

IMR Position Paper

## Consumerization: What is in Store for IT?

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*“The office has gone from being the place where you spend time with cutting-edge technology, to a technological bone yard where you're perpetually trapped about three years in the past.”*

### Ars Technica<sup>1</sup>

The technology adoption curve is no longer being driven by IT departments in large enterprises, but rather by techsavvy workers using their own personal devices for work. These individuals are influencing and putting pressure on IT departments to keep up. As such, IT must re-evaluate the methods in which they segment and serve their workforce in order to stay relevant. Intel's Insights and Market Research Group, in collaboration with Maritz, performed a multiphase research project to gain in-depth insights into how workers and IT feel and manage these changes.

This paper will outline the key findings from that study including:

1. What is Consumerization?
2. Why is Consumerization important to techsavvy workers, what needs does it satisfy?
3. The “civil war” brewing between techsavvy workers and IT.
4. Likely impact to deployment models.
5. Implications

<sup>1</sup> Analysis, IT Consumerization and the Future of Work, Ars Technica 7/2008

## What is Consumerization?

**“(there is)...an “increasing influence that our technology experience as consumers – both hardware and apps- has on the technology that we expect to use at work.” (Microsoft)<sup>2</sup>**

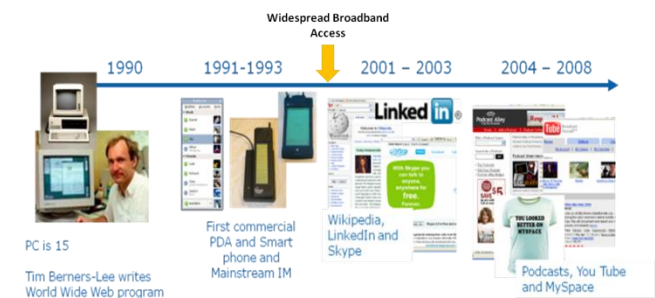
Consumer technology advancements are being introduced at an ever increasing rate and individuals are adopting these new technologies for work related uses at a rapid pace. However, enterprise IT departments are feeling left behind as they struggle to respond to these rapid changes.

Because of this increasing gap between what is being adopted by consumers vs. what is offered by IT, there is a growing disconnect between the technologies a techsavvy worker uses for their personal life and those provided to them by their employer for work purposes. This gap in expectations creates a strain on IT departments who balance the evolving desires of workers with the needs of the company.

This trend has been termed “The consumerization of technology” by John Taylor and Douglas Neal of CSC's Leading Edge Forum. It's basic tenant is, “Individuals, not IT organizations, are fuelling the next wave of IT adoption.” and in turn pressuring businesses to catch up.

### Evolution of Technology

In just 20 years, individuals' experience with technology has evolved and changed more quickly than likely any other time in history.



The evolution of technology adoption becoming consumer rather than business driven can be traced to the proliferation of

<sup>2</sup> Consumerization of IT, Microsoft in the Enterprise 2009

broadband access in the home. According to *Ars Technica*,

***“The office has gone from being the place where you spend time with cutting-edge technology, to a technological bone yard where you're perpetually trapped about three years in the past.”<sup>3</sup>***

Before widespread home PC penetration and broadband access, advancements would first be adopted by large companies and take years to filter down, eventually gaining traction with the consumer population. As the timeline above shows PDA and smart phones were in existence in the early 90's. However without widespread consumer interaction with the web at home, these tools remained of limited use and were strictly work devices. Even email would not become an essential part of everyday home life until broadband access became common.

As a result, as consumers became equally connected at home and work (If not more so), the evolutionary path of technology fundamentally changed. Quick, constant, reliable access to the internet at home quickly changed the way consumers interacted with all sorts of information and technology. Individuals trained by the web expect information faster through nearly limitless sources, in all areas of their life – personal and professional. No longer did you have to go to work to have access to a PC and broadband internet. This level of adoption and access began the era in which individuals started to drive the adoption curve and consumerization of IT emerged.

Intel's Insights and Market Research group partnered with Maritz Research to investigate the impact of consumerization on IT departments and workers to gain insight into how consumerization impacts behavior of workers and the barriers to adoption for IT. This study shed light into consumerization's impact and resulted in a yearlong research agenda to

understand worker behaviors and determine how Intel can better provide solutions to both consumers and IT professionals.

