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To the Graduate Council:

I am submitting herewith a dissertation written by Charles Scott Rader entitled "Toward a Theory of Consumer Interaction With Mobile Technology Devices." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

Daniel J. Flint, Major Professor

We have read this dissertation and recommend its acceptance:

David W. Schumann, Ernest R. Cadotte, Ronald E. Taylor

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Carolyn R. Hodges
Vice Provost and Dean of the Graduate School

(Original signatures are on file with official records)

TOWARD A THEORY OF CONSUMER INTERACTION WITH MOBILE TECHNOLOGY DEVICES

A Dissertation
Presented for the
Doctor of Philosophy Degree
The University of Tennessee, Knoxville

Charles Scott Rader
August 2009

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DEDICATION

To my daughter, Sophia Kotomi, with whom every interaction is most human.

ACKNOWLEDGMENTS

I would like to thank everyone who helped me complete my PhD. While many people were involved, I would specifically like to thank Dr. Dan Flint for not only supporting my work, but also for showing me "the path less traveled" via interpretivist research and then allowing me to travel it. I would like to thank Drs. Dave Schumann, Ernie Cadotte, and Ron Taylor – three wise men who I appreciate for serving on my dissertation committee as well as providing mentorship and counsel throughout my academic journey. I would like to thank Dr. Tom Mentzer for providing an important foundation in philosophy of science and inquiry paradigms which certainly proved to be fundamental in the development of this dissertation. I would like to thank Joachim "Joe" Grass for engaging in many scholarly discussions and acting as a "reality check" during wayward efforts at conceptualization. I would like to thank my cohorts Xiaojing "Jing" Sheng and Rod Thomas for their support during the last four years. Lastly, I would especially like to thank my research participants, who are not mere "subjects" to be studied, but real people with real stories who are experiencing everyday life with their mobile technology devices.

ABSTRACT

The purpose of this dissertation was to explore the phenomenon of consumer interaction with mobile technology devices (MTDs). MTDs include electronic "gadgets" such as personal digital assistants (PDAs) and smartphones that are carried and used frequently by consumers. The emphasis in this dissertation was on developing an explanatory framework to account for everyday experiences of MTD consumption. In light of limited consumer research on the pervasive phenomenon, an inductive, theory-building approach was taken, employing the constant comparative methodology of grounded theory (Glaser and Strauss 1967; Glaser 1978). Data was gathered primarily through in-depth interviews with 20 participants who had extensive familiarity with the phenomenon. Convergence on a "core category" of *Cultivating the Self* explained the majority of variance in participants' social psychological processes while interacting with MTDs. By *Cultivating the Self*, consumers interact intimately with mobile technology devices in myriad ways over time, investing "psychic energy" (Csikszentmihalyi and Rochberg-Halton 1981) into the products in order to actualize goals and therefore actualize themselves, all the while becoming closer to the devices, both figuratively and literally. The core category is comprised of three interrelated stages: *Transitioning*, *Integrating* and *Bonding*. By *Transitioning* to their devices, consumers undergo a fundamental and totalizing "ecological" change in their lives as they come to understand and assimilate interactions with MTDs. Through *Integrating* their devices, consumers select and align activities in their daily lives with capabilities that arise from interacting with their MTDs, "offloading" tasks to the products in a process that blurs the distinction between "personal" and "professional" lives. By *Bonding*, consumers make the products "their own" as they become increasingly proximate and intimate with their MTDs through customizing, personifying and interacting playfully with them. Extant theory was considered in extending properties of the core category, with special attention given to the ontological and epistemological differences between structuralist and interactionist paradigms underlying prior research on human-object relations. A symbolic interactionist view of human behavior was demonstrated as supporting emergent conceptualizations of the phenomenon. The interactionist approach and emergent theory developed through this dissertation provides support for the Service-Dominant Logic views currently evolving in contemporary marketing thought.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1
INTRODUCTION & PERSPECTIVES ON THE PHENOMENON

Chapter Outline

This chapter introduces the dissertation's focal concern of consumer interaction with mobile technology devices and establishes the impetus for developing theoretical insight into the phenomenon. First, an argument is developed for the strategic importance of understanding the meaning consumers ascribe to products and services. Then, a specific gap in marketing and consumer behavior research is highlighted, demonstrating that meaning-making processes as they pertain to the pervasive and growing product category of mobile technology devices have largely been overlooked. In an effort to address this gap, a case is made for pursuing exploratory, inductive inquiry into the dynamic process of *interaction* between consumers and mobile technology devices as it occurs against the holistic backdrop of everyday life. Extant interdisciplinary research that provided initial perspective on the phenomenon is then presented, followed by elaboration of research objectives and questions motivating the study.

Introduction

Meaning matters. Understanding the personal, sociocultural, and situational meanings that consumers ascribe to products and services provides marketers with valuable insight into how consumers perceive, engage, manipulate, interpret, internalize, and divest of an organization's offerings. However, subjective interpretations of meaning, often viewed as eluding serviceable conceptualization and measurement, have presented an historically awkward

dilemma for researchers (Harman 1981; McAdams 1997). In spite of these challenges, marketing practitioners and academics are increasingly recognizing the importance of and attempting to comprehend consumer meaning-making processes. As Belk (1988) notes: "We cannot hope to understand consumer behavior without first gaining some understanding of the meanings that consumers attach to possessions" (p. 139).

Meaning matters because of its relationship with value; products have value because they have meaning. An underlying assumption of research on meaning-making, as well as this dissertation, is that meaning acts as a source of value for consumers. Following the line of reasoning developed by Richins (1994), products, and particularly personal possessions, are understood to have value for a consumer based not only on their worth in economic terms (i.e. "value in exchange") but for the consumption experiences associated with them (i.e. "value in use"; Holbrook 1994; Holbrook and Hirschman 1982), such that the owner "holds a possession to be dear, independent of exchange opportunities" (Richins 1994, p. 505). Within this context, value for the consumer is a function of a product's meaning for the consumer.

Marketers began to earnestly acknowledge that meaning matters during the 1950s. At that time, consumer behavior was predominantly understood through the "rational choice" paradigm, which was couched in classical economic theory. Consumers were viewed as utility-optimizing individuals who were expected to rationally assess the cost versus benefit of their purchases (Simon 1955, 1956). In support of this conceptualization, marketers adopted a producer-centric position of stimulating and servicing demand (Lewis and Erickson 1969), known as the "transactional view" of marketing (Kotler 1972, p. 47), which focused on

delivering the right product at the right time and place (Bartels 1988). Consumers were believed to possess few motives beyond utilitarian concerns about quality and price (Bartels 1988, pp. 166-168; Pyle 1931, p. 3).

Maverick marketing scholar Sidney Levy (1959a, 1959b) offered a contrasting, if not revolutionary, challenge to the predominant rational choice paradigm by emphasizing the intangible attributes of products. While not disagreeing with the basic requirements of satisfying needs and wants, he proffered the idea that products were more than just bundles of attributes with overt benefits; they also had symbolic meaning. Levy (1959b) pointed out that "people buy things not only for what they can do, but also for what they mean" (p. 118). Sellers of goods were therefore "engaged, whether willfully or not, in selling *symbols*" (p. 117, emphasis in original). Such symbols reflected subjective personal and social meaning (Gardner and Levy 1955; Levy 1981, 1982). Extending this conceptualization further, Levy (1959b) described how products provided an image that was interpreted and co-opted by consumers to abet construction of symbolic identities, or their "self-concepts" (p. 120). In sum, consumption choices were made with consideration of the personal and social symbolic value that products had in allowing consumers to represent themselves -- both to themselves and others (Grubb and Grathwohl 1967; Harris 2007).

Levy's prescient insight has been advanced through an ongoing subfield of research within marketing and consumer behavior known as *symbolic consumption* (for a review, see Hirschman 1980; Hirschman and Holbrook 1981; Holman 1981). This research stream further cultivates the notion that products are personal and social symbols, where consumers leverage

meaning through firms' offerings in order to convey self-definition in myriad ways (Belk 1988; Escalas and Bettman 2005b; Holt 2002; McCracken 1986; Mick and Fournier 1998; Penaloza 2000; Schouten 1991a; Thompson and Arsel 2004; Thompson and Haytko 1997; Thompson and Tambyah 1999; Thompson and Troester 2002b). The concept of symbolic consumption has been recognized as posing considerable strategic and tactical implications for marketers concerning a range of issues (Arnould and Thompson 2005), including brand image building (Aaker 1991; Escalas and Bettman 2005b; Gardner and Levy 1955; Holt 2004; Keller 1993; Levy and Czepiel 1974), brand loyalty and brand personality (Aaker 1997; Fournier 1993), advertising (Levy 1986; McCracken 1987; Mick 1988; Mick and Buhl 1992; Ritson and Elliott 1999), and lifestyle marketing (Hirschman and Holbrook 1982; Holbrook and Hirschman 1982; Holt 1997; Levy 1963; Thompson 1996).

Research on symbolic consumption typically involves interpretation of consumer experiences, with emphasis on understanding the dynamic and often complex nuances of meaning that consumers construct through their interaction with products as it occurs within the context of their daily lives (Hirschman and Holbrook 1992; Thompson 1997; Thompson, Locander, and Pollio 1989). In order to make sense of this "potential mosaic" (Levy 1963, p. 224) of subjective meaning, researchers have realized that they must get close to the phenomenon of consumer-product interaction (Gardner and Levy 1955; Wells 1993). In short, understanding consumer intimacy with products means engaging intimately with consumers. This has motivated symbolic consumption researchers to embrace consumer stories, mythologies, and metaphors in an effort to illuminate textured and profound portraits of the

dynamic amalgamation of consumer lifestyles, consumer-product intimacy, and meaning-making (2006, 1981; McCracken 1986; Mick 1986; Thompson 1997; Thompson, Locander, and Pollio 1989).

Considered within the broader rubric of customer relationship management (Webster 1992) and positioned as moving toward a theory of customer value cocreation (Vargo and Lusch 2004), analysis of intimate consumer-product interaction and commensurate meaning-making has been viewed as a key strategic advantage for developing more refined and effective marketing communications, brand imagery and new products (Arnould and Thompson 2005). A sense of urgency in applying this type of analysis is instigated by increasingly competitive environments that dictate more sophisticated understanding of market characteristics and potential consumer segments (Griffin and Hauser 1993; Thompson 1997). In short, insights from interpretation of consumption-derived meanings "can be particularly useful in bridging the strategic gap between customers' overt awareness of their life circumstances and the marketing opportunities latent in these perceptions" (Thompson 1997, p. 439).

While some academic researchers have extolled the strategic need for understanding consumer meaning-making (Hirschman and Holbrook 1992; Thompson 1997; Thompson, Locander, and Pollio 1989), practitioners have enthusiastically embraced such efforts by getting closer to consumers through "the new core competency" (Berner 2006, ¶ 1) of marketing: anthropological and ethnographic research (Cooper 2004; Evans and Burns 2007; Glaser 1985; Leonard and Rayport 1997; Randazzo 1993). The major advertising agencies such as Ogilvy, Young & Rubicam, Saatchi & Saatchi, and TBWA\Chiat\Day have attempted to "re-create

worlds, from behavior to real human cadences and tones" (Tischler 2004, ¶ 13) for a range of products and services including mobile phones, consumer packaged goods, software, and home appliances (Cooper 2004; Deutschman 2006; Lakshman 2007; Tischler 2004). Scholars almost begrudgingly acknowledge industry's distinct lead in capitalizing on consumer intimacy and analysis of meaning-making processes (Levy 2006, p. 62; Thompson 1997, p. 438)

The academic research on symbolic consumption that has been pursued, while arguably more rigorous and theoretically insightful compared to industry efforts, has nonetheless examined consumption scenarios that are either relatively specialized (e.g. plastic surgery in Schouten 1991a; cosmopolitanism in Thompson and Tambyah 1999; natural food/health alternatives in Thompson and Troester 2002a) or seemingly esoteric (e.g. reenactments of mountain men in Belk and Costa 1998; skydiving in Celsi, Rose, and Leigh 1993; characteristics of Star Trek fans in Kozinets 2001). While these unique consumer narratives certainly exhibit transferability to other contexts of consumer behavior, opportunities abound for applying meaning-making analysis to broader and more conventional consumption scenarios. Particularly, an area that is prominent in the lives of many consumers but has received little "symbolic" exploration is that of technology product consumption.

The need for a more intimate and holistic understanding of technology product consumption has been recognized by several scholars (Kozinets 2008; Mick 2003; Mick and Fournier 1998; Wind and Mahajan 1997). In recommending goals for marketing research, Mick (2003) acknowledges technology as an area requiring "more serious and more focused [study of] the nature, role, processes, and consequences of consumption ideology" (p. iii-iv). Accounting

for the social appeal of technology, Kozinets (2008) calls for an ongoing holistic understanding of technological ideologies as they direct consumer narratives and consumption practices. Mick and Fournier (1998) suggest a focus on consumer meaning-making in studying technology consumption, noting that contrary to the idea that technology use is deterministic or merely functional, consumers exert significant and novel means of control in acts of "creative rebellion" exhibited through an "array of behaviors, spurred by personal life conditions" (p. 140).

Relating to innovation of consumer technologies, after a review of decades of related new product development techniques, Wind and Mahajan (1997) conclude that the major reason most new and "exotic" technology products do not achieve market viability is due to firms failing to understand the importance of the "social-cultural-economic" context in which the technologies will be used (p. 5). They challenge the marketing community to develop novel ways of understanding consumer interaction with technology, specifically advocating "anthropological research methods that can produce actionable results" (p. 5). While practitioners have actively responded as previously discussed, Wind and Mahajan's (1997) recommendations have been largely disregarded by marketing academics, as evidenced by limited and narrowly-focused technology product research primarily concerned with activity leading up to and including product adoption (Bass 1969; Canepa and Stoneman 2004; Davis 1989; Frambach 1993; Gaimon 2008; Jeyaraj, Rottman, and Lacity 2006; Rogers 1995; Schmidt 2004), with almost no studies of post-acquisition phenomena (Mick and Fournier 1998, p. 123)

This dissertation aims to respond to the need recognized by marketers and practitioners alike and redress the absence of analysis of consumer meaning-making for technology products.

The preponderance of general technology product research has examined television, computers, or software (Lee, Kozar, and Larsen 2003; Nass and Moon 2000; Nass and Steuer 1993; Reeves and Nass 1996; Thompson 1994; Venkatesh and Vitalari 1987), and in the one notable study where symbolic consumption of technology has been explored, consumers were free to talk about *any* product they desired (Mick and Fournier 1998). Taking a more directed approach, this dissertation will focus on the phenomenon of consumer interaction with a specific but evolving range of highly popular technology products known to consumers as "gadgets" and referred to in industry as mobile technology devices. Mobile technology devices will hereafter be referred to as "MTDs" or simply "devices."

