Understanding the Out-of-the-Box Experience

A. Lee Gilbert
Nanyang Business School, Singapore

INTRODUCTION

Appliances, ideally, are simple to use. You select one you think will meet your needs, get it home, take it out of the box, plug it in, and begin use. For a wireless home network, it may be necessary to read a manual, run a setup wizard, and make a few adjustments to get the performance you want, after which the new device delivers the performance its makers promised, every day, without fail. This scenario describes the expectations most people have from their first experience with networked mobile digital devices (NMD) such as laptop computers, home networks, personal digital assistants, and data-enabled cellphones. In many cases, their actual experiences are often far less satisfactory.

The personal computer, with the systems and applications software that enables our PC to perform useful tasks and entertain us, originated from computer science, a technical domain where few end users are in their comfort zone. Early PC users were confronted by vast manuals, then by cryptic error messages when things went wrong, which was often. Compare this user experience to acquiring and using a cordless telephone, which rarely requires reading a manual. Intended for use by everyone, the wireless network technology designed to link digitally enabled devices in our homes and offices is more complex than our phones. The design challenge is to ensure that, despite wide differences in their prior experience and intended use, each user has a satisfying experience with a new product.

There are good business reasons to confront this challenge. Early research in the diffusion of innovations (Rogers, 1965) posited that the first users of new technology seek to meet different needs and have different expectations for product performance than those that might later adopt the same innovation. Subsequent research across several product categories confirms this proposition and reveals that the sales growth for newly introduced products tends to "stall" if the skills set required for use are confined largely to members of the early adopter segment (Moore, 2003). As most costs to deploy new network-based services are essentially fixed, the rate of adoption often determines the difference between success and failure (Lucas 2003).

The computer industry was quick to realize the strategic role of the user experience. SRI and Xerox Parc pioneered user interface designs for personal computers, leading to today's Windows and Mac operating systems. In an era when Microsoft and other leading software firms adopted design standards such as "plug-and play" and in-context help, game developers such as Electronic Arts and Nintendo were designing and implementing applications that eliminated the help dialogue. Today, IBM promotes ease of use through its User Engineering and User Centered Design programs, and defines the out-of-the-box experience (OoBE) as "the initial experience a user has in taking a new product out of the box and setting it up, in preparation for use" (IBM 2004).

The home and office are not the only domains where OoBE management matters. Twenty-five percent of automobile components now involve some sort of computer; interactions between a car's information systems and its driver can be problematic. Stanford University's Center for Design Research is investigating how to design and manufacture cars to improve the driver experience (CDR 2004).

Despite these encouraging signs of progress, the consumer electronics industry is far from an ideal "5-Minute Ready" OoBE target (Bluez 2003). To get their PDA to work with an early Bluetooth dongle, users first determined installed software by entering the command: Use "ipkg status | grep bluez" and "ipkg status | grep rfcomm", then worked through about 20 instructions, and in some cases, entered 50 lines of new code. As a trip to CeBit will reveal, the industry plans to release a torrent of new digital products to link all digital devices at home and

in the office. While pervasive computing is appealing, it is unachievable, from a human factors perspective, without a new design philosophy.

BACKGROUND PERSPECTIVES ON THE OOBE

"Out-of-the-Box," a term of art with origins in industry, captures the shift in perspective from technical design, "what our product does," to refocus design effort on "how users experience our product during the critical first phase of use." Because digital products consist not only of a device, but software, instructions, and other arrangements for use (Rogers 1984), the "Box" metaphor is useful. For example, a GSM phone requires a Subscriber Identity Module issued by the network operator, while use of its data access capabilities may require settings both in the phone and at the network. The manual that accompanies the new phone may not contain all the information necessary to perform these tasks. In this case the user experience suffers because the "Box" is incomplete.

Modeling the OoBE

For any reasonably complex digital device such as a personal computer or smartphone, the OoBE results from a series of experiences over time rather than a single user event. These experiences are shaped by interactions among the form of the device, the user, and the user context. The form includes the physical design of the device and its accessories, its imbedded functionality, the accompanying "package" of complementary components such as software, arrangements for network access, and user documentation and manuals (Alexander 1977). The user context has both internal (motivation for use, abilities, etc.) and external (location, availability of suitable content, access to assistance, etc.) elements.

The use of each new device proceeds through five phases, beginning with selection, followed by acquisition, and first use, when users perform basic functions. Users expand the scope of use as they learn the capabilities of their new device, and may discover that it can meet emergent needs of which they were unaware. For example, new cellphone users may acquire their phones to make voice calls, learn to use text messaging from friends or family members, then move on to access an interactive service on the mobile Internet. When the use pattern matures, it stops expanding. The device may later be retired, either because user needs have outgrown device capabilities, or because the user no longer needs the services provided by the device. The OoBE mainly occurs across the first three phases of use, as portrayed by the "OoBE zone" arc in the model below.

Phase 1: Selection and Acquisition

Each OoBE is a function of the interactions among multiple entities over time. In most cases, a new user makes two decisions about the technology package: to acquire a given digital device, and to acquire or subscribe to a specific set of services. New NMD users base these interrelated decisions on the perceived fit among their expectations regarding the functionality of the device, the performance of the intelligent network to which it will connect, and the context in which they expect to use it. This complex set of perceptions and expectations shapes the context in which the user opens the box. This event may occur at the purchase point, in the office, at school, or at home.

Phase 2: Startup and First Use

On opening the box, the user may find a system in one of several states:

1. The device, components needed for use, and detailed setup and use instructions.
2. The device, configured for immediate use, with simple "get started" instructions.
3. The device, missing one or more components needed for the intended function.
4. The device and related components, apparently not in working order.

The seller or provider may have inspected the package, configured the device, and pre-tested it prior to delivery. If the user opens the box at the purchase point, the seller may perform these services and provide basic instructions to the buyer on the spot. For a GSM phone with GPRS capabilities, a seller may have charged the battery prior to placing