Techsavvy workers as well as IT professionals were interviewed in a three-phase research study in order to develop a picture of this trend as seen by those directly involved.

Techsavvy workers from the US and UK participated in a one hour moderated online discussion. From these workers a few were asked to continue the study by participating in a daily diary and online bulletin board discussion over the course of two weeks to observe and document their frustrations and experiences using technology to balance work and home. Finally, IT professionals participated in a separate online discussion in which they provided their own views of consumerization, as well as reacting to the views gathered from the techsavvy workers.

***“Work and life should not require such a change in gears in order to communicate to one another.” (Techsavvy worker)***

While they may have never heard the term consumerization, most knowledge workers have experienced the frustration that comes from having tools available at work that pale in comparison to those they have access to personally.

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**53% of techsavvy workers believe “It would be beneficial to have work tools more similar to their personal tools.”**

**41% of IT Professionals agree that workers' experience with consumer designed technology in their personal life makes them push IT for similar solutions in the workplace.**

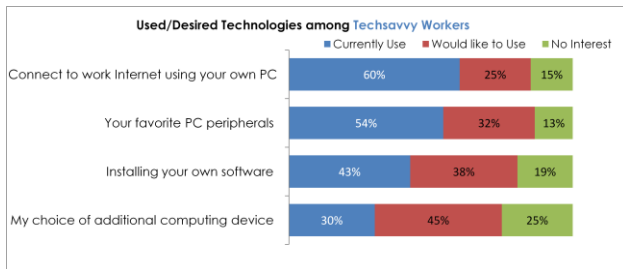
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One major disconnect for the techsavvy worker is the issue of choice. For their home technology, they not only have the choice of the device or software itself, but also its setup and many personal touches.

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<sup>3</sup> Ars Technica 7/2008

Customization is an important aspect of many consumer technologies, creating an environment in which workers are used to having things just the way they like them. This naturally makes work technology seem even more inflexible and rigid. Workers are often longing to have “My favorite” aspects applied to their professional lives as well. As seen below, for many, there is a desire to be able to install the additional software they need or have the choice of additional computing devices, likely a smart phone, to better enable work life balance.



While some of these “personal” touches don’t have a specific benefit to the employer, many of them are seen as making the employee more efficient and productive (Both directly and indirectly).

Clearly workers have a desire to create an environment that supports their personal and work lives.

**Productivity Through Familiarity**

**“Workers would benefit from their familiarity with these consumer products. Workers already use it in their personal lives and they would likely find it easy to apply in a job setting.”**  
(Techsavvy worker)

Familiarity is a theme workers frequently mentioned in the study, particularly in the area of communication. Workers have already mastered a skill set for communication in their personal lives and feel that allowing tools in the workplace such as instant messaging, blogs, or other online collaboration sites, would leverage these skills in productive ways. This desire

among techsavvy workers to use familiar communication and collaboration tools actually supports objectives stated by many IT professionals in our study,

**“(We want to...provide new methods for employees to collaborate, and communicate together.”** (IT Professional)

**Why is Consumerization Important?**

**“Don’t ask me to produce more and with greater speed and still slow me down with inflexible or outdated technology.”**  
(Techsavvy worker)

The traditional sense of work / home separation both in terms of physical space as well as time continues to erode, accelerated by technology and globalization of workforces. Many knowledge workers are expected to be available for requests after hours, be asked to work from nontraditional locations, or be available in multiple forms of communication. We learned that while techsavvy workers will accept this new reality, they also expect concessions and flexibility on the part of employers as a result.

Several themes emerged in our discussion with knowledge workers – with flexibility and relevance the overriding expectation.



From our study we identified the following needs techsavvy workers have and as result are driving the behaviors we observed with their employers.

**Reciprocation:** Employers expect workers to be more accessible for work than in the past; therefore, these workers expect that employers provide choices in work location, schedule, and technology tools that work best for them in those locations and times.

**Adaptation:** Techsavvy workers want their employers to adapt to their preferences such as operating system or preferred applications rather than be "Straight jacketed" by IT's standard image or build.

