

Managing Employees' Use of Mobile Technologies to Minimize Work/Life Balance Impacts

Organizations recognize that employees' use of mobile technologies improves productivity. Yet there is concern that mobile usage can impact employees' work/life balance (WLB). In this article, we report on the undesirable impacts on WLB and offer a framework and a set of strategies for managing WLB. We propose that there is a continuum of WLB perceptions, with some seeing work and personal life as separate domains, others viewing work as overlapping with personal life and yet others perceiving the two domains as integrated.^{1,2}

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Work/Life Balance Concerns Arising from the Use of Mobile Technology

Mobile technologies are profoundly affecting both how work gets done and how we live our lives. In many sectors, there is an increasing need for ubiquitous access to systems and information, coordination with colleagues across time and space, and constant connectivity. However, while readily acknowledging the benefits of using mobile technologies in their professional lives, many mobile workers also express a sense of helplessness arising from the constant intrusion of these technologies into their personal lives.

Prior research suggests that a sustained lack of work/life balance (WLB) or work/life conflict³ arising from "temporal servitude" (being on call all the time) can, over time, affect workers' health, psychological well-being, commitment and productivity. Further, working conditions that limit the space for personal life have been known eventually to lead to higher



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³ In this article, we use the term "lack of work/life balance (WLB)" as a synonym for "work/life conflict" and "work/life imbalance."

turnover, and organizational loss of knowledge and specific experience that is not easy to replace.⁴

In this article, we report on our research into the WLB concerns of employees who use mobile technologies as part of their work, and the organizational strategies designed to address these issues. Although our field research was carried out among professionals involved with IT-related work, we believe our findings are relevant to other knowledge workers who face aggressive deadlines, work in teams separated by time and space, and need to satisfy varied stakeholders in highly distributed environments.

We found that a mobile workforce (i.e., one that uses mobile technology as an integral part of accomplishing their work) does not share a single, monolithic conception of WLB. This means that universal policies and practices aimed at helping employees manage their WLB are not generally useful and can at best address the needs of a segment of a mobile workforce. In this article, we present the different ways in which knowledge workers perceive the relationship between work and personal life, and describe the implications these perceptions may have on their mobile technology use and WLB. We discuss some of the ways in which mobile technologies create work/life conflict, and also the impact the lack of WLB can have on individuals and their organizations. We then identify four organizational strategies for addressing these issues and provide guidelines for managing the WLB concerns of a mobile workforce.

The research methodology we used for our multi-year study is described in the Appendix.

Impacts of Mobile Technology on Work/Life Balance

First, it is important to clearly state what we mean by WLB. Hill et al. define WLB as the degree “to which an individual is simultaneously able to balance the temporal, emotional and behavioral demands of both paid work and

family responsibility.”⁵ Netemeyer et al. define a lack of WLB (or work/life conflict) as the “inter-(between) role conflict where the demands created by the job interfere with performing family-related responsibilities.”⁶ Although there has been much research on the WLB challenges faced by managers, research focusing on the WLB issues of knowledge workers is sparse. One of the few studies of this area explored the issues faced by IT “road warriors”—IT professionals who work away from home with their clients—and reported that work/life conflict is a key contributor of stress and turnover for these knowledge workers.⁷

Another recent study revealed several factors that impact WLB for teams of distributed software development professionals, with individuals located around the world in different time zones needing to communicate frequently with each other.⁸

To date, the positive effects of using mobile technology for business have been widely acknowledged and even commended. The most notable benefits are:

- The potential for 24x7 uninterrupted connectivity to human as well as information resources
- Increased flexibility
- Improved coordination
- Increased productivity through flexibility in time management
- Pleasure and enjoyment
- Availability of multiple media and genres of communication suited for different scenarios.⁹

5 Hill, E. J., Hawkins, A. J., Ferris, M. and Weitzman, M. “Finding an Extra Day a Week: The Positive Influence of Perceived Job Flexibility on Work and Family Life Balance,” *Family Relations* (50:1), 2001, pp. 49-58.

6 Netemeyer, R. G., Brashear-Alejandro, T. and Boles, J. S. “A Cross-National Model of Job-Related Outcomes of Work Role and Family Role Variables: A Retail Sales Context,” *Journal of the Academy of Marketing Science* (32:1), 2004, pp. 49-60.

7 Ahuja, M. K., Chudoba, K. M., Kacmar, C. J., McKnight, D. H. and George, J. F., op. cit., 2007.

8 Sarker, S., Sarker, S. and Jana, D. “The Impact of the Nature of Globally Distributed Work Arrangement on Work/life Conflict and Valence: The Indian GSD Professionals Perspective,” *European Journal of Information Systems* (19:2), 2010, pp. 209-222.

9 Sarker, S. and Wells, J. D. “Understanding Mobile Wireless Device Use and Adoption,” *Communications of the ACM*, (46:12), 2003, pp. 35-40.

4 Felstead, A., Jewson, N., Phizacklea, A. and Walters, S. “Opportunities to work at home in the context of work-life balance,” *Human Resource Management Journal* (12:1), 2002, pp. 54-76; Ahuja, M. K., Chudoba, K. M., Kacmar, C. J., McKnight, D. H. and George, J. F. “IT road warriors: Balancing work-family conflict, job autonomy, and work overload to mitigate turnover intentions,” *MIS Quarterly* (31:1), 2007, pp. 1-17.