Several perspectives thought to be relevant to the phenomenon of consumer-MTD interaction were initially brought to bear prior to conducting data collection and analysis. They receive elaboration later in this chapter, but are summarized as follows. First, it will be demonstrated that MTDs are representative of discontinuous innovations, and are therefore subject to the elusiveness and challenges that new product developers try to cope with when it comes to ideation and development of "breakthrough" products. Novel methods and prescriptions recommended by progressive scholars and practitioners will be shown to dovetail with this dissertation's *modus operandi* of understanding consumer meaning-making processes. Next, from the cross-disciplinary fields of sociology, media studies, and psychology, potential theoretical implications pertaining to object relations, human simulacra in technology, and anthropomorphism will be considered. Essentially, it is thought that understanding the correspondence of humans and machines from the perspectives of theorists outside of the

academic discipline of marketing could provide more broad-reaching and integrative theoretical grounding for concepts that emerge during the research. Finally, the engineering-oriented perspectives from computer science and industrial design will be reconciled with the view of consumer interaction with MTDs taken in this research.

In the next section, the phenomenon of consumer interaction with MTDs will be articulated in detail. A case will be made that mobile technology devices represent one of the most prolific, intimate and growing categories of consumer technology products. The scope of actual product types included in the study as well as the nature of consumer interaction will also be discussed. Then, a conceptual overview of various theoretical perspectives that relate to the phenomenon will be presented, followed by the research objective proper.

Evolution of Mobile Technology Devices

Technology products are seemingly ubiquitous. As consumers, we are increasingly engaged in the use of technology as we go about our daily lives. From preparing for our day in the morning and commuting to school or work, to communicating and collaborating with colleagues throughout the day, and entertaining ourselves in between, technology products play pervasive roles in our lives. While technology in the form of durable goods such as cars and appliances have been a routine part of modern-day life for over a half a century, more recently consumers are increasingly adopting small, portable electronic devices like handheld computers, personal digital assistants, mobile telephones, digital cameras and media players. Within the last decade, such portable technologies, or "gadgets" as they are sometimes called (Bruner and Kumar 2007; Castelluccio 2007; Epley et al. 2008), have been introduced to consumer markets at

a dizzying rate. An entire industry has formed around the advent of handheld consumer technology, which currently refers to its collective wares under the apt moniker of "mobile technology devices" (Bakhshi, Hazelton, and Llamas 2008).

As MTDs have decreased in size, they have moved closer in proximity to our bodies. Products ranging from calculators and computers to music players and telephones have migrated from our shelves and desktops to our pockets and purses within the course of a few decades. For many consumers, such products are second only to clothing or jewelry in being the most persistently proximal goods we possess.

In addition to decreasing in size, MTDs have also increased in functionality, with some now performing the roles of telephone, entertainment system, camera, and personal organizer compressed into one small palm-sized package. Consider modern gadgets within the trajectory of progress represented by all mechanical inventions spawned since the industrial revolution approximately 200 years ago. In just over three decades, a device the same size as the first "pocket" calculator introduced in the early 1970s (see Figure 1-1) now performs not only the relatively mundane task of arithmetic calculation, but also boasts dozens of other features including the ability to browse a global network of information, capture and display photographs, record voice memos and handwritten notes, entertain us with music and movies, wake us up in the morning, and make and receive telephone calls (Apple iPhone Profile 2008).

Figure 1-1. 1972 Busicom LE-120S "HANDY" pocket calculator (left); 2007 Apple iPhone mobile technology device (right)

While simultaneously expanding in functionality and diminishing in size, MTDs have also decreased in price. Once the nearly exclusive domain of upper-class professionals and technical elites, progressive affordability has increasingly placed these products into the hands of mainstream consumers. In 2008 dollars, the first pocket-sized calculator would cost $2,000 (Ball and Flamm 1997). Compare that to the comparably-sized yet feature-rich Apple iPod, with a current suggested retail price of $399 (Apple Retail Store Online 2008). Comparing the first incarnation of MTDs, personal digital assistants (PDAs), in the early 1980s to their modern counterparts, inflation-adjusted prices stay approximately the same (see Figure 1-2) despite the proliferation of features (see Table 1-1), increasing performance (see Figure 1-3), and reduction in size (see Figure 1-4). Essentially, a consumer today receives exponentially more functionality and convenience for the same dollars spent during the product category's incept nearly 25 years ago.

Lower prices, or at least increasing value at roughly the same price point, combined with a reduction in size and increase in performance and features has led to growing consumer adoption rates of MTDs (ABI Research 2006; Hughes 2007; Kairer 2008b; NPD Group 2007; Savitz 2007). According to industry sources (Canalys 2008), worldwide MTD shipments reached 118 million units in 2007, an increase of 53% from 2006. Gadgets comprised 22% of gifts given during the Christmas season of 2007 (Musgrove 2007). Ongoing popularity and continuing sales are seemingly certain. Industry analysts (O'Donnell et al. 2007) describe various market segment shifts toward personal computing mobility as transpiring faster than expected and predict the next few years will witness a dramatic increase in the numbers and types of innovative mobile devices being introduced to consumer markets

Table 1-1. History of Personal Digital Assistant Major Features, 1984-2007
(Data compiled from historical retail and marketing materials.)

Features	**1984** Psion I	**1988** Sharp OZ-7000	**1993** Casio Zoomer	**1993** Apple Newton	**1996** 3Com Palm Pilot	**2001** Handspring Visor	**2003** Palm Treo 600	**2007** Apple iPhone
Calculator	1	1	1	1	1	1	1	1
Clock	1	1	1	1	1	1	1	1
Database	1	1	1	1	1	1	1	1
Calendar		1	1	1	1	1	1	1
Address Book		1	1	1	1	1	1	1
Memo		1	1	1	1	1	1	1
To Do List			1	1	1	1	1	1
Games			1	1	1	1	1	1
Dictionary			1	1	1	1	1	1
Stylus			1	1	1	1	1	1
Handwriting Recognition				1	1	1	1	1
Touch Screen				1	1	1	1	1
Color Screen					1	1	1	1
Music Player						1	1	1
Internet						1	1	1
Telephony							1	1
Camera							1	1
Video Record								1
Video/TV Playback								1
WiFi								1
Total Features	**3**	**6**	**10**	**12**	**13**	**15**	**17**	**20**

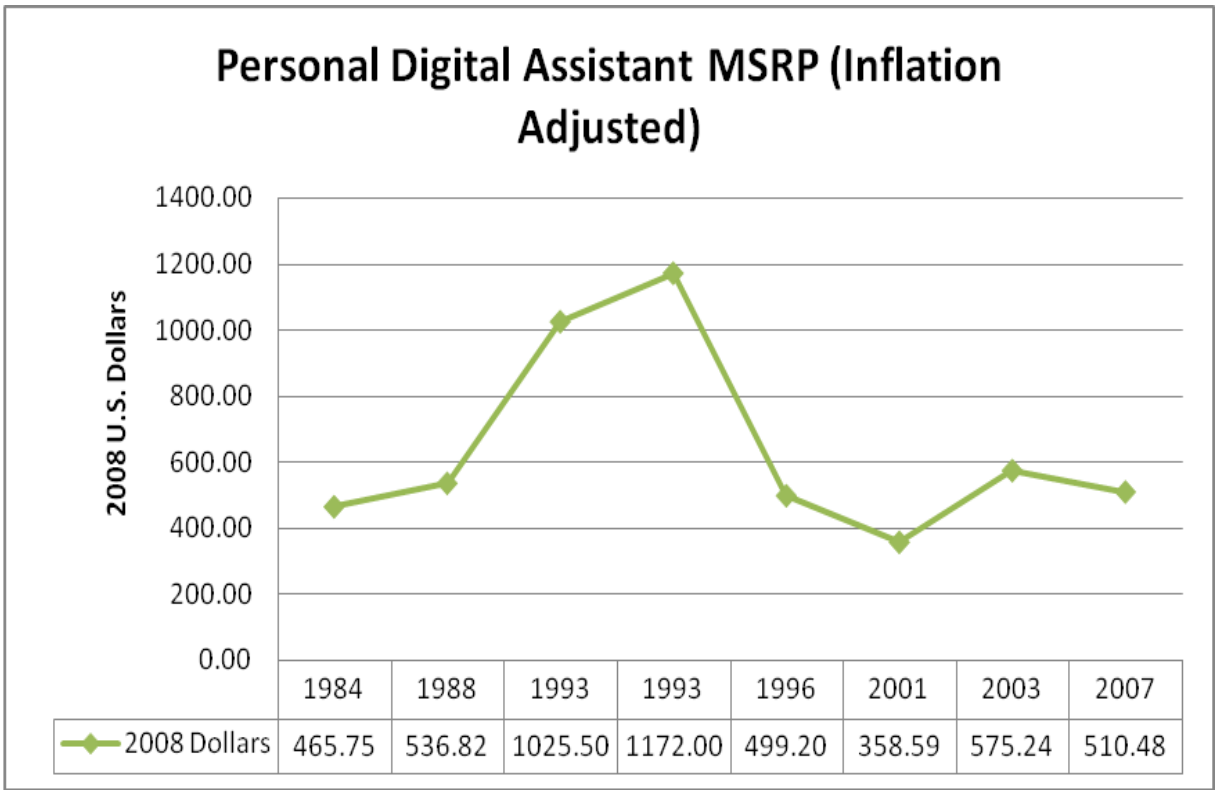

Figure 1-2. Personal Digital Assistant Prices, Inflation-Adjusted: 1984-2007
(Data compiled from historical retail and marketing materials.)

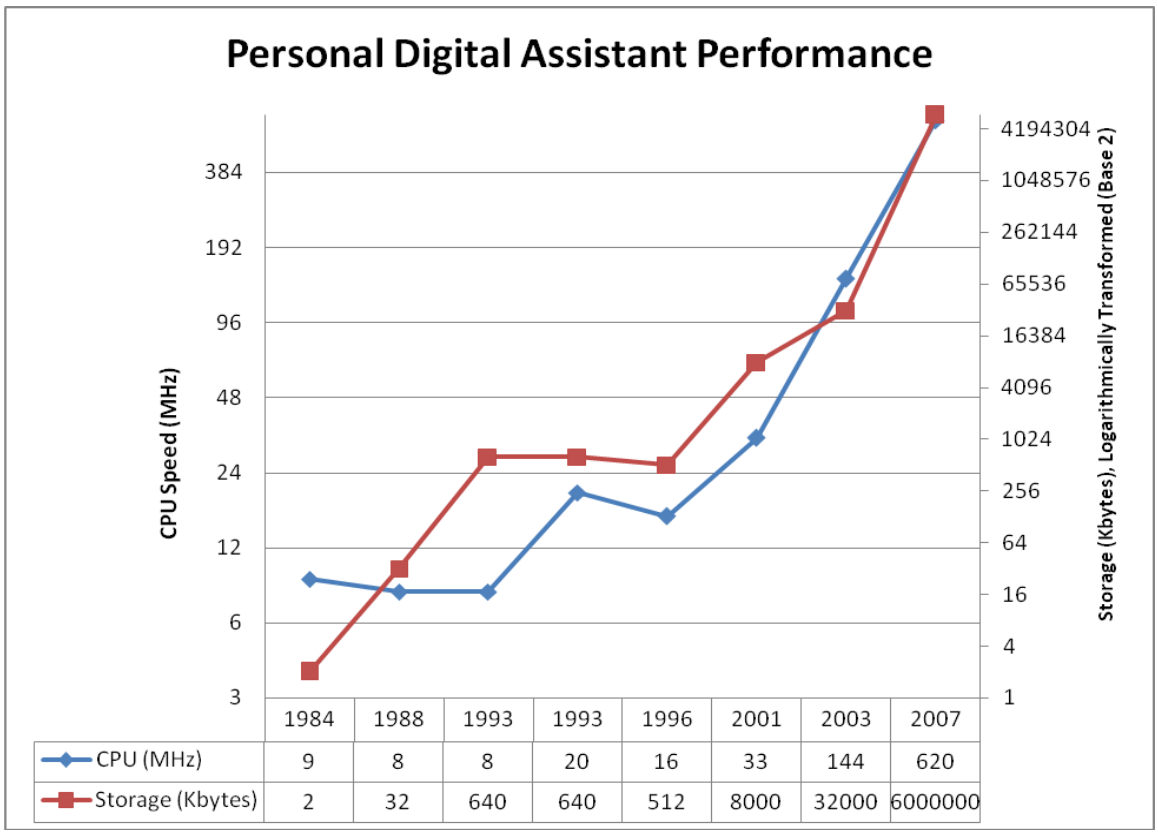

Figure 1-3. Personal Digital Assistant Performance, CPU and Storage: 1984-2007
(Data compiled from historical retail and marketing materials.)

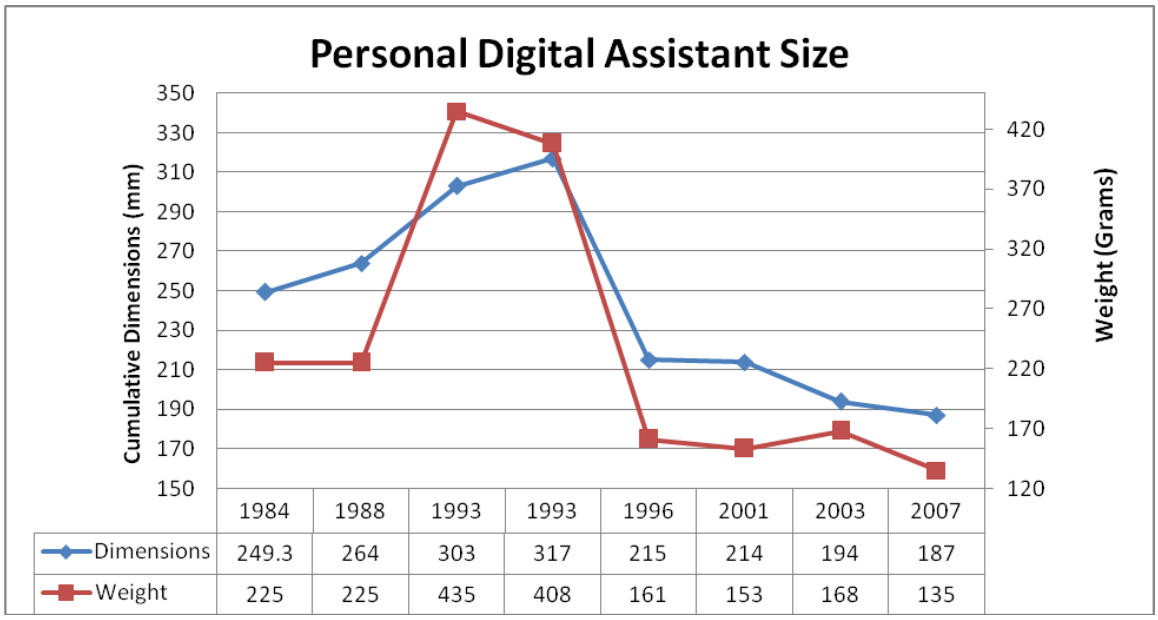

Figure 1-4. Personal Digital Assistant Size (Dimensions and Weight): 1984-2007 (Data compiled from historical retail and marketing materials.)