**Speed and Access:** These workers have no patience for restrictions. They want to be able to quickly access what they need, when they need it – without jumping through hoops. For them, IT excuses are just not acceptable. They expect IT to manage security concerns or other limitations.

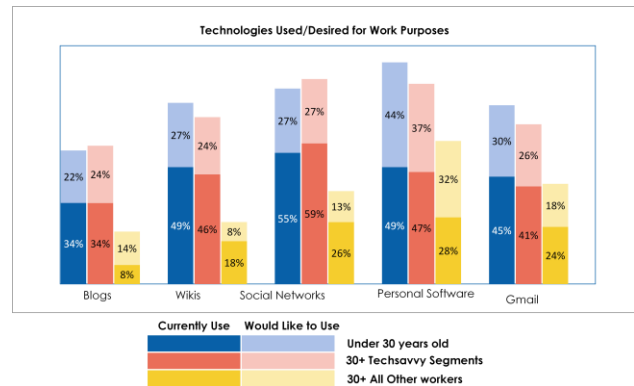
*"I'm frustrated that I can't access my company's exchange server through my iPhone. I am forced to log into the exchange server's webmail. I really don't see the difference in security if I can access mail one way or the other." (Techsavvy worker)*

**Relevance:** Most importantly, these techsavvy workers desire to be treated as adults, without excessive protections or limitations. They want less restrictions that prevent them from keeping up with the latest practices or technologies which keep them productive and able to contribute the company they work for.

**Techsavvy Workers of All Ages, Not Just Gen Y, are Driving Consumerization.**

Generation Y employees (30 years old or younger) have simply grown up with the internet and technology. Many have had a cell phone since High School, and certainly cannot fathom a work environment without email, IM, or other communication technologies. Our research found that these and older, techsavvy workers have a strong desire to use nontraditional, consumer based applications

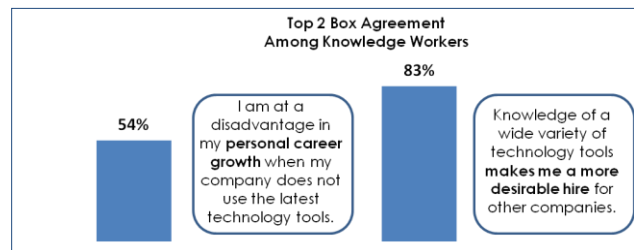
like blogs, wikis, or a variety of cloud-based productivity apps for work and many are already finding ways to do so. What this indicates is that the degree of techsavvy and not just age is a key characteristic.



We also found that techsavvy workers of all ages are experiencing a disconnect between their personal and professional options.

**61% of Gen Y and 50% of 30+ techsavvy workers believe the technology tools they use in their personal/social life are more efficient and productive than those used in their work life.**

**Career and Skill Sets are Key Motivators**



83% of our techsavvy workers feel that knowledge of a wide variety of technologies will make them a more valuable employee -- or a more desirable hire for other companies and most feel that by not having the latest tools they are at a disadvantage. It's clear that these workers believe that technology skills are critical and differentiating.

Drilling further down, this feeling is especially prevalent among more techsavvy employee

groups compared to the rest of the working population surveyed. These individuals feel the gap between consumer and business technology most deeply because they adopt advanced technology quickly in their personal lives. Feeling disadvantaged in their career may motivate these employees to push even harder on their IT department to allow consumer based technologies.

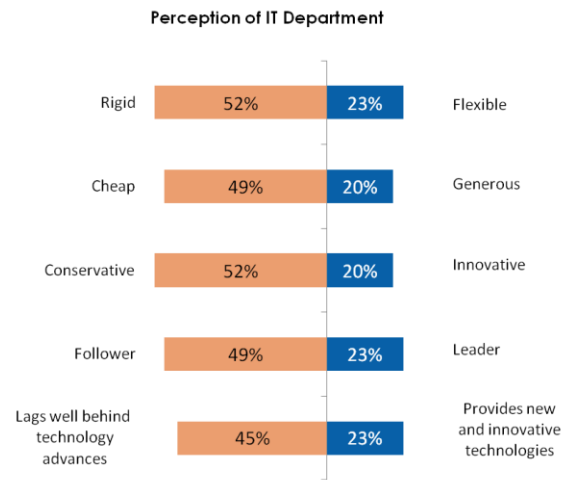
Surprisingly we found that many of those in HR or IT management who participated in our study have not recognized the disadvantage and potential risk in not enabling their more techsavvy workers. In our study, only half of IT management and even less of those in HR agreed with the statement, "We put our company at a disadvantage to attract top talent when the company does not use the latest technology tools."

