase to accommodate new technologies, a case will have to be made to support the return on such investments.

Middle-market leaders first need to understand how they currently spend money on information technology. Gartner has conducted extensive research and determined the average business spends 4 percent of revenue on information technology (the percentage for industrial manufacturing is even lower at 1.8 percent of revenue)[ix]. Across industries, an average of 74 percent of the IT budget is spent on operational expenses or "keeping the lights on," i.e., maintaining legacy applications and infrastructure. This leaves only 26 percent of the average IT budget to be spent on implementing strategic business solutions, such as new applications or IT infrastructure.

Ideally, middle-market IT leaders should be spending 50 percent of their IT budgets on maintenance and 50 percent on strategic technology initiatives. To take advantage of third platform opportunities, budgets will need to increase or priorities will need to shift.

Following are steps to consider as companies start down the third platform path:

1. Form an innovation team. A team should be assembled to identify ways to leverage third-platform technologies. The team should have a charter and defined budget that have been approved by senior leadership. Members should include personnel from multiple levels in the company.

2. Benchmark competitors. How a company competes in the marketplace will provide a framework for what makes its products or services distinctive and will help focus the team's efforts to identify opportunities.

3. Align with the company's strategic plans. With proper due diligence, analysis and review, organizations can ensure that IT resources are aligned with business requirements.

4. Review customer requirements. A customer relationship management system can provide a single view of the customer base and should prove very helpful in learning customer needs and priorities.

5. Prioritize ideas. Consider placing a higher priority on those ideas that directly support how the company competes in the market. Leverage customer focus groups to validate ideas before investing resources in their implementation.

6. Develop an IT road map. This road map should include approved, prioritized IT projects for the next one-to-three years. The road map should be reviewed on a quarterly basis by an IT steering committee comprised of personnel from upper-level management and functional non-IT leaders.

7. Test your ideas. Pilot, and pilot some more, before making any significant investments.

8. Consider outsourcing commodity requirements. Start with the simple things: ongoing app support of packaged software, an internal IT help desk, on-premise infrastructure management or business process outsourcing. Management should choose reputable partners who have established solutions with the scope and service level that you need to satisfy your stakeholders. This will help reduce or shift IT spending to strategic projects.

The only constant

IT leaders must have a seat at the business strategy table.

How a company leverages technology has an impact that is felt by a broad array of internal and external constituents. With so much riding on how IT is utilized—providing products and services, increasing efficiencies, optimizing product usage, customizing client engagement—management must allow IT leaders to play a primary role in the strategic direction of the company.

The IT landscape will continue to change and technology will be increasingly disruptive to all businesses. Embracing third platform technologies now will help companies survive and compete in (and even bring change to) their industry. But that means being willing to examine how IT resources are currently being prioritized and adjusting accordingly—and continually.

As the Greek philosopher Heraclitus noted, "Change is the only constant in life."

###

---

[i] Ericcson Mobility Report, June 2014

[ii] Neistat, M. "What is the 3rd Platform and How Will It Affect Business?" May 2013, *Technology First*

[iii] Manyika, J. et al "Disruptive technologies: Advances that will transform life, business, and the global economy," May 2013, The McKinsey Global Institute

[iv] Watson, S. "Bracelets and Devices for Epilepsy" July 22, 2014, healthline.com

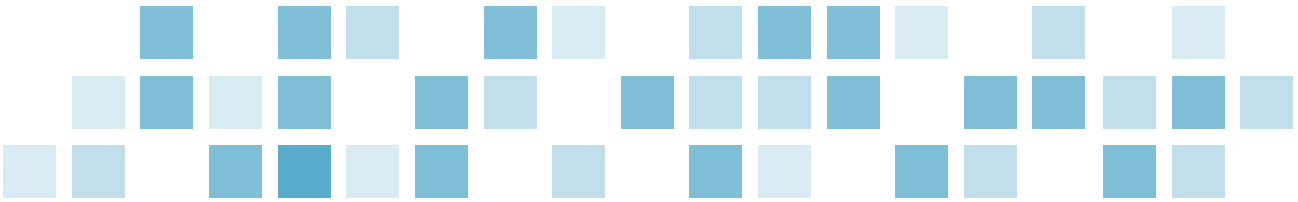
[v] Hagel, J. "Finding the Money in the Internet of Things" Nov. 11, 2014, Harvard Business Review

[vi] Porter, M. et al "How Smart, Connected Products Are Transforming Competition," Nov. 2014, Harvard Business Review

[vii] Ibid

[viii] Hill, K. "How Target Figured Out a Teen Girl Was Pregnant Before Her Father Did," Feb. 16, 2012, Forbes.com

[ix] Gartner IT Key Metrics Data: 2012 IT Enterprise Summary Report



800.274.3978
www.mcgladrey.com