The Phenomenon of Consumer Interaction with Mobile Technology Devices

Situated at a turning point of dynamic change in products and anticipated increases in consumer adoption, the phenomenon of interest in this dissertation is the interaction between consumers and their mobile devices. With worldwide adoption rates widespread and growing (Canalys 2008; Informa UK Ltd. 2007), mobile devices are being carried more often and used more extensively by more consumers as part of their daily effects. A cursory observation of nearly any public space where people gather to work or socialize reveals this extensive involvement. As a category of technology products, mobile devices appear to be approaching what Mick and Fournier (1998) describe as "irrefutable and pervasive" status (p. 123).

Where these mobile devices intersect with consumers, a plethora of use situations emerge that range from the relatively simple and mundane to the complex and intimate. The small size, robust feature set, and relative affordability precipitate increasingly frequent, dynamic, and robust interactions within a wide-ranging context of "everyday life" activities. How consumers ascribe meaning to these interactions is the focus of this research.

Getting close to consumers and understanding the symbolic meanings that emerge during consumption has been best facilitated through exploratory, qualitative techniques and hermeneutic analysis (Hirschman and Holbrook 1992; Thompson 1997; Thompson, Locander, and Pollio 1989). In the spirit of inductively generating theory (Gardner and Levy 1955; Wells 1993) about the phenomenon of consumer interaction with MTDs through rich, holistic exploration of their experiences, grounded theory methodology will be employed and discussed further in Chapter Two.

In the next sections, the components of consumer interaction with MTDs will be explored in more detail. A precise description of mobile technology devices will be presented, including criteria for inclusion in the study. Following that, the process of consumer interaction will be articulated.

Mobile Devices Defined

To formally characterize a crucial aspect of the phenomenon, attention must turn to the modern producers of portable technology products. The descriptor "mobile technology device" encompasses and supersedes several other industry-borne labels including: personal digital assistants, or PDAs (heretofore the standard label for this category of products), handheld

devices (i.e. “handhelds”), digital/electronic personal information managers (PIMs), palmtop computers, converged devices, and the recently fast-growing category of “smart phones” (Kairer 2008b), which warrant a brief discussion.

Smart phones represent the convergence of two relatively long-standing streams of portable technological innovation: personal digital assistants (PDAs) and mobile (cellular) telephones. During the past few years, several personal digital assistants have evolved in functionality to include telecommunications capabilities, while conversely most mobile phones have increasingly included personal information management and software application abilities in their feature sets (Canalys 2008). The outcome of this convergence has been a recent increase in proliferation of smart phone mobile devices (Canalys 2008; Hughes 2007; Jaques 2007) accompanied by a rapid decline in sales of “stand-alone” (i.e. non-telephony capable) devices traditionally labeled as personal digital assistants (Hailstone 2007; Kairer 2007, 2008a; Sanders 2007). Although smart phones represent the foreseeable future of mobile devices and will likely be popular among participants in this study, personal digital assistants are still in use by consumers, and, along with other devices meeting the criteria explained in the next section, will be of interest in this dissertation.

Scope of Product Types

Within a more general category of technology products, a broad interpretation of “mobile technology device” could include something as simple and generic as a wristwatch or calculator. Both are mobile. Both are forms of technology. Due to the contemporary and evolving nature of mobile devices, no canonical source exists to offer a precise operational definition of these

products. Therefore, a list of criteria is inferred based on attributes and features of current offerings that are labeled by practitioners as "mobile devices." They will be defined as: 1) products that are highly portable, 2) products that have a high degree of "innovative discontinuity," and 3) products that generally exhibit multiple modes of functionality (i.e. "convergence"). Each criterion will be discussed in turn.

Criterion 1: Portability

The concept of "portability" is certainly subject to interpretation. What constituted a "portable" computer in 1981, weighing in at 26 pounds (Ahl 1984), would hardly be considered portable by today's standards. It is assumed that portable electronic devices are on a trajectory of continuing diminution, approaching a critical mass of contention between form and usability manifested through ongoing reduction in the size of integrated circuits (Haskell 2004; Kanellos 2003; Moore 1965). Building on the workable starting point offered by Bitpipe Technical Library (Bitpipe Dictionary 2008), a mobile technology device "can conveniently be stored in a pocket … and used while you're holding it" (¶ 1). Expounding on that definition, a current "snapshot" of acceptable portability standards will include devices that are "palm-sized," "pocket-sized" or "handheld." They should be carried by the consumer as part of their immediate personal effects.

This specification of portability is declared in order to reduce the scope of study to include consumer interaction only with products that are carried on the body. Note that this criterion effectively excludes items that need to be carried in briefcases, satchels, or bags intended specifically for transporting parcels. Rather, products eligible for inclusion would be

able to fit into pockets of clothing or purses and "pocket books" that are part of a normal daily wardrobe. Due to this close proximity to the consumer, such "readily accessible" products are expected to be carried in more locations and under more conditions, concomitantly providing more frequent opportunity for use. Note that this criterion effectively disqualifies traditional "laptop" or "notebook" computers from inclusion in the study.

Criterion 2: Innovativeness

In addition to being portable, mobile devices are considered to be innovative in nature. Innovations are often thought of as being on a continuum from *continuous*, or incremental, to *discontinuous*, or "radical" and "breakthrough" in nature (Littler 2005; Moore 1999a; Sood and Tellis 2005; Veryzer Jr 1998a). As opposed to continuous or incremental innovations, which take place within existing infrastructures, build on existing market knowledge, and require relatively little user effort to adopt, discontinuous innovations extend and redefine the market, creating products and services that are so different as to cause fundamental shifts in usage situations and consumption, often requiring new adoption patterns (Miller 1999; Veryzer Jr 1998a).

Mobile devices would normally fall on the discontinuous end of the innovation continuum. Laptop and notebook computers could viewed as the technological predecessors to mobile devices, but in terms of usage parameters (i.e. keyboard control, software interfaces), they exhibit minor divergence from the relatively established personal computer upon which they are based. On the other hand, mobile devices, starting with the introduction of personal digital assistants, represent a new departure for consumers in terms of both physical structure and input

mechanisms. Through the novel use of a pen-like stylus and even more recently touch-, voice- and pressure-sensitive controls, coupled with unique and typically proprietary user interfaces, the stream of MTD innovations continuously requires new modes of consumer learning as usage and manipulation processes evolve (Castelluccio 2007; Haskell 2004). These novel usage scenarios, along with even more recent and constantly morphing convergence with other technologies such as mobile telephony, networking, storage, and media options, constitute "breakthrough" characteristics, requiring evolving patterns of understanding and adoption by consumers.

Criterion 3: Convergence

The phenomenon of convergence serves as the third criterion for mobile devices. Mobile devices are feature rich and attribute laden in the sense that they contain a dense compression of multiple functions packaged in a small physical form (Haskell 2004). A modern handheld MTD contains many more attributes than a calculator, including *being* a calculator, while retaining roughly the same size and shape of the latter (see Figure 1-1). Mobile devices perform many functions whereas the similarly sized calculator performs primarily one. This build-up of technological capabilities, known as convergence, is increasingly becoming the standard for technology products and mobile devices (Canalys 2008; Franklin 2007; Phillips 2007). Telephony capabilities of mobile phones are being combined with personal information management features of "traditional" personal digital assistants (i.e. "smart phones"), and in many cases are coupled with media playback capabilities (e.g. MP3, video), all in one portable device.

Current incarnations of such converged mobile devices, exhibiting pocket-sized portability and a wide array of features, include such products as the Blackberry Pearl, Motorola Q, Apple iPhone, Palm Treo, Nokia N- and E-Series devices, and the Samsung Blackjack. At present[1], these particular products exhibit the highest degree of technological convergence, although other mobile devices that fit the three criteria will still be of interest in this study.

Consumer Interaction Defined

Having established the characteristics of mobile devices, attention now turns to the process of consumer interaction with them. Individuals who use mobile devices will be referred to as "consumers," using the traditional vernacular of the discipline. However, this label will be recognized as an *etic*, or observer-generated, characterization. Participants in the research will be viewed as dynamically assuming any number of roles, of which "consumer" might be one. The important point is that engaging in the act of consumption will be but one facet of experience that participants are expected to discuss or demonstrate, and that facet occurs as part of other activities that occur under the guise of various roles. Herein consumption is not considered to be a separate and neatly discernible *event* that is performed in utilitarian fashion

[1] On the issue of current products, a word should be said about the timeliness of research. Nearly any study involving technology as part of the focal phenomenon harbors the risk of becoming at least partially obsolete due to the rapidly changing nature of technology product innovation. By the time this dissertation is presented, and certainly in the future as it is hopefully read by researchers and other interested parties, the specific products and brands of mobile devices described herein and used by participants in the study will have inevitably become obsolete. However, it is hoped that the characterization of such technology as provided in this dissertation, particularly with regard to the notion of increasing and intimate interaction with continually shrinking products, and the corresponding analysis and theoretical insight, is sufficiently flexible so as to provide contextual and longitudinal transference of the phenomenon and findings. In sum, it is the author's belief that the trajectory of mobile device innovation will continue, and continue to have relevance for consumers and producers for some time to come.

and studied in isolation from other activities. Rather, consumption is viewed as an ongoing *process* that occurs in response to a continuous series of ongoing problems and concerns.

This characterization of consumption is much in the spirit of symbolic interactionism, a major paradigmatic perspective used widely in sociology and other disciplines (Blumer 1969; Charon 2007; Mead 1934), which will be employed here as a means of understanding consumer interaction with mobile devices. While additional discussion of the tenets of symbolic interactionism and their influence on this dissertation will be deferred to Chapter Two, exposition of points relevant to the notion of interaction with objects is now appropriate. Figure 1-5 illustrates the framework for the ensuing discussion.

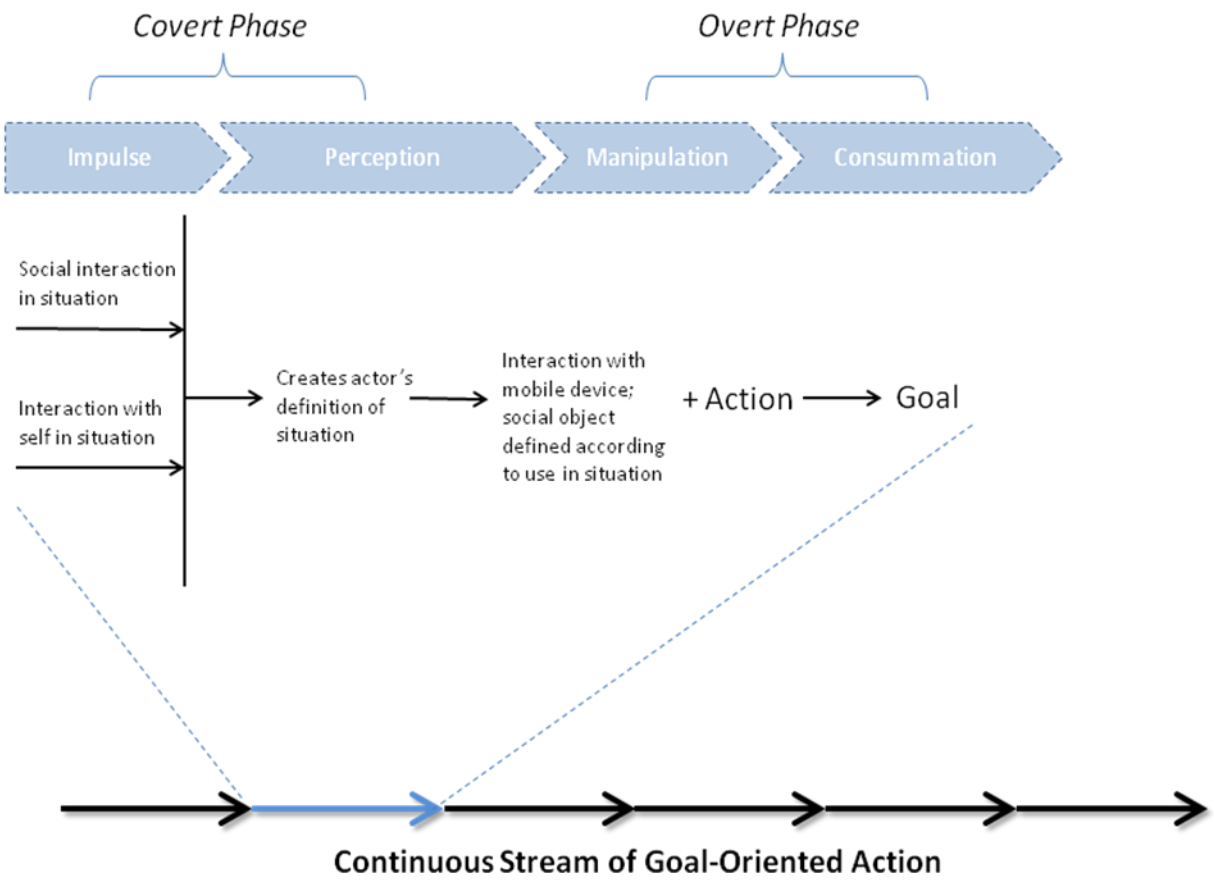

Figure 1-5. Interaction with MTD as Social Object Within Stream of Actions (Adapted from Charon 2007, Chapter 9, and Mead 1934)

Symbolic interactionism considers all activity, consumption included, as part of an ongoing, overlapping and constant series of actions that make up daily life, labeled in Figure 1-6 as "Continuous Stream of Goal-Oriented Action." Acts of consumption are not discrete occurrences as much as they are dynamic links in a chain of events, arbitrarily isolated and pointed out for the convenience of inspection (Charon 2007), and represented by the blue arrow and breakout in Figure 1-6. While we divide up human action into separate acts because it is useful for us to do so, it must be remembered that every act is part of a stream of actions, and artificial lines of demarcation must not ignore causes or consequences of the isolated act. Any demonstrable act of consumption will be considered within the context of this ongoing stream of action.

An isolated act viewed from within the continuous stream of goal-oriented action can be thought of as consisting of four stages (Mead 1934), represented in Figure 1-6 as *Impulse, Perception, Manipulation,* and *Consummation*. The first two stages are part of a greater *Covert Phase* which involves action that transpires in the mind (i.e. thought). The last two stages are part of an *Overt Phase* of action that transpires in the world. The four stages will now be discussed in turn.