**Consumerization’s Resulting “Civil War” With Employees:**

**Friction Exists**

As a natural result of the rise of consumerization, there is a growth in tension between IT and knowledge workers, who see IT as rigid, cheap and lagging regarding technology – this is especially true for the most techsavvy workers.

Our study uncovered a perception gap between how techsavvy workers perceive their IT departments and how those IT departments felt they were perceived by techsavvy workers.



**65% of Knowledge Workers reported they lose more than one hour each week due to technology issues.**

This tension is felt most in the area of productivity.

**“Today I lost about 15 minutes of productivity when my handheld froze and had to be re-booted. This is common with handhelds that my company uses... The cost of productivity losses could be measured in tens of thousands of dollars.” (Techsavvy worker)**

Productivity loss appears to be a significant area of disagreement. When IT professionals were asked to estimate productivity loss per week by their employees only 32% estimated a loss of an hour a week

When quoted the productivity loss reported by workers, some IT professionals felt the number was surprising, while others found the loss expected. Surprised or not, the majority felt this sort of time loss was unacceptable.

**“IT should be concerned. Even an hour a week is a 2.5% productivity loss. That’s everybody’s business.” (IT professional)**



IT professionals are hesitant to believe that new consumer based technology is the answer to the problem and rather feel that training on current technology is the answer.

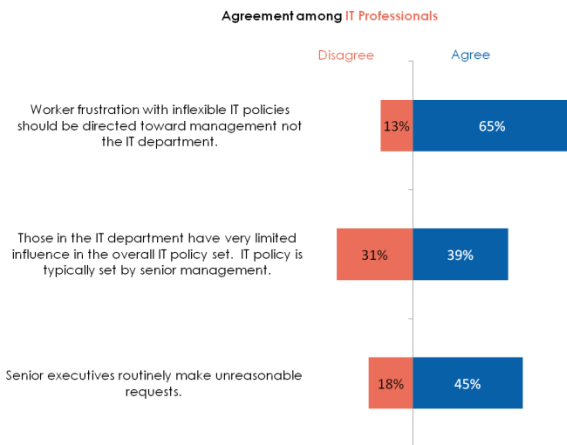
**53% believe adequate training on current technology would be more effective than new technology.**

**36% feel the current technology is not used to its best potential.**

The tension builds between IT, who would like to see better advantage taken of technology they do provide and techsavvy workers, who seek to use the consumer technology they are familiar and comfortable with. This creates an ongoing struggle with each side believing they have the best option.

**65% of IT professionals agree that they are the ones to solve and understand user frustrations**

However IT is more mixed on where the influence to set direction lies and even more, 45%, feel that senior management makes unreasonable requests of the IT department.



**IT “Civil War” Employees View:**

In the meantime, workers are simply finding ways on their own to solve some of their frustration, working with or against IT.

In our research, we found many examples of techsavvy workers figuring out ways to use their desired technology over what IT provides. For example:

Karen<sup>i</sup>, a 26 year old sourcing consultant, prefers an unapproved MacBook over her company provided laptop. She describes her daily workspace as a “pair of computers with a router on her work desk”.

**“I take to work my MacBook Pro everyday because my work laptop is too slow. Because I have to use both laptops, I’ve brought my own router to work in order to split the Internet connection.”** (Karen, techsavvy worker)

Karen switches between machines for different tasks, finding it painful to work on the company machine when she knows her Mac can do it faster and is set up to her preferences.

David<sup>ii</sup>, a 41 year old techsavvy worker, uses a workaround to use his preferred device; he forwards calls from his employer provided basic handset to his personal iPhone.