In this article, we counter-balance these positive aspects of using mobile technologies by examining the adverse effects they can have on WLB. These effects may be categorized into four areas.

1. Constantly Raising Expectations of Availability

First and foremost, the use of mobile technologies provided and paid for by the employer revises the psychological contract between employer and employee by constantly raising expectations of availability and ability to respond. For example, one of our interviewees (a senior consultant in one of the leading consulting organizations) stated:

"... [because clients/project-team members] know that you have a company-issued smartphone, they feel no shame in contacting you any time of the day or night. I receive calls, emails at 8, 9, 10 o'clock at night. Unfortunately, [because of the calls] you have to get up, and get out the laptop to produce some work at a ridiculous time ..."

2. Blurring Boundaries of Work and Personal Time

Second, while mobile technologies undoubtedly facilitate flexibility and free people from restricted hours and physical locations, they also blur boundaries of work and personal time. Many of our interviewees made this point (see Box 1).

3. Coordinating Among Co-workers Becomes More Complicated

Because of the flexibility enabled by mobile technologies, coordination among co-workers becomes much more complicated, which in turn leads to further stretching of work/life boundaries. One of our respondents, a former CIO of a healthcare organization, observed:

"With mobile technology, you now have the flexibility of managing things 24x7, but there is no definition about what that availability should be. I [may] happen to be working, for example, at 8 pm because I went to a child's soccer game from 6 to 7:30. But since you have a mobile device,

Box 1. How Mobile Technologies Are Blurring the Work/Life Boundary

"I think ... mobile technology ... basically chains you to your job. You don't have separation anymore." Senior consultant, consulting organization

"... there is a constant expectation that I am connected ... any time between 7 am and 10 pm ... if you respond to one email at 8 pm then you are probably expected to respond to another at 8:30." Director, consulting organization

"... there are new apps—more like instant messaging—[that] we now have on our phone, so people don't even know if I'm on my computer or my phone. And you are always online ... so I am online at midnight, my phone vibrates. It is like a text message, except it uses the same application we use at work. Email is bad enough, but now you can just instant message people, and they don't know what device they are instant messaging [to]." Manager, global software company

you [are expected to] be available, but you may be doing other things. So it creates some discords because we don't sync up any more."

4. Feeding Knowledge Workers' Personal Compulsions

Many knowledge workers have a compulsion to feel they are constantly on top of developments, and the use of mobile technologies, and the convenience of being always connected, rather than "booting up" the computer or laptop, feeds this compulsion. The downside is that they experience work-related stress around the clock. It can also strengthen the tendency for knowledge workers to find escape in their work. Both of these effects can, in time, cost employees their personal health and well-being, as the interviewee quotations in Box 2 illustrate.

Similar regret was expressed by a consulting partner who mentioned, with a hint of sadness, that she had given up her friends and hobbies.

In summary, mobile technologies seem to contribute to the work/life conflict of knowledge workers in a variety of ways, increasing their stress levels as well as negatively influencing their family and social lives. In time, for many individuals and their organizations, these impacts can result in serious consequences.

Box 2. How Mobile Technologies Can Feed Personal Compulsions

"I make the mistake that I think many people [make] of checking work email at 11 pm when I am about to get ready for bed, and [find] something jarring in [an] email. I kick myself: 'Why did I do that?'" Former CIO, healthcare organization

"... sometimes you're just waiting for [an] important email ... and you want to check and make sure everything's okay. But the bad thing is, when your phone beeps at 3 am ... you want to check it out. You have to break out of that [habit] ... otherwise you are a slave to [the technology]." IT documentation specialist, consulting organization

"If you talk about work/life balance, I don't actually have any. I think a smartphone ... a PDA, a Blackberry is actually decreasing work/life balance." Senior IT consultant, consulting organization

"... people don't want to get a Blackberry. They say, 'The moment you're using the Blackberry, you're working 24 hours.'" IT documentation specialist, consulting organization

"[Working] 16-18 hours [a day] took a hit on my personal life and health and every aspect of it ..." Software engineer, software development company

Three Perspectives of Work/Life Relationships

There is general agreement among researchers and academics that work and personal life represent two different domains of an individual. Like geographical areas, these domains also have "boundaries," at least in the minds of individuals. Individuals tend to "idiosyncratically connect" these two domains, which means their "mental boundaries" between them, to a great extent, determine how they cope with conflicts between the demands of the two domains, and how much they are able to concentrate within these domains and move between them.¹⁰

The existing literature on WLB in traditional organizations identifies several perspectives that individuals may hold about the relationships between work and personal life.¹¹ Based on the review of the literature, we have focused on three perspectives—compartmentalized, overlapping and encompassing—each of which is described

10 Ashforth, B. E., Kreiner, G. E. and Fugate, M. "All in a day's work: Boundaries and micro role transitions," *The Academy of Management Review* (25:3), 2000, pp. 472-491.