The *Impulse* stage is characterized as a state of disequilibrium that the actor wants to resolve. This desire for resolution is based on the notion that any act, and indeed the concatenation of acts that makes up the continuous stream of action, are goal-directed in nature (Charon 2007, p. 122). Goals, both short-term and distant, are constantly being defined and redefined based on individual definitions of situations. Humans are planners, who "continuously

construct plans of action … out of bits and pieces of plans left lying around by culture, fitting them together in endless permutations of the larger patterns and motifs that the culture presents as models" (McCall and Simmons 1966, as quoted in Charon 2007, p. 122). Interaction with a mobile technology device occurs only within the context of this goal-directed activity, and does not occur for the sake of itself. Understanding this context is central to the objectives of this research.

As goals are formed, *Perception* occurs, whereby the actor defines the situation he finds himself in. Actors are constantly perceiving in a world that has meaning for them at the moment. They select and focus on things from the environment that can be used to achieve their goals, often to the exclusion of other things in the environment (Blumer 1969, p. 10-12). What "ought to be attacked … or avoided" (Mead 1936, p. 403) is continuously being discovered and thought through.

During the third stage of *Manipulation*, humans use their environment to facilitate action. Through verbal, mental, and physical interaction, actors manipulate their surroundings according to goals they want to achieve. As such, objects are defined in accordance with their usefulness, and combine with action to move toward those goals. It is important to note that symbolic interactionism considers all objects, mobile devices included, from a social perspective. Although existing in physical form, objects are not viewed as being static or having intrinsic meaning. Rather, they are "pointed out, isolated, catalogued, interpreted, and *given meaning* through social interaction" (Charon 2007, p. 46, emphasis added). This meaning-making occurs dynamically through interaction, as the consumer acts and reacts with the device, society and self

(see Figure 1-6). Meaning arises based on three interactions: acting toward and obtain response from the device (i.e. interaction with the device), ongoing thought action that occurs within the mind of the actor (i.e. interaction with self), and the social definitions attributed to the device (i.e. interaction with society). Note that since actors, society, and situations naturally change, the meanings given to social objects naturally change as well.

Finally, as environments and objects within them are manipulated and action resumes, the initial disequilibrium is restored and *Consummation,* or closure of the act, occurs. Note that resolution is only temporary; new disequilibria are constantly being confronted. Also, acts may or may not be consummated -- they may be interrupted and re-directed or abandoned altogether. This leads to the important point that while these four stages are presented here in sequence for ease of understanding, they overlap and do not occur in real life as neatly as depicted. Goals may change at any of the four stages. Perception and dynamic definition of situations can lead to new impulses. Manipulation is constantly feeding back to perception and thereby causing new forms of manipulation. Perception and manipulation intermingle to arrive at definition. However, this process represents a conceptual framework for consumer interaction that will be considered in this research.

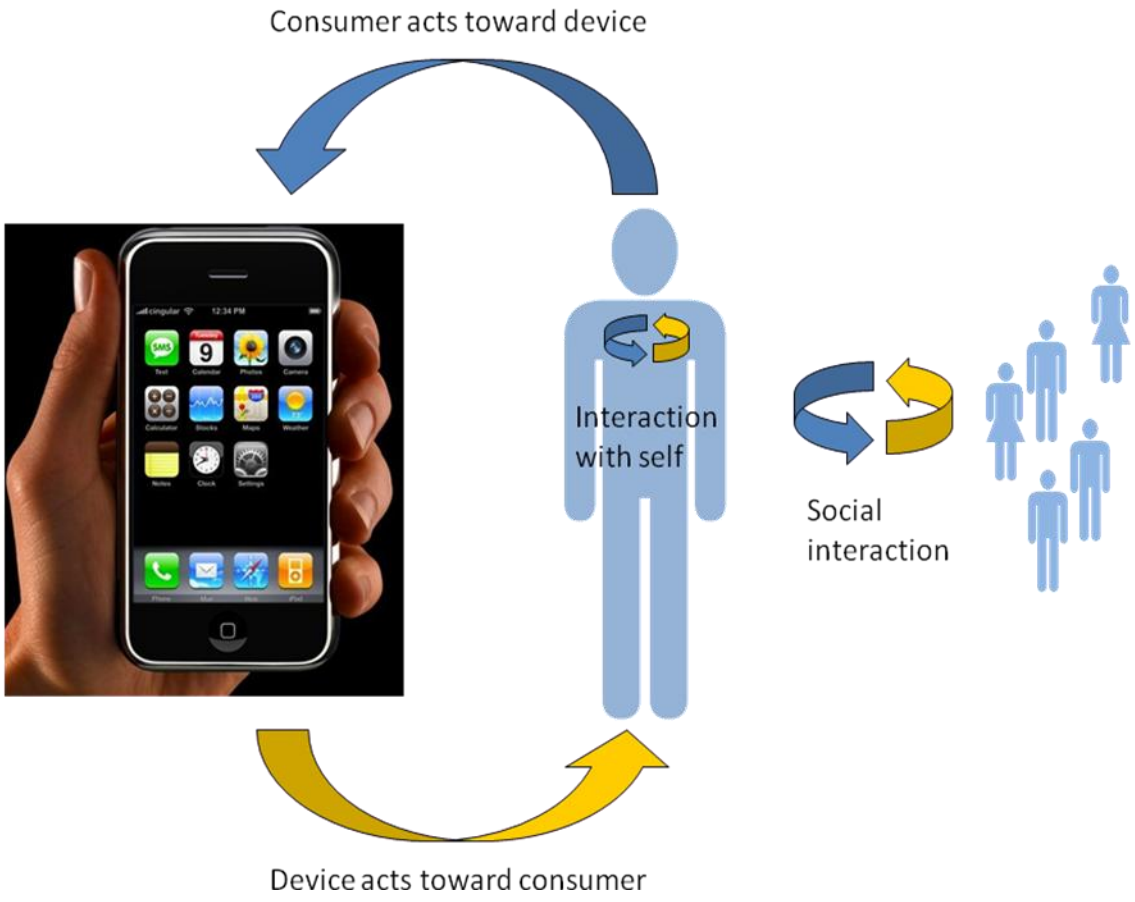

Figure 1-6. Interaction with Device, Self and Society

Summary

Mobile devices represent a constantly changing landscape of innovative products that continue to be popular among consumers, and are expected to go through continued and rapid evolution. As a product category, the very definition of "mobile technology device" changes at a fast pace. However, it is assumed that products that are portable, highly innovative in nature, and exhibit a growing accumulation of features accelerated through convergence will continue to find a place in consumers' hands and pockets and hence represent a lucrative and sought after market for producers. Where consumers and portable technology products come together, an interaction is assumed to take place. This process is in viewed through the theoretical lens of symbolic interactionism, which will serve as a framework for exploring the relationship between consumers and mobile devices. Through qualitative exploration, this dissertation anticipates revealing key insight to a particularly popular and growing form of consumption activity which may benefit from, as well as contribute to, knowledge in marketing, product design and even psychosocial disciplines. Attention now turns to a brief review of some relevant research from those disciplines.

Perspectives on the Phenomenon

Before addressing specific perspectives on the phenomenon of consumer interaction with MTDs, the role of literature in theory building studies will be addressed. A key methodological dictum in qualitative research, grounded in its epistemological roots, is the notion of rigorously gathering and analyzing data before generating theory about a phenomenon (Creswell 2003; Glaser and Strauss 1967; Guba 1990; Hudson and Ozanne 1988; Strauss and Corbin 1998;

Taylor 1994). To avoid integrating or drawing conclusions from hypotheses and assumptions developed *a priori*, some qualitative researchers recommend a complete *tabula rasa* by foregoing a preliminary literature review altogether (Glaser 1998). Rather, it is preferred to first allow concepts to emerge from the data before embarking on comparisons with extant knowledge and claims about the phenomenon.

In light of this tradition, it is considered useful to understand the "state of knowledge" of various perspectives on the phenomenon in an effort to establish "theoretical sensitivity" of concepts and relationships considered to be pertinent and insightful (Cooper 1989; Miles and Huberman 1984; Moustakas 1994), as well as ground both the reader and researcher in the historical context of the topic. The following brief interdisciplinary survey of perspectives seeks to summarize discussions considered relevant to consumer interaction with MTDs and provide a framework for thinking about the phenomenon. These perspectives may be theoretical in nature, originating from academic research and sources, or represent more anecdotal viewpoints of practitioners and industry participants as reflected in the literature.

To be clear, there is no overt goal of finding, validating, or corroborating elements of these perspectives while conducting this dissertation. As will be discussed in Chapter Two, effort will be made to "bracket out" effects in order to approach interpretation of the data with "new eyes and ears," avoiding the "conceptual grab of received concepts" (Glaser 1998, p. 70). Any, none, or variations of these perspectives may contribute to interpretation of findings. Additionally, as is often the case in theory building research, emergent patterns in the data could point to an entirely different perspective or perspectives, resulting in an abeyance of the

following viewpoints and subsequent pursuit of a more relevant and applicable literature base, potentially far afield from the disciplines represented here. That said, a brief discussion of topics thought to be pertinent to the phenomenon will follow.

A Categorization of Perspectives

Extant perspectives on consumer interaction with MTDs could be categorized into three primary domains: consumer-centric, psychosocial, and machine-centric. Consumer-centric perspectives originate largely from practitioners and business academics. These constituents are typically concerned with mobile devices as sources of innovation and thus competitive advantage. As cutting edge products continue to generate demand by consumer markets in both developed and developing countries (Informa UK Ltd. 2007), mobile devices are often the focus and result of ongoing research and development, production, and marketing efforts for many technology companies. Marketing practitioners and scholars are interested in how to meet consumer demand for technology products, and they attempt to do so within the context of profit-seeking activities. Hence, they provide a commodity-oriented perspective.

Psychologists and sociologists address effects of technology usage on humans as individuals and social beings. They are concerned with the individual's development in and interaction with social environments, and explore the ramifications of the effects of technology within this context. To that end, much psychosocial research assumes a critical theory perspective, assuming and exploring primarily negative effects of technology. While rarely addressing mobile devices per se, this group typically positions conversations within the greater

domain of general technology adoption, where mobile devices would be just one instantiation. Research from this domain of study will be labeled as having a psychosocial perspective.

Lastly, industrial engineers and computer science constituents are concerned with the design, functionality, and ongoing technical improvement of mobile devices. While the production and marketing of these devices as "products" is often an outcome of their efforts, and commodification is at least of tangential concern, they differ from the commodity-centric perspective in that their focus and resources typically center on the particulars of user interface (i.e. software), architecture (i.e. hardware), and concomitant usability with such systems. Hence, engineering and computer science practitioners and scholars provide a machine-oriented perspective.

Commodity-centric Perspective

As a broadly inclusive product category, mobile devices serve as important innovations within the portfolio of products offered from several competitive producers, but have received no formal attention from academic researchers in marketing or consumer behavior. The impact of mobile devices is not isolated to a few specialty producers. Through the aforementioned process of convergence, the number and type of companies taking interest in or experiencing competition from the product category is increasing (Magee 2001).

As an example of the dynamics of MTD competition, nearly all mobile phone producers now include a digital camera as one of many features in their phones. Nokia, traditionally a producer of mobile phones, can now be seen as competing, at least to some degree, with Nikon, who is traditionally a producer of digital cameras. As these two previously disparate

technologies merge, and even more features are included as a result of circuitry miniaturization and consumer convenience, new competitive dynamics are created. To be sure, even companies who are not directly in the market of producing mobile devices have been and will likely continue to be impacted by them. Already mobile devices have proven to be disruptive to several product categories, "pushing cheaper digital cameras out of the market, much as they earlier displaced alarm clocks, watches, and phone books" (Koskinen 2007). Although some producers might experience synergy, or perhaps even product cannibalization[2], suffice it to say that an increasing number of firms must now contend with how the phenomenon of convergence, manifested in continually shrinking and increasingly popular mobile devices, will impact their business strategies.

One iconic technology company that has embraced the phenomenon of MTD convergence is Apple. As a new entrant to the smart phone market, Apple effectively "crossed over" from specializing in one type of MTD, the iPod, to another, the iPhone. Introduced in mid-2007, Apple's enormously popular and innovative iPhone MTD accounted for net sales of $123 million for the six months they were available in 2007 (Apple Annual Report 2007), and unit sales growth for the first quarter of 2008 was more than double that of the previous quarter (Apple 1Q08 Press Release 2008). The iPhone MTD combines the form and functionality of their popular iPod media player with mobile phone technology, the latter being an entirely new strategic direction for Apple, and effectively pitting them against long-term producers of mobile phones such as Nokia and Motorola. A one-time desktop-based personal computer giant, mobile

[2] Through two different product lines, Sony is a producer of both mobile phones *and* digital cameras.

devices accounted for 35% of worldwide net sales of all products in 2007, a proportion expected to increase (Apple Annual Report 2007).

Ideation of Discontinuous Innovations

It is the received view of forward-thinking companies like Apple, as well as most other new product development managers, corporate strategists, and academicians, that innovation is crucial to the sustained livelihood of companies (Brockhoff 1999; Capon, Farley, and Hoenig 1990; Chaney and Devinney 1992; MSI Research Priorities 2008; Reichheld 1996; Urban and Hauser 1993). There is also shared consensus that a significant proportion of innovative new products regularly fail to achieve market viability, especially in consumer markets (Brockhoff 1999; Crawford 1977, 1987; Goldenberg, Lehmann, and Mazursky 2001; Griffin 2004; Stevens and Burley 1997; Urban and Hauser 1993; Wind and Mahajan 1997). This has certainly been the case with mobile devices, some of the most infamous failures including Apple's first foray into the category during the 1990s, the Newton (Pixell 2004; Tesler 2001), as well as Sony's MiniDisc (Trachtenberg 2000) and Clié personal digital assistant (Hardy 2004) technologies.

This poor new product success rate has generated much concern and attention regarding key success factors in new product development, and particularly discontinuous innovations (Wind and Mahajan 1997), which are seen as especially valuable in building competitive advantage and contributing to a firm's performance (Ali 1994; Calantone and di Benedetto 1988; Geroski, Machin, and Reenen 1993; McDermott and O'Connor 2002; Wind and Mahajan 1997). Discontinuous innovations are so characterized by their "dramatic leaps in customer familiarity and use" (Veryzer Jr 1998a). The iPhone's innovative "touch screen" user interface, as well as

other novel designs by Samsung (Samsung 2008) and Nokia, illustrate these “dramatic leaps” in design and familiarity (see Figure 1-7).