**“I feel much more productive replying to upper management and account teams via their corporate e-mail. But it is much more productive having one device.”** (David, techsavvy worker)

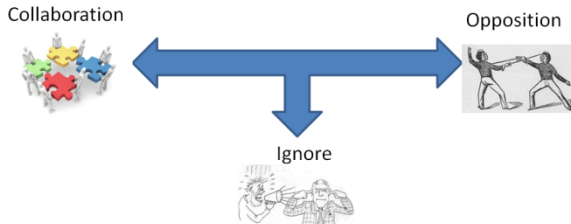


Others report using unapproved online programs such as Dropbox.com for storage.

**“Our company file exchange drive is too slow and bloated, so we use Dropbox on the hush-hush.”** (Karen, techsavvy worker)

A variety of messaging services were also mentioned, often because they are more comfortable or workers feel they provide options their IT departments cannot.

### IT “Civil War” IT’s Response:



IT is aware that these kinds of workarounds are taking place. In our study we found that the reactions of IT professionals to these activities tend to follow three broad reactions. These approaches existed in IT shops in all business sizes.

**Opposition:** Some confront the situation from an adversarial position. They find it frustrating to have users bypass policies that are put in place and take offense to techsavvy workers trying to work the system.

***“There is one admin workaround that is fairly well known by the IT savvy. It basically means that all of our security is for nothing if one malicious user wants to infect us!” (IT Professional)***

**Collaboration:** Others approach this problem with an open mindset, believing these workarounds expose the unmet needs of employees that IT should take into consideration.

***“It does occur, although not encouraged. In my view it denotes a lack of adequate technology provided to users by the IT department.” (IT Professional)***

They see opportunity to work together to create solutions that meet the needs of even the most techsavvy while meeting company requirements.

**Ignore it:** Often IT turns a blind eye to divergences from policy. IT professionals say they know workers are using technologies against their policies but do nothing to stop them. Neither do they feel their department is doing anything to solve the needs which create the problem.

***“This occurs all the time, and is too often tolerated. The biggest implication is that the problem doesn’t truly get solved, just worked around.” (IT Professional)***

### IT and Employees Do Agree on Some Things

In many ways IT does understand their employees’ pain points. Only 36% of IT professionals believe their department is on the cutting edge, and half of IT professionals would only rate their department as doing “Somewhat well” when it comes to providing the technology their employees need. It is not so much that IT is completely out of touch with employees but rather there are larger reasons why the technology provided falls short of workers expectations.

In fact, most IT professionals agree that certain restrictions put in place by IT can hinder employee productivity. They often agree with employees concerning which restrictions to remove to best increase productivity. A key finding we learned is:

***IT and techsavvy employees agree that greater access, from multiple locations and/or devices, will provide the greatest benefit to productivity.***

Secondarily, employees and IT agree that decreasing the need for device standardization across the company would also offer a considerable advantage. Ultimately though, while IT may agree that restrictions can hamper productivity, there are still obstacles to removing these and implementing more “Open” models.

### IT Concerns/Barriers

IT is generally not prepared to adopt technology as soon as it is introduced. This creates a situation in which implementation of new technologies, and by extension, productivity improvement lags.

**Security** is a top concern among IT. Frequently mentioned in our research is that expanding options in terms of devices, services, or software requires additional attention to the security of each and how they operate in the IT environment.

Techsavvy workers primary demand is for more and easier access, this presents challenges to IT who must secure all the methods of access as well as any data that may be retrieved. As a result, the type and sensitivity of data a company works with will drive its ability or inability to meet workers desire to use their chosen devices and applications.

**Ability of user self support** is also a major factor frequently mentioned. If employees are given more freedom in the types of devices or applications they use, the support needs will be significantly greater. For this reason many have taken the approach to allow alternative options in devices or programs to be allowed but with a "Your own risk" agreement.

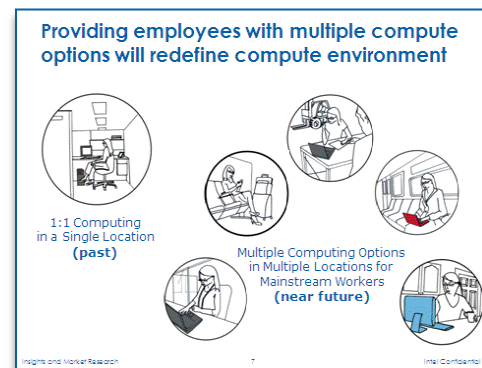
***"If we think the user community will support their own environment and machines we are looking at a train wreck."*** (IT Professional)

In case of a problem, the user would be responsible for troubleshooting. However skepticism was a common sentiment focusing on the ability of users to support their own hardware.