11 Guest, D. "Human Resource Management, Corporate Performance and Employee Wellbeing: Building the Worker into HRM," *Journal of Industrial Relations* (44:3), 2002, pp. 335-358.

below. These three perspectives are the end and middle points of a continuum of work/life relationships (see Figure 1).

Compartmentalized Perspective

People holding the compartmentalized perspective demand, or prefer, a total separation of work and personal life, and any spillover of work into personal life is regarded as undesirable or even unacceptable. However, the need for "speed of response/reaction" now dominates much of knowledge workers' daily working life. This means that knowledge workers who hold the compartmentalized perspective will strive harder—and probably unsuccessfully—to keep the work and personal life domains separate. One of our interviewees put it like this:

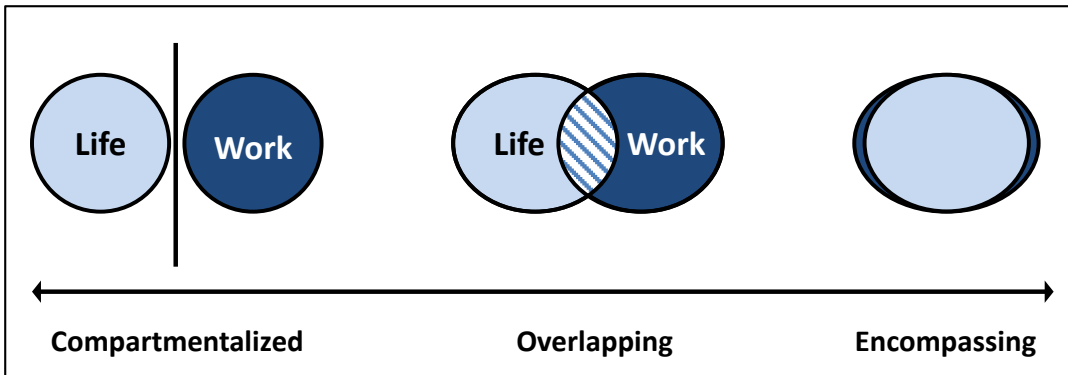
"I want a 9-to-5 job. I don't care if I don't get promoted in five years ... I'll do whatever you give me between 9 and 5. Don't give me an assignment outside of that." IT documentation specialist, consulting organization

Others indicated their yearning for a psychological separation between work and personal life, as described by an IT contractor providing consulting services:

"To me, it's being able to let go at the end of the day and 100% invest my concentration, my time, my happiness into my family or leisure activity, or hobby or flat [apartment], where I'm not thinking about work to any degree."

Knowledge workers who hold the compartmentalized perspective tend to see personal life as primary and work as secondary. Most recognize the utility of work, which they view as the means to living a good life because, in return for their sacrifices, they have the means to support their personal aspirations, a certain life style and their hobbies. One of our interviewees (a senior consultant at a major U.S. consulting company) told us that his passion is to be a photographer (rather than a consultant). He chose consulting as a profession primarily for the money it provides. For him, the compensation from work enabled him to lead a more satisfying life, and he preferred a limited intrusion of work into his life.

Figure 1: Continuum of Individuals' Perception on Work/Life Relationship



Several of our interviewees even felt that their work was a burden and was preventing them from achieving what they truly desired as human beings. For example, they mentioned that work demands had caused them and their colleagues to give up their hobbies and had harmed their health. In one case, work demands had resulted in divorce and loss of meaning in life.

Other factors that determine a knowledge worker's perspective on the work/life relationship include an individual's stage of life, career ambition and job characteristics. For example, our interviews revealed that individuals whose careers had plateaued were more likely to regard work as a separate part of life. And individuals with significant family responsibilities (e.g., especially women with young children) are more likely to hold the compartmentalized perspective.

Compartmentalized Perspective: Mobile Technology Use Patterns. Because people who hold the compartmentalized perspective see a clear boundary between work and personal life, they view mobile technologies as yet another tool to get their work done efficiently, but do not voluntarily use mobile devices for work purposes after hours. They tend to manually disable certain functions of mobile devices (e.g., turning off emails) after hours or during weekends so that they can “switch off” from work, focus on their personal life and have “peace of mind.” Some in this category even perceive mobile technologies as a tool that others can use to track them. Indeed, some interviewees said that they chose not to get a work phone because they did not want colleagues to contact them or did not want even to be aware of work-related issues after hours:

“I was one of the last people ... to get a smartphone because I didn't want 24x7 email. When I left work, that was that. I didn't check anything, I didn't look at anything.” Consultant, consulting company

Overlapping Perspective

The overlapping perspective of the work/life relationship implies that a clean separation of work and personal life domains is neither feasible nor necessarily desirable. As such, this perspective is more consistent with the current working environment of knowledge workers. Individuals who hold this perspective assume that although the two domains may have “physical and temporal boundaries,” there are “emotional and behavioral” overlaps between the two and that this overlap leads to each domain affecting the other in positive or negative ways.¹² Although individuals who hold the overlapping perspective may accept the overlap, they tend to face greater degrees of conflict as they attempt to balance the two domains.