Figure 1-7. “Discontinuity” in Design: Samsung YP-S5 Media Player (top); Nokia 7380 “Lipstick Phone” (bottom)

Developing new discontinuous innovations is often seen as a matter of discovery by understanding and harnessing the elusive "fuzzy front end," described as the time and activity prior to incept of a new product idea (Reid and de Brentani 2004; Verworn, Herstatt, and Nagahira 2008). Despite organization-level efforts to establish structured, policy-based knowledge management solutions for capturing "fuzzy front end" processes, it is increasingly recognized that propensity for involvement and discovery is more likely to occur at the level of boundary-spanning and "pattern recognizing" individuals who identify and understand "emerging patterns in the [consumer] environment" (Reid and de Brentani 2004).

While little is discussed regarding specifically how these emergent patterns are discovered, it is recognized that the most successful, and sometimes only, means of obtaining useful consumer input during concept generation and exploration stages of discontinuous products is *vis a vis* qualitative methods (Veryzer Jr 1998b; Wind and Mahajan 1997). In an investigation of research methods intended to gather consumer feedback, Veryzer Jr (1998b) discovered that, for projects that were the most discontinuous, successful firms "tended to use techniques such as immersion and observational studies" (p. 142) to gain understanding and insight into user characteristics, problem-solving processes, and new product possibilities.

This paradigm of immersive and "anthropological" approaches bent on pattern-finding that both practitioners and academics are advocating will be operationalized in this dissertation as understanding consumer meaning-making via qualitative methods. Using the perspectives and tactics of symbolic consumption researchers and consumer culture theorists outlined at the beginning of this chapter, an ideally more rigorous yet complementary approach to efforts at

assessing the "fuzzy front end" of discontinuous innovation ideation will be employed. Furthermore, while these procedures are encouraged by new product developers and innovation scholars largely to improve viability for specific products and achieve near-term market goals, this dissertation intends to develop a broader theoretical framework regarding the phenomenon that has the potential to contribute across scenarios and academic disciplines.

Person-Object Relations

From a more general consumer-based perspective, but certainly considered pertinent to understanding consumer interaction with mobile devices, is the concept of object relations. Belk (1988) utilizes a psychological understanding of symbolic consumption *qua* object relations in his seminal work on possessions as extensions of consumers. In both a literal (e.g. tools and cars as extensions of hands and feet) and symbolic (e.g. uniforms, trophies) sense, a framework is outlined for understanding consumer relations with products and their subsequent meanings as reflections of and contributors to our identities. Hailing from a consumer-centric perspective, this work echoes the communications and media theory perspective of Marshall McLuhan (McLuhan 1964; McLuhan and Fiore 1967), who used similar concepts and terminology to describe technologies and media not just as mere utilitarian objects, but more holistically as "extensions of man."

The work of these two theorists proved useful in understanding the phenomenon of personal technology consumption as explored in an earlier study on portable technology (Rader 2007). Participants in that study described "putting their lives into" products they carried, as well as "freeing up thought time" and "putting things away" by using technology products to

retain information (p. 8). This phenomenon of extending the self, succinctly described by one participant as "My entire life is in there!" (p. 9), was echoed in a more recent television commercial for Nokia mobile devices that used almost identical verbiage: "Nokia 8801: It's Your Life In There" accompanied by a voiceover stating: "Do You Hold It? Or Does It Hold *You*?" (Levinson 2007, emphasis in original).

Belk (1988) drew on the work of Csikszentmihalyi and Rochberg-Halton (1981), whose theories on object relations could be especially insightful when examining consumer interaction with MTDs. The authors described person-object interaction as a "transaction or relationship between a person and thing" (p. 173) and proceeded to explain the process as "cultivation" of meaning (pp. 44, 173-174). Specifically, they referred to an investment of "psychic energy" into objects (pp. 90-120), whereby objects become more meaningful as people invest more of "themselves" into the objects. This investment could be in the form of time, effort and/or attention. Indications of this idea were seen in Rader's (2007) and Mick and Fournier's (1998) research on technology products.

The idea of investing "psychic energy" seems especially relevant for mobile devices, which involve a literal, prolonged, and ongoing investment of time and effort in compiling what are often very personal and intimate data such as important contact information, special events, and journal entries, along with personal media like photographs or songs. An intimate understanding of symbolic meanings, and the concomitant "psychic energy" invested during interaction with mobile devices, could substantiate, extrapolate, and transform this theory. In validating the importance of what could be considered a "psychic" investment, several

participants in the Rader (2007) study indicated great feelings of despondence in the event of the "deadly" scenario of destruction or loss of their device (p. 9). The notion of loss of possessions, mentioned as fruitful grounds for future research by Belk (1988), as it pertains to mobile devices or their contents will be an area of interest in both inquiry and analysis for this dissertation.

Psychosocial Perspective

The disciplines of psychology, sociology, anthropology, and communications studies each address, with varying degrees of abstractness, aspects of the phenomenon of consumer interaction with MTDs. They are considered here under a general category, but share in common their view of individuals in relation to society. Research from these disciplines rarely refers to specific types or even categories of devices, but instead examines the broader ramifications of "human-machine" interaction and the effect of technology on social and psychological systems. Nonetheless, this research will be considered as providing a perspective that could potentially inform the phenomenon of interest. Specifically, concepts regarding social and cultural implications of increased technology exposure and usage will be examined from sociology and media studies, along with the theory of anthropomorphism from psychology.

Sociology

While typically assuming a contentious approach concerned with the deleterious societal effects of increased technology adoption and integration, sociology offers a robust literature base on the general subject of human-technology interaction. Pickering (1997) provides a poignant sociological overview about accelerated human interaction with technology. Particular emphasis

is placed on emerging computer technologies, with the assertion that "computer technology has given rise to agent-like artefacts that are becoming more intimately involved in social action" (p. 46). By "agent-like," it is meant that the artifacts, or products, exhibit psychological and emotional faculties that give rise to "involved" human interaction with entities that are decidedly non-human. Elaborating further, it is noted that "machines are now involved more than ever in social processes, and *increasingly as participants rather than tools*" (p. 47, emphasis added). It is reasonable to assume that Pickering would concur with the approach taken in this research, and consider mobile devices to be a manifestation of "agent-like artefacts" (p. 46). Based on current modes of interaction, it is expected that he would certainly recognize them as assuming a participant-oriented role as opposed to simply being tools or machines.

Pickering is less concerned with the probability or nature of "true" autonomy of such devices, or whether their machine intelligence perfectly replicates human intelligence, a subject of frequent discussion among artificial intelligence researchers adopting a machine-centric perspective. Instead, it is asserted that the "important ethnographic task" (p. 47) is understanding social and psychological implications of the *perception of* and *experience with* artifacts that simulate human agency. Going on to explain how human-to-"human-like" machine interaction will give artifacts a prominent role in "creating the habitus of contemporary technocratic societies" (p. 46), Pickering concerns himself with the repercussions for society, particular with regard to sociocultural learning and assimilation of young people.

Pickering's (1997) charge echoes the sentiments of marketing and consumer behavior scholars described earlier who recommend similar endeavor, albeit for reasons primarily related

to consumption as opposed to greater societal effects. His ideas are also in line with the phenomenological spirit of this investigation. First, he views "agent-like artefacts" (i.q. mobile devices) not just as tools to be *used*, but as entities to be *interacted* with. Second, he emphasizes the subjective experience of the user of such technology, instead of merely focusing on the objective capabilities or attributes of the products involved.

Pickering's thesis represents a culmination of thought from prominent socio-technological theorists Lewis Mumford (1963, 1967, 1968) and Marshall McLuhan (1964; McLuhan and Fiore 1967). These scholars propose the idea that technology is not merely the means by which pre-given and relatively unchanging human needs are met. Rather, technology is seen as helping to create "fundamentally new forms of human activity from which new goals, values and desires emerge" (Pickering 1997, p. 50). The central thesis of their collective work is that assimilating technology fundamentally changes consciousness and behavior toward the technology itself and other humans.

This prescient insight from sociology and media theory is foundational to the perspective adopted in this dissertation, and one that commodity-centric and machine-centric perspectives seemingly overlook: That is, technology products not only seek to fulfill consumer values and goals, but they can also create entirely new ones. In addition to historically serving as a way to *mediate* social interaction (e.g. telephone, fax, internet), as these scholars assert, technological artifacts are now being acknowledged as *participants* in the interaction, a notion succinctly declared by McLuhan in his famous aphorism "The medium is the message" (McLuhan and Fiore 1967, p. 3). This concept of participatory artifacts is similar to the idea of "social objects"

presented by symbolic interactionists (Blumer 1969; Charon 2007; Mead 1934) and other sociology scholars, particularly as it relates to technology (Bijker, Hughes, and Pinch 1987; Pfaffenberger 1992; Tully 2003). The characterization that objects are interactive, involved, and social is considered to be especially applicable to mobile devices, and serves as a foundational perspective in understanding interaction as explored in this dissertation.

The learned views of these academicians have been accentuated for decades by popular press accounts in science fiction about the convergence of man and machine, particularly in the "cyberpunk" genre. Popular authors William Gibson (1984, 1986, 1996, 1997) and Bruce Sterling (1988, 1996, 2001) have made careers out of the fanciful portrayal of men, fused with small, interchangeable and nearly invisible devices that produce hyper-extended senses and faculties through electronic means. Speculating on the realization of such fantasy is certainly not within the domain of this dissertation. However, whether it is the informed views of learned scholars or the futuristic narratives of fiction writers, human beings indeed have a fascination with, if not concern for, a closer and more intimate relationship between themselves and the machines they use. The intimacy and involvement of social interaction with technology, facilitated by viewing non-human agents as human, is predicated on the psychological notion of anthropomorphism.

Psychology

Where technology and humans interact, particularly with regard to computers, empirical studies have found that individuals express attitudes toward the devices that are normally reserved for other humans (Moon and Nass 1996; Nass et al. 1995, 1999; Nass and Steuer 1993).

This idea is akin to Pickering's (1997) notion of agent-like artifacts, but is elaborated further within the context of psychology. The tendency to attribute human qualities and characteristics to nonhuman beings or inanimate objects is known as *anthropomorphism* (Epley, Waytz, and Cacioppo 2007), and has historically been a focus of study within the domains of religion and psychology, with more recent applications to the phenomenon of human-computer interaction (Barley 1988; Reeves and Nass 1996; Turkle 2005; Winograd and Flores 1986). While research continues in an effort to determine if anthropomorphism is a result of short-term convenience to cope with the complexity of highly interactive technology (Barley 1988; Dennett 1991), is indicative of more stable psychological relationships (Sundar 2004), or even explains the phenomenon at all (Nass and Moon 2000), nearly all studies deal with the interface of individuals and personal computers or terminals.

To date, no research on anthropomorphization has examined the relationship with mobile devices, although Epley et al. (2007, 2008) provide evidence of anthropomorphism with other technology-based products. They even go on to suggest that "facilitating anthropomorphism may also increase the usefulness of technological agents by creating social bonds that increase a sense of social connection" (2007, p. 879). The authors cite examples where the product development implications for better understanding anthropomorphic tendencies in human-computer interaction have been briefly explored for products such as robotics, software development, interactive voice response systems, and even toys. It could be expected that similar tendencies to anthropomorphize mobile devices could emerge from interpretations of consumer interaction with the products.

Machine-centric Perspective

Viewing interaction with MTDs primarily from the position of the device, the machine-centric perspective is represented by engineers, computer science, and information systems constituents. A subset of human factors and industrial engineering studies, aptly termed "human-computer interaction" (HCI), is concerned with the interaction between people (i.e. "users") and computers (Myers 1998; Sears and Jacko 2007). Traditionally focusing on factors related to successful design and deployment of technology products and services (Shneiderman 1997), research is often very tactical and application-specific, commonly addressing particular aspects of hardware development, software applications and user interface design which, although related to underlying technical functionality of MTD usage (Myers, Hollan, and Cruz 1996; Shneiderman and Plaisant 2004), does not provide theoretical insight into user interaction.

In an effort to establish frameworks for assessing and improving user behavior with technology systems, HCI studies usually assume incremental improvement of current use situations and infrastructures. Likewise, concern with the human side of the HCI dyad is typically centered around specific problem-solving scenarios that apply cognitive, perceptual, and motor control theory from psychology with the goal of improving very specific task-oriented activities (e.g. manipulation of graphical user interfaces, icon-based operating systems, etc.) (Carroll 2003; Diaper 2006; Diaper and Sanger 2006; Stephanidis et al. 1999).

While some research has considered more wide-reaching consequences of human-computer interface, such as the importance of affective response and emotional design (Demirbilek and Sener 2003; Krippendorff 2004; Norman 2005, 2007), HCI is largely concerned

with application performance efficiency and effectiveness, typically viewing users from a "machine metaphor" perspective (Thompson, Locander, and Pollio 1989, p. 134), where the user is expected to be as much of a processor as the machine itself. Without marginalizing contributions of HCI research, including procedures for designing better portable technology (Haskell 2004), albeit within existing infrastructures, this dissertation views the phenomenon quite differently. Consumer-mobile device interaction is considered to be a holistic experience, lived against the backdrop of everyday life activities and not isolated to the specific constraints or scenarios of an actual physical encounter with the technology. While potentially informative in terms of understanding the mechanics, procedures, or even frustrations of specific use situations, the machine-centric perspective deserves mention here due to its technical contribution to mobile devices and is considered limited in its theoretical influence on this research.

Summary

Commodity-centric perspectives view consumer interaction with MTDs primarily from the perspective of the device, inasmuch as it is a part of innovation design efforts intended to meet consumer demand. Psychosocial perspectives view consumer interaction with MTDs primarily from the perspective of the individual, or his/her place in society, as affected by use of mobile devices as artifacts. Machine-oriented perspectives view consumer interaction with MTDs primarily from the perspective of the device, with efforts to understand how to affect and improve existing devices for use by end users.

In contrast to these perspectives, but still considering them as useful theoretical aperçu, this dissertation views the phenomenon primarily from the perspective of the *interaction*, and specifically the meaning that interaction has for consumers. It is anticipated that this perspective could go beyond the expectations of producers harboring the commodity-centric perspective, who might fail to anticipate or fully understand novel and variegated use situations that occur against an ongoing stream of action that comprises consumers' everyday lives. Similarly, while emphasizing the process of the machine over the process of human interaction with it, an aversion to divergence from expected or "normal" scenarios could cause machine-oriented engineers to overlook important nuance that could influence entirely new design approaches. By focusing abstract analysis on primarily critical aspects of technology adoption and dismissing potentially positive effects of interaction, psychosocial perspectives fail to acknowledge important parts of the reality of a seemingly irreversible and pervasive aspect of the human condition. Taken together, however, these perspectives provide an informative framework with which to consider consumer interaction with MTDs.

Purpose of the Research

The purpose of this research is to explore the heretofore scarcely examined phenomenon of consumer interaction with mobile technology devices, and to understand its meaning and implications for consumers while considering the broader context of their daily lives. The research is draws from, and contributes to, marketing and consumer behavior thought, as well as scholarly disciplines farther afield. Through inductively generated conceptualization, the research contributes to substantive, mid-range and to some extent formal theoretical insight.