**Hardware costs** of keeping up with the demands of these workers may be prohibitive as well. We found that while some are currently using their own devices as a way to push IT, it is not their preference. These workers would

rather not purchase their own devices. Therefore, to really keep up with employee demands, device refresh rates would need to increase. In our study the majority of IT professionals state that their company can only update general PCs every 3-5 years with the refresh cycle in the UK slightly outpacing that in the US.

Security, support and costs are concerns that need to be addressed and weighed against the cost of potential productivity losses. While not asked directly in our study, it appears that few, if any companies measure the impact of their IT strategies on workers' productivity. As a result, the case for or against consumerization is not based on ROI but rather the aforementioned barriers.



### Future Impact: A New Normal?

In this and previous Intel studies with IT decision makers, the future usage model of many to one computing was clearly articulated by many.<sup>4</sup> Clearly, IT decision makers are experiencing the ever rapid pace of technology evolution and its increased adoption and demands placed on them by more techsavvy workers.

***"Others now have expertise with certain technologies. I'm no longer the smartest guy about technology anymore."***  
(IT Professional, IMR Small Business BOA)

<sup>4</sup> IMR Future of the Business Client 2009 and IMR Small Business BOA 2009



As discussed earlier, a key need of techsavvy workers is the desire to have access to their work and information in a variety of locations. Many to one compute models are key to satisfying this need.

By not adopting there is a risk to companies who may disenfranchise a key employee segment. Techsavvy workers feel the most strain between their personal and professional technology tools and, as a result, feel the most held back both day-to-day and in their long-term career. As we discussed earlier, these workers are just not Gen Y but rather techsavvy workers of all ages.

While only 14% of workers in our study have left a company solely due to IT / technology issues, we believe that workers who are most adept and comfortable with technology have the potential to add the most value to companies that rely on the production from knowledge / creative type workers.

We conclude that companies that cannot find ways to satisfy the needs of these workers risk alienating and losing those employees that are most critical to their business' success.

**What Models of Adoption are Likely?**

**IT Professionals - Personal Device Policy**

Current Policy		Anticipated Changes in Next Few Years	
Require Up-To-Date Software/Security	Restricted Access To Company Network	Smartphones	Greater Access
"Home machines are allowed as long as all software is purchased by employee, it has a certified up to date version of antivirus, and it has the required security patches installed."	"You can use them at work, but you can't connect to the company's network."	"We will encourage Smartphone adoption for certain employees, through consultation and will invest in development of smart phone applications to make interaction more secure."	"We are likely to be more flexible in our approach as the importance of technology access permeates all employee classes further."

**Use of Personal Mobile Phones for Work Are First**

According to data from ComScore, smartphones account for roughly one out of five of the handsets used in the United States. smartphones have evolved into part of life for users which goes way beyond basic communication functions.

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**60% use a smartphone for work purposes, another 31% desire one.**

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As workers have learned about the advantages to using smartphones in their personal life, they seek to have that same ease and productivity for work.

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**45% say having access to work through their personal phone would improve their overall productivity.**

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Similarly nearly half believe having their choice of phone would offer productivity benefits as well. Thus, having access is a step but also key is having access from their preferred device.

Perhaps directly related to the pressure from employees, our study showed that smartphones seem to be the area of consumer technology IT most accepts or is willing to adopt/consider adopting.

When asked what changes to IT policy they foresaw in the next few years, many mentioned greater access for smartphones to network resources, as well as potentially developing applications for these devices to aid employees.

What is unknown is whether the increased adoption of netbooks and tablets will follow this trend. One reason why it may be unlikely is that unlike those devices, which are still mostly home bound, mobile phones represent the preferred out of home device carried by most.