With knowledge work, spillover between work and life domains is unavoidable and sometimes even desirable. Many knowledge workers who hold the overlapping perspective seem to view work as a necessary aspect of a fulfilling life. However, they are keen to limit the importance of work to avoid being totally swamped by it or to prevent it hijacking their life goals. Our interviewees suggested different percentages of work (e.g., 40%) that they could comfortably accommodate within their personal lives:

¹² Clark, S. C. “Work/Family Border Theory: A New Theory of Work/Family Balance,” *Human Relations* (53:6), 2000, pp. 747-770.

"Work is important to me, and I get satisfaction from work, but I also put lots of emphasis on my life outside of work too. So I don't feel like I need to work 24x7. There are times when I can just put it away and that's it." Consultant, consulting company

People holding the overlapping perspective don't mind spillovers of work into personal life, but they usually have a "zone of tolerance"—i.e., the amount of work-related incursions they would readily allow into their personal life domains beyond normal work hours. The tolerance level is fairly elastic and depends on factors such as the nature and urgency of the work concerned, the individual's motivation (e.g., financial or career aspirations) and stage of life, whether the individual is dealing with additional family-related responsibilities at the time and whether the line manager consultatively made an attempt to harmonize the additional work demands with the personal circumstances.

We found that about 60% of our interviewees fell into the overlapping perspective category because of the nature of their job requirements as well as the high level of connectivity enabled by mobile technology. With increased globalization and offshoring, it is not uncommon for knowledge workers such as IT professionals to have to collaborate with individuals across different time zones, making it much more difficult to have a clear boundary between work and personal life. Moreover, knowledge workers in important roles or with career growth aspirations are often expected not to openly prioritize personal time over work time. In some companies, for example, it would become an issue if employees routinely chose not to respond to emails after hours.

Overlapping Perspective: Mobile Technology Use Patterns. People holding the overlapping perspective appear to have mixed feelings about the use of mobile technologies. On the one hand, they have the urge to constantly check their emails so they can attend to urgent issues or, at the least, maintain awareness of developments. On the other hand, they feel the need to limit their use of mobile technologies when the work starts making significant invasions into their personal life.

Some knowledge workers are happy to allow spillovers as long as they are compensated:

"[Being contacted by phone over the weekends doesn't happen] a lot. If [it did], it would irritate me ... It doesn't feel like an invasion to me because I feel I am compensated for that ... I feel I get compensated well enough for that, but I think the downside is I am never refreshed." Security administrator, higher education organization

Others tolerate spillovers because they derive inherent satisfaction from work and from being valued members of their teams. For them, mobile technologies serve as a tool to keep them aware of what is going on and also help them to voluntarily attend to urgent work after hours:

"I like to see what is going on, I like to see my emails are coming through, but I also don't feel compelled that I have to respond to everything, that I have to really read everything in detail. I can kind of observe it ... For the most part, I like to be aware, but when it is outside [business] hours, I don't necessarily feel compelled to have to respond to everything." Consultant, consulting company

Encompassing Perspective

With the encompassing perspective of the work/life relationship, the entirety of an individual's life is completely encompassed within his/her work domain, and success in the work domain equates to success in the personal life domain. Individuals who hold this perspective do not see boundaries that separate work and personal life and often embrace the positives that work brings to their non-work life. They prioritize work over personal and family commitments, filling their personal life with their hectic, often self-defined work schedules. Integration (as opposed to separation) of the work and personal life domains seems to be natural for these individuals.

One of our interviewees provided an interesting historical justification for the integration of work and personal life:

"The concept of strict separation of work and personal life is really [a modern] phenomenon. If you look back [in history], people's work and home life were fully integrated. If you lived in the United States,

[every] small town and village [had its own] blacksmith, doctor [and other] professions ... they [worked] when other people in the town needed them. It's only [since] the industrial revolution and formation of offices [that] people left their home environment [to go to work]. So, I think what we are seeing now is the potential of swinging back with technology-mediated work [to a] fully integrated [work/personal life environment]." Former CIO, healthcare organization

The encompassing perspective is often held by individuals who are driven to succeed or progress rapidly in the organization. Many of these don't particularly feel the need to compartmentalize their work and personal life or to choose personal time over work time. For them, nothing is more important than work. In a sense, they could be classified as individuals who live to work. Indeed, some see living to work as the most productive way to spend their time at their particular phase of life. Others are driven by their aspiration of having successful careers. The views on WLB from our interviewees who hold the encompassing perspective are set out in Box 3.

Box 3. WLB Views of Those Holding the Encompassing Perspective

"I am really focused on my career. I feel like I am doing really good, so I am trying to hit when the iron is hot, so that's where I am right now ... work as life. I am trying to take advantages of the opportunities in front of me." Senior program manager, global software company

"For me, [work] is life. I am enjoying my work, and I like pressure ... I like challenges." Manager, software development company

"To me, life means life within the company ... while working ... you don't have any life that is traditionally defined. But we have life while working ... [but a] compromised one,... If we want to succeed within the company, we find kind of a compromised way to enjoy life while working ... life seems to be realized or vitalized within the workplace without ... family." VP, Korean consulting firm

In many of the firms our interviewees worked for, a large proportion of jobs simply require employees to work long hours and to be available 24x7 to engage with work-related issues. In such situations, people are forced to adopt the "live to work" mode because of the characteristics and responsibilities of their jobs.