Additionally, a contribution is provided for practitioners, including marketers and new product developers, by assessing a deeper understanding into how consumers understand technology products, themselves, and the products in relation to themselves.

Initial Research Questions

Initial research questions are intended to provide guidance for conduct of the investigation. It should be noted, however, that theory building research is iterative by nature. An initial scope that is too myopic could cause important areas that emerge during the course of research to be overlooked, hence limiting the power and breadth of theory development. Maxwell (1996a) suggests that research questions "should be sensitive and adaptable" (p. 49) to discoveries as the research progresses, also noting that sometimes it is necessary to begin the research process before fully understanding what questions should be answered. Similarly, in the tradition of grounded theory, the methodological framework used in this dissertation, it is suggested that questions regarding the problem be allowed to emerge as the investigation transpires (Glaser 1992). As such, the following research questions provided a general guide to the dissertation, and were subject to revision as the research progressed:

- What is the nature of MTD interaction for consumers, and what does that interaction mean for their everyday lives?
- How do consumers act toward the devices?
- How do the devices act toward consumers?
- What does this ongoing interaction mean for consumers?

Using these preliminary questions as a framework, an initial interview guide was developed and is discussed in Chapter Two.

Chapter Summary

This introductory chapter described a general research impetus for gaining insight into consumer meaning-making processes. The strategic importance of understanding intimate consumer interactions with products was described. In particular, it was highlighted that a gap exists in examining the popular product category of mobile devices. A case was made for the existing pervasiveness and expected growth patterns of mobile devices among consumer markets. The phenomenon of consumer interaction with MTDs was brought to focus, with an explanation of how the sociological perspective of symbolic interactionism can contribute to its understanding. Theoretical perspectives that can potentially inform the phenomenon were presented from the disciplines of consumer behavior, new product development, sociology, and psychology. The research objective was established, which is to understand the holistic meaning-making processes of consumers as they interact with mobile devices.

CHAPTER 2
PHILOSOPHY AND METHODOLOGY

Chapter Outline

The purpose of this chapter is to establish the philosophical foundation and methodological approach for examining the phenomenon of consumer interaction with MTDs. The intent is to provide a cohesive and rational research framework through the integration and articulation of three areas, presented in respective sections of the chapter: (1) an introductory discussion of philosophy of science considerations and corresponding methodological strategy, (2) an overview of the social psychology perspective of symbolic interactionism, and its implications for understanding the phenomenon, and (3) a discussion regarding application of grounded theory methods.

The Role of Philosophy of Science in Research

All research is grounded in the context of the researcher's basic belief system. What a researcher believes about reality, the nature of his/her relationship to it, and ways of observing and measuring phenomena within it come together to address the very nature of inquiry and thus drive the direction of research, even before formal research problems and objectives are established and the actual investigation begins (Guba 1990; Hudson and Ozanne 1988). This basic belief system is comprised of fundamental philosophy of science and methodological assumptions that are collectively referred to as an inquiry paradigm (Cedarbaum 1983; Filstead 1979; Guba 1990; Hunt 1991; Kuhn 1962; Suppe 1977). These fundamental assumptions of

inquiry paradigms can be characterized as ontological, epistemological and methodological in nature (Bateson 1972; Guba 1990; Guba and Lincoln 1994; Hudson and Ozanne 1988). They determine answers to the following questions:

1. *Ontology*: What is the nature of "reality"? Or, what "exists" and is "knowable"?
2. *Epistemology*: What is the relationship between the researcher and what can be known? How can the researcher "access" what exists or is knowable?
3. *Methodology*: What is the specific manner in which the researcher should go about discovering knowledge? What techniques should be used to explore the phenomenon?

In short, the way a researcher thinks about, observes and attempts to measure phenomena come together as an interrelated "set" of beliefs which serve as conditions for his or her knowledge claims. This set of beliefs represents an inquiry paradigm, inherently (pre)determining the nature of an investigation and how it will be conducted and precluding every effort at disciplined inquiry. In the nomenclature of traditional logic, an inquiry paradigms consists of *fundamental axioms* which, by nature, are incapable of being proven or disproven (Bateson 1972, p. 314; Guba 1990, p. 18; Guba and Lincoln 1994, p. 107). The mechanics and merits of various inquiry paradigms have been argued for millennia, starting from contention between Platonic and Aristotelian moral theories. A lack of "resolution" of competing inquiry paradigms is testament to their axiomatic nature (Guba and Lincoln 1994, p. 107). Hence, it is not the intent of this dissertation to debate the virtue of different paradigms, assert value claims about them, or attempt the futile exercise of determining which paradigm is "correct." Rather, it is considered important to provide a basic understanding of the quality of paradigm differences in order to philosophically "ground" the current research.

Importantly, it should be recognized that inquiry paradigms, *ipso facto*, are always present in any research effort and always affect research directions and outcomes, whether or not they are acknowledged explicitly by the researcher. In short, there is no "paradigm-free" research because there are no paradigm-free researchers. Any attempts at "objective" scientific inquiry still occur within the purview of fundamental axioms of implicit or explicit inquiry paradigms. As will be shown, most social science researchers, including those in marketing and consumer behavior, default to the dominant paradigm of positivism, or some proximate variation of it, whether they explicate it in their research or not. The position taken in this dissertation, however, is to elucidate the inquiry paradigm in order to provide the philosophical "underpinning" that will set the stage for rationalizing choices regarding how the phenomenon of consumer interaction with MTDs is approached, analyzed, and evaluated. To that end, a brief overview of the history and relevance of major paradigms will follow, leading to a declaration of the paradigm underlying this study.

Inquiry Paradigms

Introduction

While many inquiry paradigms exist, during the course of social science history they have for the most part been generally positioned along two dominant lines of thinking: positivism and relativism. Positivism and relativism are broad paradigmatic categories that each subsumes a "family" of nuanced and evolved incarnations. In the case of positivism, this family includes paradigms such as logical positivism, logical empiricism, falsificationism and

postpositivism. In the case of relativism, variations include critical relativism, constructivism, phenomenology and naturalistic/humanistic/interpretivistic inquiry. In general, it can be said that the variations of positivism hold in common the view that "a single, objective reality exists independently of what individuals perceive" (Hudson and Ozanne 1988, p. 509), and the different "sub-paradigms" in the family of positivism vary based on the nature and degree to which it is thought researchers can adequately access, measure, and understand that objective reality. Conversely, relativism and its descendants harbor the notion that reality is multiplicitous, dynamic, and interpreted differently by each individual. Variation occurs as it pertains to methodological approaches for addressing that dynamic reality.

Although used here as overarching descriptions that merely summarize underlying characteristics of each family of paradigms, an approach not uncommon in evaluating philosophy of science (Guba 1990; Hirschman and Holbrook 1992; Hudson and Ozanne 1988; Hunt 1991), several scholars and sources more adequately elaborate on the nuances of the various permutations of positivism and relativism (Creswell 2003; Flint, Haley, and Mentzer 2000; Guba and Lincoln 1994). While the specific paradigms that fall within these families are important, it is deemed beyond the scope of this dissertation to elaborate on each of them. Instead, the major characteristics thought to adequately explain differences in the belief systems of the two major perspectives are explored in order to place the current research within a broad assessment of those families of divergent philosophies.

Some final points are in order before describing the two major perspectives. By casting all inquiry paradigms within the domain of either positivism or relativism, the reader is cautioned

not to assume the two categories are either independent or mutually exclusive. On the contrary, they should be recognized as representing two extreme poles on a continuum. In reality, adherents to one family of paradigms may hold certain beliefs in common with the other family, falling somewhere between the two extremes presented here.

Evolution of a Revolution: Major Philosophy of Science Contenders

Stemming from adherence to the "scientific method" promulgated by Auguste Comte (1798-1857) in the 19th century (Lenzer 1975) and followed by the "Vienna Circle's" promotion of logical analysis (Sarkar 1996) in the 20th century, positivism has experienced a long and seemingly monopolistic run as the dominant paradigm in science (Anderson 1986; Bernstein 1983; Deshpande 1983; Hunt 1991). Crystallized in Thomas Kuhn's (1962) thesis on "paradigm shifts," it could be said that positivism and its various incarnations faced a revolution, or at least the beginnings of one, in the 1960s and 1970s. The basic premises of the "received view" of positivist science were brought into question, instigating a debate around the fundamental question: "How do we know what we know?" The heretofore "standard" ontological, epistemological, and methodological assumptions were coming under increased scrutiny (Feyerabend 1975; Hanson 1958; Horkheimer 1947; Horkheimer and Adorno 1972; Kuhn 1962; Lakoff and Johnson 1981; Marcuse 1964).

This intellectual revolution eventually surfaced in marketing during the 1980s, viewed by some as an unfortunate late-comer to the discipline (Anderson 1986; Peter 1984). Since then, however, the paradigm revolution has been subject to prolific and often contentious discussion among marketing scholars (Anderson 1986, 1989; Brodbeck 1982; Calder and Tybout 1987,

1989; Cooper 1987; Hunt 1989, 1990; Muncy and Fisk 1987; Peter 1984; Peter and Olson 1989; Siegel 1988), with "spirited" being "certainly not too strong an adjective to describe the ongoing debate" (Hunt 1991, p. 32). Regardless of the polemical atmosphere, it is now recognized that an alternative and formidable challenge to the status quo inquiry paradigm exists, referred to variously as a naturalistic, humanistic, interpretivistic, or constructivist approach, and subsumed here under the rubric of relativism. Both the dominant paradigm of positivism and its alternative, relativism, will now be briefly described.

Positivism versus Relativism

Positivism is based on a realist ontology, positing the existence of an objective reality that is "out there" (i.e. separate from observers) and subject to natural universal laws. Discovering the "true" nature of this reality and how things "really" work is the ultimate goal of positivist researchers. This leads to approaches to theory development and verification that attempt to "predict and control" phenomenon (Hendrick and Jones 1972; Hunt 1983; Rudner 1966). This ontological assumption gives rise to an epistemological approach of "objective" understanding, whereby the researcher attempts to place himself or herself outside of said "true" reality, observing how things "really are" as unobtrusively as possible. Since the world is exceedingly complex and human observation is prone to error, a methodology is selected that attempts to control these aspects, and is typically realized through controlled manipulations conducted through experiments. By broad consensus and verified by even a cursory examination of academic literature, positivism is considered to be the dominant paradigm in social science and, concomitantly, marketing and consumer behavior (Anderson 1986; Arndt 1985; Deshpande

1983; Guba 1990; Hirschman 1986; Hudson and Ozanne 1988; Hunt 1991; Mick 1986; Ozanne and Hudson 1989; Peter and Olson 1983; Thompson, Locander, and Pollio 1989; Venkatesh 1989).

The alternative to positivism, relativism, is based on an ontological assumption of constantly changing realities that are localized and contextual, being socially and experientially constructed by individuals. Since realities are dynamically constructed, so too is the relationship between the researcher and phenomena. A subjective epistemology is assumed, linking researcher and phenomena in an idiosyncratic, transactional process that gives rise to findings that are generated in typically "local" and constantly social contexts. The researcher and studied phenomena are understood as inseparable, effectively diffusing the conventional distinction between ontology and epistemology (Guba and Lincoln 1994, p. 111). Methodology flows from interactivity between researcher and phenomena in the form of a "back-and-forth" constructive process often referred to as hermeneutic analysis (Thompson 1997; Thompson, Locander, and Pollio 1989), relying on subjective and variegated accounts of lived experience by participants. The general research objective is a holistic and sympathetic account of individual experience, perhaps subject to dialectic contrast and comparison, arrived at through researcher insight and interaction with participants.

The two major families of perspectives are compared in Table 2-1. Through an integration of philosophy of science discussions from several sources (Deshpande 1983; Flint, Haley, and Mentzer 2000; Guba 1990; Hirschman 1986; Hudson and Ozanne 1988; Hunt 1994; Johne and Snelson 1988; Mentzer and Flint 1999; Peter and Olson 1983; Taylor 1994), a broad

description of the positions of positivism and relativism is presented. Although admittedly casting succinct generalizations in several areas, the intent is to provide a basic illustration of key concepts of each family.

Table 2-1 is arranged as follows: In the first column, a list of scientific activities and concerns is categorized into the six areas of *Ontology/Epistemology*, *Individuals*, *Researcher*, *Data*, *Research Design*, and *Research Outcomes*. The second and third columns represent the general positions of the dominant paradigm of positivism and the alternative paradigm of relativism, respectively. *Ontology/Epistemology* deals with notions of reality and the individual's relationship with what is known. The *Individuals* category highlights differences regarding freewill, behavior and humans as "flawed" observers. Next is a juxtaposition of *Researcher* characteristics, including relationships with phenomena, data and general approaches to investigation. Following this is a category illustrating differences regarding attitudes toward *Data*. Then, *Research Design* discusses tactical and technical differences between methodological and structural procedures in the design of research. The last category is a list of *Research Outcomes* that demonstrate diverse considerations of what research should produce.

Table 2-1. Characteristics of Positivist and Relativist Inquiry Paradigm Families[3]

Characteristic	Positivist	Relativist
Ontology / Epistemology		
Truth	Single "Truth" exists (even if it cannot be known)	Multiple, dynamic "truths" exist
Reality	Single, external reality; stable enough to make predictions	Multiple, dynamic realities; interpreted differently by each individual
Phenomena	Individuals separate from phenomena	Individuals linked with phenomena
Individuals		
Nature of Individuals	Deterministic, predictable, mechanistic; acted upon by external environment	Free-willed, spontaneous, creative; act on external environment
Behavior	Results from external causes which can be observed, quantified	Results from social construction of meaning understood through interpretation
Individuals and Reality	Reality external to individual experience and understanding	Reality is what individuals interpret it to be
Individuals Studied	Referred to as "subjects" who are studied by experts; assumes everyone is basically the same and looks for differences	Referred to as "participants" who are considered experts; assumes everyone basically different and looks for similarities

[3] Table adapted primarily from Taylor (1994) with contributions from Desphande (1983), Flint et al. (2000), Guba (1990), Hirschman (1986), Hudson and Ozanne (1988), Hunt (1994), Mentzer and Flint (1999), and Peter and Olson (1983).