**Bring Your Own Pc (BYO-PC) Will Likely Be Key for Few.**

Increased combination of the work PC and personal PC into a single machine is an aspect of consumerization proposed by some industry analysts. BYO PC, is where the employee is given a stipend in order to select a computer that would then be used in both personal and

## Consumerization: What is in Store for IT

professional settings.

***"I would prefer to use my employer provided laptop. This is because I like to try and separate work from personal usage."*** (Techsavvy worker)

BYO-PC would certainly solve a large portion of techsavvy workers complaints. However, while 42% of workers in our study feel their personal computer is desirable in terms of speed and functionality, many hesitate to combine their personal and professional lives by using only one computer. Most often they are concerned with exposing their personal life to their employer if they were to use one computer for both personal and professional uses.

Kraft Foods Inc has recently employed a BYO - PC strategy, allowing certain employees who do not deal with particularly sensitive data, to take a stipend in exchange for purchasing their own PC. The challenge is that this PC will not be supported in a traditional sense, instead,

"Employees will solve their own problems with help from blogs and discussion boards written by the company's information systems department."<sup>5</sup>

A Kraft spokesperson indicated that while there are some cost savings by using this model it is "Not major numbers" and the intent is really to allow users their preferred technology.

***Being able to segment the environment is key...Nomads and settlers, if they are nomads then we think about other solutions"***  
(Intel EBOA)

***(Consumerization is a) Showstopper for at least a portion of workers ...managed workers who are frequently working with highly valuable data...***(Intel EBOA)

While this model is being tested with some success at companies such as Kraft, concerns

about data security, employee privacy, and the ability of workers to truly support themselves will make BYO-PC a niche model. What is apparent among companies, who are considering this model, is that the ability to segment / identify workers is key.

***75% of companies would not consider BYO-PC for any of their workers.***

Most companies would not consider BYO-PC for any workers, those who do considered high degrees of BYO PC skewed toward smaller companies in our research. Our data suggests however, that BYO-PC will solve the needs or be deployed to only a segment of the workforce.

### Implications

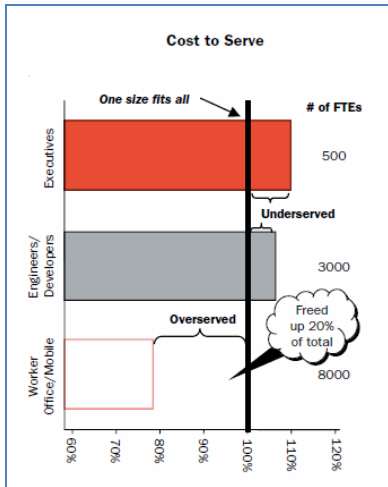
First we conclude that the behaviors that will shape working styles, and subsequently business features in the future may already be a part of workers' personal lives today.

However, while there is a growing influence among techsavvy workers, in the end IT is the final hurdle / decision maker as to what is deployed in business.

Second, there is an opportunity that by understanding workers IT can control costs and better serve workers. Booze Allen Hamilton<sup>6</sup> suggested in 2003 that IT departments could reduce IT costs by up to 40% by segmenting their worker base, offering different products and services to those segments.

<sup>5</sup> Chicago Breaking Business "Kraft Tries Bring Your Own computer Program" 5/2010

<sup>6</sup> No Place Left to Squeeze, Rethinking IT Cost Management Strategies, Booze Allen Hamilton, 2003



<sup>i</sup> Name changed from study  
<sup>ii</sup> Named changed from study

According to our study only 56% of IT professionals feel they truly understand the technology needs of all the workers they support. And over one-third of IT Professionals wish they could spend more time with department managers in order to more fully understand their needs.

Finally we conclude that consumerization is indeed the increasing influence that our technology experience as consumers has on the technology that we expect to use at work and that it is an ongoing evolution and not a short term trend.

There are two implications. First, as we see in among tech savvy knowledge workers, there is an opportunity to address “Work / life balance” needs in communications. Past studies on the idea of “On the go” have shown that features that would enable or be used for communications, staying connected and getting things done resonated emotionally with consumers.

Second, understanding the potential productivity / workplace benefits or appeal in consumer research can provide early warning signals of the impacts consumer devices may have in the enterprise.