Individuals who are just starting out on their careers in highly competitive companies are more likely to hold the encompassing perspective, at least until they feel they are established and perceive that they are starting to add value to the company. Likewise, individuals who see growth opportunities if they excel in a particular phase of their career tend to let work dominate their lives.

Encompassing Perspective: Mobile Technology Use Patterns. People holding the encompassing perspective of the work/life relationship have a predominantly positive view of mobile technologies because these technologies support their work styles by providing 24x7 connectivity. Use of mobile technologies enables them to integrate work into their lives because they can work anywhere (and whenever) they want:

"... it is simpler and easier to get connected, be connected and stay connected for those of us who have tendencies to live that way anyway ... just like a laptop frees you from a desktop computer, enables you to move around, a smartphone or iPad frees you from the laptop ... So, for example, I can go to my son's gym class and yet I can actually do a little bit work on my iPad while he's there." Product manager, software development company

Another interviewee told us:

"We never really ever have to disconnect. So if I am at the gym, I will check my phone. Then if I have an email, I will stop running and respond ... I usually just check my email whenever... no cut-off line at night." Senior manager, software development company

Interactions Between People with Different WLB Perspectives

Given that individuals often need to work with colleagues who hold different WLB preferences, we investigated the problems and challenges that may arise when people involved in an interaction hold different preferences. One of our interviewees told us:

"I think there is a major difference between [people who] value work/life balance

Table 1: Summary of the Four Strategies

Generic Strategy for Addressing WLB Concerns	Summary
Compensation	Setting up incentives that are provided to employees as a fair exchange for allowing a specific (and limited) amount of work to spill over to their personal life domain.
Negotiation	Harmonizing, through consultation and participation a) the demands of the job, which employees are intrinsically motivated to successfully accomplish, and b) their personal life requirements.
Integration	Enabling employees to seamlessly move between work and personal life domains at all times.
Protection	Isolating employees from colleagues/managers who see integration of work and life as an imperative for accomplishing work efficiently and effectively, and who may thus choose to impose this way of life on colleagues and subordinates.

[differently]. I think that [difference] can cause some friction. [On the other hand], if two people have the same views [on work/life balance], that may cause some synergies.” Owner of a small web development firm

He also mentioned that he “felt guilty” for trying to balance his work and life whenever he worked with team members and managers who “live to work.”

Another interviewee highlighted the challenges he had faced when working with colleagues who hold different WLB perspectives:

“The people who will always put life ahead of work [i.e., who approach their work as] ‘I will get to it when I get to it’ [tend to] put additional stress on the rest of the team ... trying to achieve a deadline.” Project manager, consulting company

Along the same lines, a senior manager of a global software company, who considered himself as holding the encompassing perspective, talked about his frustrations of working with team members who sought to compartmentalize their work and personal life domains or prioritized personal time over work. He said their attitudes “drove me crazy.” However, he also sensed that he was paying a price for his attitudes and perceived that he “turned people off” and was starting to “step on people’s toes.”

Our interviews suggest that a preference for the compartmentalized perspective often signifies to others a lack of motivation and commitment: A Finland-based manager at a global IT company described people who hold this perspective of WLB as follows:

“[People holding the compartmentalized perspective] feel very agitated about the fact that they need to go the extra mile. For example, if I was setting up a meeting with [them]... at 7 pm, they will totally reject me. They will even contact HR and say, ‘This guy [i.e., the manager] is crazy ... no way, I am not going to do that.’”

Strategies for Addressing Mobile Technology Use WLB Issues

From our interviews, we distilled four strategies for addressing the WLB issues related to usage of mobile technologies. These are summarized in Table 1 and described below.

Compensation Strategy

One straightforward strategy that has been adopted by many companies is compensation. In pursuing this strategy, the company attempts to compensate employees for the sacrifices they make to get the work done. This strategy

is applied to all employees regardless of their role, gender, stage in life or circumstances. Typically, compensation is in the form of monetary rewards or time off. However, one view of this strategy is that it does not really address the work/life imbalance but merely provides incentives for employees to overlook the problem. One of our interviewees referred to this strategy as applying a “band aid.”

Our interviews also indicated that the compensation strategy is effective only for certain types of individuals—only those in it for the money. Those who are financially “comfortable” would not be helped by this strategy. Managers should therefore not assume that spillovers will be tolerated by such employees on a continued basis just because they are being compensated.

One of our interviewees reflected on the indiscriminate use of the compensation strategy to stretch employees’ work time (through, for example, expectations about employees’ mobile connectivity):

“No, I don’t think that [compensation] works ... it is a leadership cop-out ... It is just an easy thing to do. I think that weak leadership will try that sort of thing ... I think the most effective way from the business perspective is to be very clear about what the objectives are and define what those are and give people the flexibility to meet those objectives.” Former CIO, healthcare organization

Even though some managers considered the compensation strategy to be ineffective, we believe it is relevant for knowledge workers who view work and life as compartmentalized but can be motivated by financial or other incentives to tolerate spillovers. This strategy is also relevant to knowledge workers who view work as overlapping with life, to provide them with reassurance that the company appreciates their contributions, which might involve working beyond the formal working hours.