Table 2-1. Continued

Characteristic	Positivist	Relativist
Researcher		
Researcher Orientation	Particularistic	Holistic
Ideal Researcher Skill Set	Numerical manipulation	Ability to detect patterns
Researcher Relationship with Phenomenon	Researcher and phenomenon are independent	Researcher and phenomenon are mutually interactive
Researcher Relationship with Data	Distanced; verification-oriented, confirmatory, reductionist, hypothetico-deductive	Intimate; discovery-oriented, exploratory, expansionist, inductive
Ideal Locus of Perspective	Objective; "outsider's" view	Subjective; "insider's" view
Researcher Values and Theory/Data	Possible and desirable to discover value-free objective knowledge; allow data to speak for themselves	Inquiry inherently value-laden; no pure "observation language" exists – all data is theory-laden
Data		
Role of Theory vs. Data	Theory precedes data	Data precedes theory
Role of Meaning	Limited or no role for meaning	Meaning is central concept; interpreted from data
Preferred Data Type	Numerical data, predetermined and collected methodically then manipulated using statistics	Spontaneously generated data in narrative form as described by participant
Nature of Data	Numbers and assigned numerical values; reports about phenomenon as proxied through numbers	Primarily verbal and visual; reports about phenomenon spontaneously discussed or acted out

Table 2-1. Continued

Characteristic	Positivist	Relativist
Research Design		
Preferred Methodology	Quantitative	Qualitative
Preferred Methods	Survey, questionnaire, experiments	Depth interviews, participant observation, ethnographic study
Research Procedure	Well documented and structured; confirmatory – moving from general to specific (hypothetico-deductive)	Iterative, dynamic and precluding step-by-step instruction; exploratory and emergent – moving from specific to general
Approach to Complexity	Reductionist	Expansionist
Research Orientation	Outcome-oriented	Process-oriented
Research Setting	Controlled environment	Natural environment
Nature of Observation	"Seeing is believing."	"Believing is seeing."
Path to Knowledge	Precise measurement and statistical testing (confidence & signficance levels)	Intepretation of meaning through researcher insight and sensitized conceptual awareness
Measurement Instrument	Created (e.g. scale, survey, simulation)	Researcher
Primary Logic Process	Deductive	Inductive

Table 2-1. Continued

Characteristic	Positivist	Relativist
Research Outcomes		
Ultimate Goal	Prediction, control of external facts and causes	Understanding, meaning originated from within participants
Criteria for "Goodness"	Accuracy, reliability	Usefulness, validity
Knowledge Application	Universal; attempt at generalizability to greater population (i.e. central limit theorem) ideally across time and contexts; theories and laws have broad application	Idiosyncratic; attempt at generalizability to phenomenon bound by time and context; theories are "circumscribed"
Theory Range	Primarily formal; grand theories idealized	Primarily substantive; mid-range theories possible while formal/grand theories unlikely

Inquiry Paradigm for this Dissertation

It should be noted that since the families of perspectives represent the ends of a philosophy of science continuum, few researchers would claim to be "pure" adherents to either positivism or relativism per se, but would likely find themselves aligned *more toward* one end or the other. This dissertation is situated toward the relativist end of the continuum, and will now be "qualified" in comparison to a staunchly polarized position.

While typically asserting multiplicitous interpretations of reality, an "extreme" or purist relativist stance might entail wholesale doubt of the existence of a physical reality at all, leading to the adoption of an "anything goes" attitude toward knowledge claims (i.e. "nihilistic" or "judgmental" relativism; see Barnes and Bloor 1982; Knorr-Cetina and Mulkay 1983). This extreme position is rejected in favor of a more realist approach, tempered by the recognition that individuals *construct* multiple and dynamic interpretations of what might be a single, physical reality. Hence, while an objective reality is recognized as existing "out there," sometimes called "the situation as it exists" in symbolic interactionist phraseology (Charon 2007, p. 44), of primary importance is what reality *means* to individuals and societies, and how they act based on those subjective meanings. Put differently, this research assumes individuals have frequently changing unique interpretations of reality, and dispenses with any attempt to discern *the* one "true" reality. To that end, in spite of recognizing that some phenomena exhibit consistency in some scenarios that might be measurable across time, it is the position of this dissertation to assume that what is "real" or "true" for an individual or group of individuals at a given time in a

given situation may not be "real" or "true" for those same individuals, or certainly other individuals, at a different time in another situation (Flint et al. 2000, p. 17; Taylor 1994, p. 267).

Continuing to "qualify" this dissertation's relativist-oriented inquiry paradigm, it should be noted that grounded theory methods, which will be used in this research and discussed at length later in this chapter, could be seen by some relativist researchers as exhibiting certain positivist tendencies. While still maintaining a solidly interpretivistic stance, grounded theory departs from a common goal for many relativists of primarily localized description and "understanding," to embrace more explanatory aspirations via an integrated framework that can be used to explain or predict phenomena (Glaser and Strauss 1967, p. 3; Strauss and Corbin 1998, p. 22). In addition, grounded theorists stress the "usefulness" of giving "the practitioner understanding and some control of situations" and making sure theory and subsequent hypotheses are "clear enough to be readily operationalized in quantitative studies when these are appropriate" (Glaser and Strauss 1967, p. 3). This bent toward verification, prediction, control, and possibly quantification of generated theory that ultimately lead to aspirations of middle-range and even formal theory (Glaser and Strauss 1967, pp. 32-34), are indicative of traditionally positivistic pursuits. Still, grounded theory's core paradigmatic characteristics place primacy on the assumptions of dynamic and socially constructed realities, interactivity of researcher and phenomenon, and inductive, emergent conceptualization of meaning and theory about human behavior and social processes. It is an inductive methodology that respects empirical experience of participants and although exhibiting some positivist characteristics, is still quite compatible with a relativist inquiry paradigm.

The preceding discourse on inquiry paradigms will now be brought together with a discussion of the phenomenon of interest from Chapter One to present a rationale for the chosen research methodology.

Strategy for Choosing Research Methodology

The strategy for choosing a research methodology for this dissertation was guided by three major criteria: (1) the researcher's overarching worldview or inquiry paradigm, (2) the specific nature of the phenomenon and established research problem, and (3) an understanding of extant perspectives and research efforts toward the phenomenon. In short, methodology was selected based on how the researcher's approach to knowing the world, the nature of the particular part of the world he/she is considering, and how other researchers have or have not so far approached the phenomenon.

The first criterion, addressing basic philosophical assumptions (i.e. inquiry paradigms), was discussed at length in previous sections of this chapter. Clandestine as they may be in most research, inquiry paradigms nonetheless act as inescapable primordial determinants of methodological choices, directing research design decisions regardless of whether the investigator acknowledges their presence and influence. Following on ontological and epistemological assumptions, *methodological* inclinations are brought to bear in forming complete inquiry paradigms. The adoption of a primarily relativist inquiry paradigm points to the use of inductive and qualitative methods as ideal for understanding the dynamic, socially-

created reality of individuals [4] (Creswell 2003, p. 18; Deshpande 1983, p. 114; Reichardt and Cook 1979, p. 9, 10). As will be demonstrated more clearly later, qualitative methods are also conducive to the symbolic interactionist perspective that will be adopted for this research.

The second criterion pertains to the nature of the research problem, which was articulated in Chapter One "Purpose of the Research." To recapitulate, the goal of this dissertation is to understand the ongoing experience and meaning of consumer-mobile technology device interaction as it occurs within and has an effect on the greater context of consumers' everyday lives. The nature of this research problem insinuates a holistic and experiential understanding of an intimate, potentially complex, and contextually-bound process. As Bonoma (1985) points out, given such conditions, qualitative inquiry is congruous with attempting to obtain "fuller contextual sense" (Miles 1979) and "deeper understanding" (Geertz 1973) of the phenomenon under study (p. 203).

The third and final criterion deals with the amount and quality of attention the phenomenon has received in prior research. The conventional wisdom among "eclectic paradigm" scholars and even open-minded positivist researchers is that qualitative methods are ideal when little is known about a phenomenon (Bonoma 1985, p. 201; Creswell 2003, p. 22; Stern 1980; Strauss and Corbin 1998, p. 11). As per the overview of perspectives presented in

[4] Specific inquiry paradigms are generally, but not always, aligned with specific methodological approaches. Creswell (2003) points out that "the knowledge claims, the strategies, and the method [i.e. the inquiry paradigm] all contribute to a research approach that *tends* [original emphasis] to be more quantitative, qualitative, or mixed" (p. 18). The labels of the methodological approaches (i.e. "quantitative" and "qualitative") are often used to describe the paradigms themselves (i.e. "positivism" and "relativism," respectively), an interchangeability that further demonstrates their accepted cohesiveness. Given that tendency, however, caution should be used when inferring inquiry paradigms based on the *methods* employed in the research. Positivist research can and does take advantage of certain qualitative methods and relativist researchers will consider the use of quantitative data, all the while maintaining paradigm assumptions (Guba 1990, p. 22; Hudson and Ozanne 1988, p. 514).

Chapter One, attention to consumer interaction with mobile technology devices has been scarce, or at least limited to addressing only isolated technical aspects or abstractions of the phenomenon. Particularly glaring is the lack of representation from the disciplines of marketing and consumer behavior regarding this popular product category. As Creswell (2003) indicates, "if a concept or phenomenon needs to be understood because little research has been done on it" and/or "the researcher does not know the important variables to examine," then the research merits a qualitative approach (p. 22). Hence, as a relatively under-examined phenomenon, qualitative methods are deemed appropriate for this study.

Summary

In conclusion, paradigmatic assumptions are complete: This dissertation acknowledges dynamically constructed realities, understood through the interpretation of intimate consumer experiences with the phenomenon. Those experiences are understood and explained through the use of qualitative research methods. With these assumptions as a backdrop, attention will now turn to an even more specific, sophisticated, and refined paradigmatic perspective that serves as a useful theoretical lens through which to explore the phenomenon of consumer interaction with MTDs: symbolic interactionism.

Symbolic Interactionism

Introduction

Central to the primary research objective of this dissertation is the attempt to understand the meaning that ongoing interaction with mobile devices has for consumers. Briefly discussed in Chapter One as it relates to interaction and social objects, the perspective of symbolic interactionism will now be explored further. It will be shown that symbolic interactionism is a useful "theoretical lens" through which to view the process of meaning-making, particularly as it relates to interaction with social objects. Symbolic interactionism is an intellectual descendant of the philosophy of pragmatism, and acts as a more specific, sophisticated, and "applied" instantiation of the relativist inquiry paradigm influencing this research.

Essentially, symbolic interactionism is concerned with understanding the meanings people attribute to actions, events, objects, and others, particularly, and inevitably, as those meanings are constantly negotiated and constructed through interaction with self, others, and the environment. Similar to the "realist" relativist paradigm adopted in this dissertation, symbolic interactionism assumes that although reality has objective qualities, not everyone sees or understands things the same way (Sandstrom, Martin, and Fine 2006, p. 1). The history and application of symbolic interactionism will be explored next, followed by an outline of its central ideas, and concluding with considerations for application toward the phenomenon of consumer interaction with MTDs.

History and Application

Symbolic interactionism has roots in the American philosophical tradition of pragmatism. Pragmatist philosophers such as Charles Peirce (1839-1914), William James (1842-1910) and John Dewey (1859-1952) challenged the predominant positivist inquiry paradigm in social scientific inquiry by presenting a relativist position on the nature of reality. Following on these intellectual predecessors, George Herbert Mead (1863-1931) brought pragmatist views squarely into the domain of sociology, particularly through his teaching at University of Chicago. Mead (1934) emphasized the distinct qualities of humans as "symbol users" and the reliance on social interaction for shared meaning. One of Mead's prominent students, Herbert Blumer (1900-1987), distilled and extended Mead's and earlier pragmatist writers' work into a set of ideas he coined as "symbolic interactionism" (Blumer 1937). He wrote the definitive book on the topic, titled appropriately Symbolic Interactionism (Blumer 1969), which effectively became the primary reference for the perspective.

Symbolic interactionism has experienced extensive application in its originating discipline of sociology as well as the fields of social work, education, and communications. A journal dedicated to the use of symbolic interactionism in research has been in publication for three decades. However, the perspective has seen little use in business research, save for a few workplace investigations (Cossette 1998; Fortado 1992), leisure studies (Collinson and Hockey 2007; Kyle and Chick 2007) and consideration for application to innovation studies (Flint 2006).

Central Ideas of Symbolic Interactionism

Despite debate and variations on the perspective since its incept, most symbolic interactionists rely on three basic premises laid out by Blumer (1969). These premises will first be summarized before exploring their relationship with the phenomenon of consumer interaction with MTDs. The three basic premises are:

1. Human beings act toward things based on the meanings those things have for them.
2. The meaning of such things is derived from, or arises out of, social interaction that one has with one's fellows.
3. Meanings are handled in, and modified through, an interpretive process used by the person in dealing with things he [or she] encounters (1969, p. 2).

Although the premises are interrelated and manifest simultaneously, they will next be explained individually.

Symbolic Interactionist Premise 1

"Human beings act toward things based on the meanings those things have for them."

The first premise starts out by asserting that people *act* toward things. For symbolic interactionists, humans are considered to be purposive, participatory beings who act *toward the situations* they find themselves in. Behavior (i.e. action), as opposed to being the result of psychological factors (i.e. stimuli, attitudes, conscious/unconscious motives, perception, cognition), is considered to be the result of meaning given to a particular situation, built up or constructed by the actor "on the spot."

Continuing with the verbiage of the first premise, such action is directed toward *things* based on meaning those things have for individuals. In symbolic interactionism, "things" are more specifically referred to as objects. "Objects" have a special definition in symbolic interactionism and include not only physical entities, but also "anything that can be designated or referred to" (Blumer 1969, p. 68). Objects could be other people, ideas, words, actions, expressions, fantasies, thoughts, values, situations, technologies and even an individual's "self." Although objects may exist in some objective form (i.e. "as they are"), of importance to symbolic interactionists is what an object means to an individual. Objects take on meaning based on their potential use in a given situation. Blumer (1969) provides some examples: "A tree is not the same object to a lumberman, a botanist, or a poet; a star is a different object to a modern astronomer than it was to a sheepherder of antiquity …" (p. 69). In other words, an object changes for humans not because the *object* changes, but because people change their definition of that object. To be sure, "most physical objects have an almost infinite number of possible uses; thus, they have an almost infinite number of social meanings …" (Charon 2007, p. 47).

Symbolic Interactionist Premise 2

> ***"The meaning of such things is derived from, or arises out of, social interaction that one has with one's fellows."***

Symbolic interactionism refers to objects as having "social meaning" (Charon 2007, p. 47). This implies that meaning is not intrinsic to an object, but arises through social interaction with it. We learn what things are, and moreover how to use them, through our ongoing interaction with others. For example, at an early age we might learn what a cup is (and how to

act toward it) based on early social interaction of watching and being around others who use cups. As we grow up, we learn to manipulate language ("words" are the objects here) through learning and interaction with (i.e. speaking with) others. At a later age, we learn how to drive a car (the act of "driving" as the object) based on a process similar to learning to use a cup as a toddler: through watching and working with others (i.e. social interaction). The meaning of an object for a person "grows out of the ways in which other persons act toward the person with regard to the [object]" (Blumer 1969, p. 4).