Negotiation Strategy

The above quote from a former CIO in the “compensation strategy” section indicates that negotiation is a better strategy than compensation for managing spillovers of

work into employees’ personal lives. The negotiation strategy recognizes the fact that it is not possible to achieve success in the current environment by maintaining rigid boundaries between work and personal life domains. Yet, unlike the compensation strategy, which tends to demand intense sacrifice in exchange for something attractive, the negotiation strategy takes a more sympathetic and humanistic approach. Specifically, the goal is to limit the stress by taking into consideration the personal situations and capabilities of the individual, and harmonizing them with the demands of the project.

For example, the project manager may designate different team members to be “on call” and to monitor (late into the evening) the project status in offshore locations on different days, based on their family-related commitments (e.g., child’s soccer game) on given days. Likewise, the manager may grant a long-overdue two week vacation to an employee with the understanding that he or she would check emails each morning and be available to attend the Monday morning coordination meeting remotely. One of our interviewees explained:

“... We do this for groups across many different types of dimensions, not just mobile devices and work/life balance ... I always work with teams to go through a very intentionally facilitated process to define how we want to work together as a team.” Former CIO, healthcare organization

From our interviews, we conclude that managers should consider devising mechanisms for allowing employees to dynamically provide input on their preferences and circumstances. For the negotiation strategy to be effective, employees will need to let their stakeholders—managers, colleagues, clients, etc.—know how much overlap between work and personal life domains they are prepared to tolerate in terms of mobile connectivity and responsiveness.

Note that the negotiation strategy requires significant preparation on the part of management, in terms of understanding different employees’ preferences and constraints, and then matching the project requirements with the

preferences. Only then can harmony be achieved between work and life for the employees.

Our research shows that this strategy is usually implemented by mid-level managers (e.g., project managers or team leaders) in the form of informal procedures, norms, and rules. We believe that a higher level of commitment and trust among the various stakeholders is needed as well.

Given the informal nature of policy implementation in this area, the key to an effective negotiation strategy is for managers to create an environment where colleagues are respectful of each other's work/life boundaries. One of our interviewees highlighted this issue:

"... if you send an email [to your staff] and you are a very high [level] partner ... and they see it at 10 pm at night, they are going to think they need to respond. And it could be the only reason it went out is because you just landed somewhere. But you never said that ... So having a line in the email that says, 'No need to respond to this tonight' [would be] really [helpful]. [Senior people should] remember that not everybody is [necessarily] connected ... as [they] are... I think it would be [good] to have a policy [on this]..." Director, consulting firm

The negotiation strategy is relevant for knowledge workers who view work as compartmentalized from life as well as for those who view work as overlapping with life.

Integration Strategy

Many forward-looking companies are openly acknowledging that achieving a work/life balance may not be a viable goal and are thus promoting the idea of integration:

"We're moving away from that term [WLB] ... We now talk about work/life integration. Nobody talks about work/life balance anymore." Manager, global IT company in India

The integration strategy implies that work and personal life domains are so interconnected that they become inseparable, and the boundaries between them become meaningless. This strategy focuses on creating an inviting

environment where employees experience life in the workplace, thereby allowing those who are sufficiently motivated or committed to immerse themselves in work without feeling they are missing out on life outside their organization. One of our respondents from a leading Aerospace company described the integration strategy that one of her friends in an innovative IT company really liked:

"They get a lot of perks to be able to work there, they have ... more flexibility. One [perk] I would be really excited about is you can bring your dog to work and have periodic breaks during the day to walk [the dog]. [It means you have some] work/life balance during work."

However, our interviewees made it clear that the integration strategy is not for everyone; only those who hold the encompassing perspective can function and thrive in an environment that promotes integration. The integration strategy is therefore appropriate only for environments where the encompassing perception of the work/life relationship is predominant.

Protection Strategy

Given that the integration strategy will likely not be appropriate for a significant proportion of knowledge workers, there is a need to separate these individuals from those who see integration of work and personal life, with its 24x7 connectivity and responsiveness, as essential for accomplishing work efficiently and effectively, and who may therefore want to impose this way of living on others. We refer to this as the protection strategy.

Protection has two aspects: first, the organization must attempt to ensure that the expectation of sustained (even if voluntary) connectivity does not affect the health and personal well-being of valuable individuals, including those who hold the encompassing perspective. This can be done through corporate wellness programs tailor made for each individual. Second, the organization must enact policies that protect subordinates and colleagues who do not relate to the integration of work and life domains, from individuals who want to impose their encompassing perspective on them.

Table 2: Matching Management Strategies with the Work/Life Relationship Perspectives

Perspective of Work/Life Relationship	Compensation	Negotiation	Integration	Protection
Work as Segmented from Life	H	H	L	H
Work as Part of Life	M	H	M	H
Work as Encompassing Life	M	M	H	M

H=High Relevance; M=Medium Relevance; L=Low Relevance

In other words, the protection strategy is relevant for all knowledge workers. Managers need to protect those knowledge workers who view work as encompassing life from burning out while also protecting other knowledge workers who don't hold this perspective of the work/life relationship from being forced to work this way.

Above in Table 2, we have indicated the level of relevance for each of the four strategies to individuals with different perspectives of the work/life relationship.

Guidelines for Managing a Mobile Workforce

The discussion above implies that there is no universal solution to the work/life balance challenges faced by a mobile workforce because different people hold different perspectives on work/life relationships and hence have different preferences on how to handle conflicts between work and personal life domains. However, this does not mean that organizations should ignore the problem. Rather, there is a need for a range of solutions that are sensitive to the needs of specific situations and preferences of knowledge workers. Though it is not necessary to put in place a tailor-made plan for each individual (indeed, this would be impractical), organizations do need policies that are sensitive to the range of reactions to WLB issues arising from the use of mobile technologies. The policies

should also take account of how individuals' attitudes to WLB vary by gender, organizational role and the stage of life they are currently in.

Based on our interviews with a broad range of IT professionals (whom we believe are representative of knowledge workers in general), we provide six guidelines for managing a mobile workforce in a way that minimizes work/life conflicts.

Guideline 1. Acknowledge that Individuals Perceive the Relationship Between Work and Life Very Differently

WLB is not a universal concept, as evident from the fact that different individuals hold different perspectives of the work/life relationship (see Figure 1). Work can be viewed as being separate from life, overlapping with life or even as encompassing life. Moreover, individuals shift their perspective of WLB over their professional lifetime depending on their stage in life or as their personal circumstances and aspirations change over time. Even though we had a limited number of interviewees in countries other than the U.S., we feel comfortable in asserting that the basic issues concerning mobile technologies and WLB are consistent across the globe. Our results did not reveal any significant cultural differences in how knowledge workers perceived the impact of mobile technologies on their WLB.

Guideline 2. Universal Strategies for the Use of Mobile Technologies are Unlikely to be Effective

It is helpful for managers to be cognizant of how their employees view work in the context of their lives. In other words, when feasible, managers need to place each employee (at a given point of time) on the continuum shown in Figure 1. Indeed, our findings may provide an explanation of why practitioners and academics alike report that universal organizational policies fail to tackle work/life imbalance. Given the vast differences in how different individuals perceive the relationship between work and life, universal strategies for managing the use of mobile technologies are unlikely to be effective. Knowledge workers (apart from those who view their work and personal life domains as completely separate) appear to have a zone of tolerance with respect to their WLB. For example, individuals positioned near the middle point of the continuum (i.e., those who view work as a valuable facet of life) cannot be infinitely pushed with respect to their work. While such individuals may indeed allow a certain level of overlap between their work and personal life domains to get the job done, there is an upper limit to how much they can tolerate. Sustained periods of higher-than-normal spillover of work into personal life, even when well compensated, may lead to breakdowns in an employee's personal relationships or to health issues and, consequently, to increased staff turnover and/or lower productivity.

Guideline 3. Strategies to Meet the Organization's Overall Mobility Goals Should Cause Minimal Work/Life Conflict for Individual Employees

Once organizations recognize the different perspectives of the work/life relationship among their employees, they can focus on choosing the appropriate strategy for managing mobile technologies usage—compensation, negotiating, integration or protection. For example, employees who see work as encompassing life should be managed using tactics of integration—in terms of technology infrastructure, policies and nature of responsibilities assigned—that are geared toward allowing them to move seamlessly across work and personal life domains.

Guideline 4. Mobile Technologies Should be Implemented Consistent with Knowledge Workers' WLB Perspectives

Organizations need to encourage innovative design and use of mobile technologies while being sensitive to the differences in employees' perspectives of the work/life relationship. For example, individuals, who view work and personal life as compartmentalized could benefit from having two mobile devices, one paid for by the company, which they switch off after work hours, and another self-funded device that they would use at other times (if they so desired). Given that carrying two phones is inconvenient, organizations could consider deploying devices that can use or switch between two SIM cards, one for business purposes (with charges paid for by the employer) and the other for personal use.

For individuals who hold the overlapping perspective, and thus feel the need to constrain the compulsion to be connected all the time, organizations can encourage the use of apps with the default capability to switch off connections to corporate email and data server at predetermined times. On days the individual is required to maintain mobile connectivity beyond work time, the app would manage the individual's connections, according to his or her personal-life constraints, and keep track of times and the specific official activities in which the individual may have participated. Such an app could generate periodic reports, which could serve as the basis for recognition or additional compensation.

Individuals who hold the encompassing perspective would welcome mobile devices that could seamlessly integrate work into their personal lives. Organizations should ensure that these individuals are able to access and manipulate corporate data and applications from their mobile devices anywhere and anytime, thereby increasing their productivity. Finally, the policies many organizations have prohibiting the use of company mobile devices for personal activities are obviously inconsistent with the needs of those who hold the encompassing perspective. Such policies should be reformulated.

Guideline 5. Effective Management of Mobile Technology Usage Requires the Entire Organization to Work Together

Our research reveals that optimal mobile technology usage—aimed at keeping productivity high, while causing minimal damage to WLB—requires organizational management, mobile workers and even mobile technology designers and IT resource managers to work together, consistent with the overall strategy deemed appropriate for the individual. Consider, for example, individuals who are open to spillovers because they receive compensation or have a need to contribute to the team’s success. Managers should encourage their use of mobile technologies to facilitate the flexibility of work schedules, while keeping in mind that there are limits to the spillovers employees will tolerate, especially over a significant period of time.

Guideline 6. WLB-related Strategies and Suggestions Should be Applied with Caution

There was no evidence in our study to suggest that diverse cultures have a significant impact on individuals’ perceptions of the work/life relationship or their views on mobile technology usage. However, different countries do have their own labor laws and social contract between employees and employers, which can potentially have implications for how WLB-related issues need to be handled. This requires management, especially of companies that operate globally, to apply the strategies and suggestions we propose in this article with caution, taking account of the particular legal, regulatory and social environment in which they are being applied.

Concluding Comments

The findings of our research suggest that effective use of mobile technologies requires an understanding of the different perspectives that an individual may hold on the relationship between work and personal life. The management strategies we have identified for addressing the work/life balance issues arising from the use of mobile technologies need to be matched to these perceptions at both the team and individual levels. Choosing the most appropriate strategy will maximize productivity

while allowing individuals to achieve the optimal work/life balance for their particular perception of the relationship between work and personal life.

Appendix: Research Methodology

This article is based on data collected between 2009 and 2012 as part of a larger project, partially funded by the National Science Foundation, an independent U.S. Federal agency. We sought to investigate work/life balance issues of IT professionals (especially those engaged in distributed work) in China, Denmark, India, South Korea, the U.K. and the U.S. Specifically, we interviewed 61 workers at different levels (ranging from analyst to vice-president) in a variety of companies, including Microsoft (at various locations), IBM, Nokia, LG, Boeing, Adobe, Hewlett-Packard, BP, KPMG, Deloitte, Slalom Consulting, PricewaterhouseCoopers and a Hitachi joint-venture company. For this article, we focused on the use of mobile technologies and their impact on WLB based on 21 of the larger set of interviews. The demographic information on these 21 interviewees is provided below.

We would like to acknowledge the fact that the sample of respondents for this study is primarily U.S. based. However, we also included material from six interviews in Asia and two in Europe because they featured themes relevant to the topic of WLB and mobile technology. Interestingly, we found no appreciable difference between the perspectives of the U.S. respondents and their Asian and European counterparts.

Our primary source of data was the unstructured and semi-structured interviews we conducted. Our conversations with respondents on mobile technologies and WLB implications were guided by the following broad questions:

1. *What is the nature of your role?*
 - i. *Within your organization?*
 - ii. *Within your group?*
 - iii. *Nature of tasks you are mainly engaged in?*
2. *Do you use mobile devices in your daily work? If so, how?*

Demographic Information of the Interviewees

Interviewee	Industry	Position/responsibility	Gender	Country
1	Telecoms	Project Manager	M	Finland
2	Consulting	VP	M	Korea
3	Consulting	Senior Manager	M	Korea
4	Consulting	Partner	F	Korea
5	Software Development	Manager	M	Denmark
6	Software Development	Desk Manager; Testing	F	India
7	Consulting	IT Documentation Specialist	F	India
8	Software Development	Internal Installation and Licensing	M	India
9	Health Care	CIO	M	U.S.
10	Consulting	Senior Consultant	M	U.S.
11	Consulting	Director	F	U.S.
12	Software Development	Senior Manager	F	U.S.
13	Aerospace	Manager	F	U.S.
14	Consulting	Senior Manager	F	U.S.
15	Web Development	Self employed	M	U.S.
16	Consulting	Project Manager	M	U.S.
17	Software Development	Senior Program Manager	M	U.S.
18	Software Development	Product Manager	M	U.S.
19	Consulting	Contractor	F	U.S.
20	Software Development	Software Engineer	M	U.S.
21	Higher Education	System Security Administrator	F	U.S.

3. *How does the use of mobile devices impact your work?*
4. *In your opinion, what is the relationship between work and personal life? What is your definition of work/life balance? (part of, opposed to, as life, tool for)*
5. *Do you see people around you who have different perceptions of the work/life relationship?*
6. *Does the use of mobile devices for work-related purpose impact your personal life? If so, how?*
7. *Do you use mobile devices in your personal life? If so, how?*
8. *Do you have some suggestions or recommendations for mobile device designers?*
9. *Do you have some suggestions or recommendations for your company about employees' use of mobile devices?*
10. *Do you have any concerns about work/life balance?*
11. *What other factors influence your work/life balance?*

However, there were some variations across the interviews in terms of the issues discussed, in part due to the diverse set of research questions we were seeking to address in the larger study, the responsibilities and experiences

of our respondents, and evolution of our own understanding of the WLB phenomenon over time.

Finally, our data analysis approach can be characterized as “interpretive,” meaning that we sought to develop a holistic understanding of the interviews and to portray the perspectives of our respondents within a coherent framework.¹³

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¹³ Walsham, G. “Doing Interpretive Research,” *European Journal of Information Systems* (15:3), 2006, pp. 320-330.