Symbolic Interactionist Perspective 3

> ***"Meanings are handled in, and modified through, an interpretative process used by the person in dealing with things he [or she] encounters."***

The third premise involves perspectives. It is asserting that all attempts at meaning occur through a process, or lens, of interpretation by the person who is making meaning. Meaning, whether considered to be intrinsic or constructed socially, must still be understood by the actor. This meaning-making process occurs in two steps, as outlined by Blumer (1969). First, out of the range of possible social objects in a given situation or environment, the actor indicates to himself which ones are important (i.e. which ones have meaning to him/her). This happens through interaction with "the self" by way of an "internal dialogue" of intrapersonal communication. Second, by communicating with himself/herself, meanings are assigned to objects according to the situation the actor is in and the intention of his/her action. Of key importance is the fact that interpretation does not involve the automatic application of meaning

as it is embedded in objects, or even in the actor's psyche, but rather is constructed through a combination of self-interaction and the frontier of possible actions in a situation.

These three interrelated premises are equally important to the actualization of symbolic interactionism and set the stage for how consumer behavior (i.e. human action) is generally understood in this dissertation. Considerations for how the greater inquiry paradigm of relativism and the more refined perspective of symbolic interactionism integrate with the methodology of grounded theory will now be explored.

Compatibility with Philosophy and Methodology

Symbolic interactionism, from its very foundations in pragmatist philosophy, assumes a relativist paradigmatic perspective. It is not only compatible with the relativist inquiry paradigm assumed in this dissertation, it enables it. In contrast with the positivist approach, characterized by Blumer (1969) as the "predominant posture of psychological and social science" (p. 2), where humans are considered to be "born … shaped and, as an adult directed" (Charon 2007, p. 36), symbolic interactionism promotes the more relativistic view of "immediate situational factors" as causing human action. To demonstrate the instantiation of the two views as they pertain to social psychological behavior, Charon (2007) summarizes Warriner (1970)'s conceptualization of the "stable human" versus "emergent human" (2007, pp. 35-36). According to the traditional, positivist-oriented "stable human view," human action is deterministic and personality is generally stable, subject to earlier "natural" or "nurtured" influences. On the other hand, the "emergent human view" understands the human as influenced by current situations, symbolic

interpretation, thinking, and ongoing social interaction. The two views are presented in Figure 2-1.

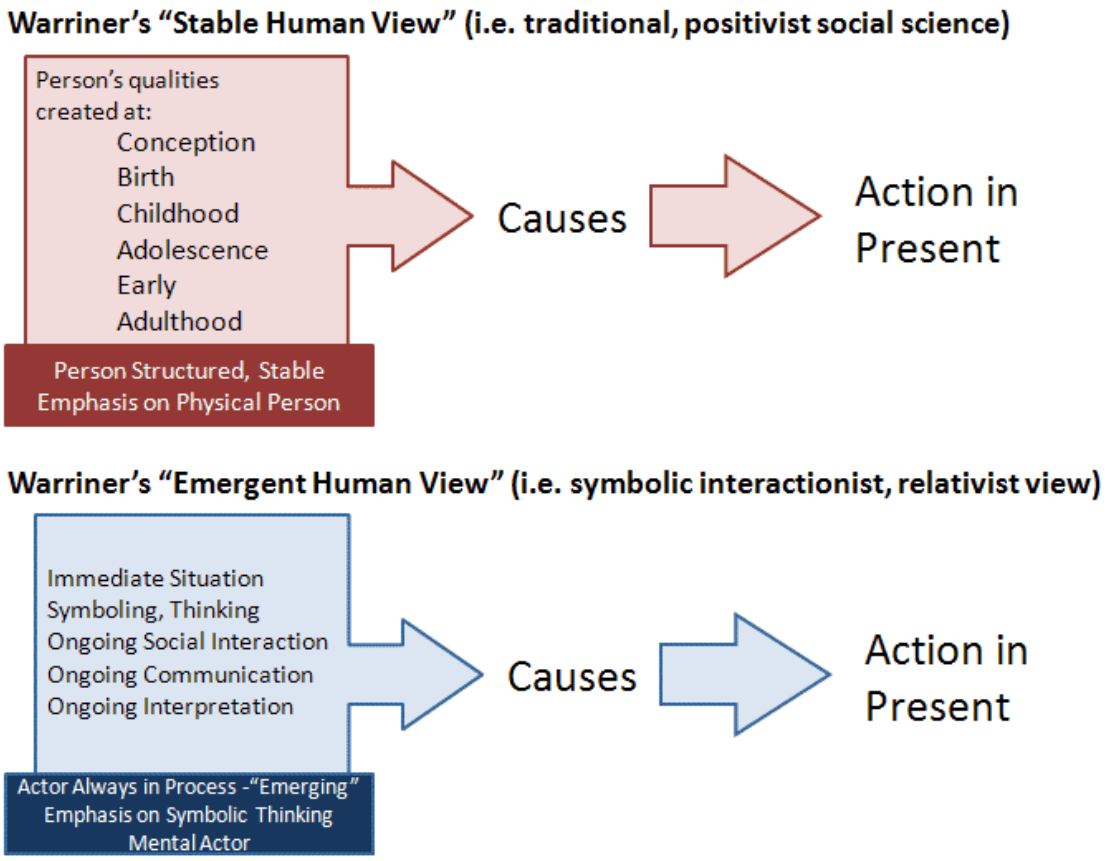

Figure 2-1. Warriner's "Stable" versus "Emergent" Views of Human Behavior (adapted from Charon 2007)

The "Emergent Human View," represented in the lower half of Figure 2-1, is conducive to the symbolic interactionist perspective. Actions in Present are caused by actors who are always in the process of acting, bringing to bear Ongoing Interpretation of objects (i.e. Symboling) and Ongoing Communication and Social Interaction with others in the Immediate Situation. This view of human behavior represents an integration of the relativist inquiry paradigm and symbolic interactionist perspective that generally guides this dissertation.

Methodologically, symbolic interactionists tend to divest of conventional hypothetico-deductive (i.e. positivist) scientific protocol for conducting research. Instead, they advocate that the researcher place himself/herself as much as possible in the position of the persons studied in order to understand human behavior and meaning-making. This is usually accomplished through naturalistic inquiry, a relativist methodology that focuses on human behavior as situated in natural social settings. More specifically, Blumer (1969) categorized naturalistic inquiry into two primary activities: exploration and inspection.

"Exploration" involves immersion into the setting to get a feel for "what's going on" in the world of participants. The goal is for the researcher to be sensitized to the conditions and perspectives of the people he intends to investigate. A range of data-gathering techniques are advocated, including interview, participant observation, access to artifacts, and group discussions. "Inspection" is the systematic analysis of the empirical data gathered during the exploratory efforts. A surfacing of "analytical elements" should occur, leading to a conceptual understanding of the phenomenon of interest. Blumer's relatively "loose" treatment of methods set the stage for the popular and more rigorous approach to qualitative research known as

grounded theory. Discussion will now turn to the topic of grounded theory, the methodology used in this dissertation.

Grounded Theory Methodology

Introduction

Introduced over 30 years ago in an effort to close "the embarrassing gap between theory and empirical research" (Glaser and Strauss 1967, p. vii), grounded theory is a general methodology for generating theory that is empirically grounded in data. Through a rigorous, dynamic, and iterative process of data gathering and analysis, emphasis is placed on developing a theoretical framework that inductively emerges during the course of the research process, not merely as a result of it. The technical centerpiece for enabling this emergent theory is the constant comparative method (Glaser and Strauss 1967, pp. 101-116), which involves systematic investigation of similarities and differences among incidents found within and across data sources. This process will be explained more thoroughly in a later section. Since the inception of the methodology, a number of guidelines and procedures have been developed by the co-founders to aid in applying grounded theory (Glaser 1992, 1998, 2001; Strauss and Corbin 1998), although by design considerable latitude and flexibility in leveraging grounded theory still exist for the researcher.

Grounded theory is but one way of conducting qualitative research, although it differs from other qualitative methods based on its primary objective of theory development and verification. While utilizing data sources akin to other qualitative methods (e.g. interviews, field

notes, observational data such as photographs and video), and relying similarly on participant-generated description and narrative, grounded theory emphasizes the emergences of at least substantative, and perhaps more formal theory to explain the social psychological processes of a human activity (Glaser and Strauss 1967; Strauss and Corbin 1994, 1998). Thus it departs from most ethnographic, case study, and phenomenological approaches which are often concerned with primarily descriptive objectives. While discovery is a key mandate of grounded theory, the ongoing process of deductive verification and subsequent conceptualization throughout the course of the research effort is a notable feature distinguishing grounded theory from other qualitative approaches (Mello 2006; Strauss and Corbin 1994).

History and Application

According to its founders, Anselm L. Strauss (1916-1996) and Barney G. Glaser (1930-), grounded theory was not invented, but rather "discovered." This humble characterization is much in the spirit of the method of grounded theory itself, emphasizing emergence of findings, as opposed to *a priori* assumptions. The founders explain that the impetus for discovery was based on a general discontent with the atmosphere of sociology in the decades leading to the method's inception, as documented in The Discovery of Grounded Theory (Glaser and Strauss 1967).

At the time of the method's founding, sociology departments in academia were focusing heavily on verification-oriented research, with a "zeal to test either existing theories or a theory that they have barely started to generate" (p. 2). Many sociologists were involved in the promulgation of grandiose "great men" theories from the likes of Marx, Weber, Durkheim and

Veblen. Teaching these theories with "charismatic finality that students could seldom resist," Glaser and Strauss accuse many professors of training "potentially creative students" for the task of "puzzling out small problems bequeathed to them in big theories" (p. 10). This led to heavy reliance on a few theories to cover a wide range of social life, many of which did not "fit" or "work" due to their lack of grounding in the data.

In addition, the founders of grounded theory were influenced by Herbert Blumer (1900-1987), prominent sociologist previously mentioned in relation to his work on symbolic interactionism. Blumer also expressed concern over the growing distance between "common sense generalizations" and data found in the field (Blumer 1967). His criticisms were instigated by seemingly haphazard sociological research and particularly dissatisfaction with "ungrounded theories" found therein (Glaser and Strauss 1967, pp. 12). Blumer (1940) challenged scholars to develop "rich and intimate familiarity" with phenomena of interest by "sticking close to the data being studied" (Glaser and Strauss 1967, p. 14 footnote). Blumer's challenge supported Glaser and Strauss' concern about over-emphasis on verification-oriented research at the cost of neglecting theory generation, and served as the impetus for formulating the general method of grounded theory.

Blumer's inspiration was likely to resonate most closely with Strauss, who studied at the University of Chicago, Blumer's alma mater and an institution with a history of promoting qualitative research, specifically with regard to "getting out in the field" to discover what was really going on with complex human phenomenon (Carey 1977). It was there that Strauss acknowledges being "strongly influenced by the interactionist and pragmatist writings" of not

only Blumer, but other intellectual predecessors of symbolic interactionism such as Dewey (1922), Mead (1934), and Park (1967) (Stern 1994; Strauss and Corbin 1998). Considering Blumer's emphasis on increased phenomenal intimacy and conceptualization tied closely to data, grounded theory placed procedural primacy on emergent, iterative, and inductive theoretical development. This process corresponds neatly with the symbolic interactionist position that symbolic meaning is emergent, iterative and based on dynamic action by individuals. Precepts of symbolic interactionism such as "people act according to the meaning things have for them" and "meaning is defined and redefined through interaction" directly inform grounded theory (Glaser and Strauss 1967, pp. 12-15; Strauss and Corbin 1998, pp. 9-10). In sum, it could be argued that grounded theory is the methodological offspring of the sociological perspective of symbolic interactionism, which itself is couched in a largely relativist inquiry paradigm, creating a synergistic fit among paradigm, perspective, and method.

Providing a rigorous yet flexible approach to data gathering and analysis, grounded theory has been demonstrated as one of the most popular and cross-disciplinary forms of qualitative inquiry. Its origin in sociology was initially applied to examine the experience of dying hospital patients (Glaser and Strauss 1970, 1974), and was followed by application to a wide range of other sociological phenomena (Broadhead 1983; Cauhape 1983; Charmaz 2005; Clarke 1990a, 1990b; Corbin 1992; Fujimara 1987; Glaser 1972; Hall 1992; Lessor 1993). It has also been subject to extensive use in many other disciplines including, but not limited to, psychology (Fassinger 2005; Frontman and Kunkel 1994; Henwood and Pidgeon 2006; LaRossa 2005; Rennie and Fergus 2006; Timlin-Scalera et al. 2003; Van Vliet 2008; Ward 2005),

anthropology (Bernard 2002; Ekins 1993; Lester and Hadden 1980; Smith and Pohland 1976), nursing and medicine (Biernacki 1986; Charmaz 1987; Corbin and Strauss 1991; Fagerhaugh and Strauss 1977; Fagerhaugh et al. 1987; Rosenbaum 1981; Strauss et al. 1985), business and management (Goulding 2002; Hallier and Forbes 2004; Martin 2007; Mehmetoglu and Altinay 2006; Pauleen 2003; Shah and Corley 2006; Sousa and Hendriks 2006; Suddaby 2006), logistics and supply chain operations (Davis and Mentzer 2006; Flint et al. 2005; Flint and Mentzer 2000; Fugate, Sahin, and Mentzer 2006; Losch and Lambert 2007) and marketing (Anitsal and Flint 2005; Corsi and Martin 1982; Elliott and Yannopoulou 2007; Flint, Woodruff, and Gardial 2002; Goulding 1999; Holt 1995; Lynda and Maree 2008; Rosenbaum 2006; Schouten 1991b; Simpson and Licata 2007; Ulaga 2003; Valor 2007).

During its evolution, grounded theory has diverged along two general paths based primarily on differences in approach by its founders to coding techniques. While the break in opinion on how to do grounded theory resulted in so-called "Glaserian" and "Straussian" approaches, the gist of the difference between the two is based on Glaser's advocacy of open and flexible techniques in coding versus Strauss' introduction of a more structured coding paradigm. Mello (2006) provides extensive treatment of the history and implications of the differences between Glaserian and Straussian approaches to grounded theory. For this dissertation, data was collected and analyzed in keeping with the tradition laid out in the original text on grounded theory (Glaser and Strauss 1967) and Glaser's subsequent writings on the emphasis of "emergence versus forcing" of theory (Glaser 1992, 1998, 2001). In general, this Glaserian or "classic" grounded theory approach involves a "looser" and more flexible process of

conceptualization of the data, following "a few simple rules of constant comparison and emergence" (Glaser 1992, p. 101) versus a more prescriptive and description-oriented coding scheme as presented by Strauss and Corbin (1998).

In the next section, guidelines for how grounded theory was applied in this dissertation are presented, including selection of research phenomenon, choice of settings and participants, exposition of procedures for data collection, coding and memoing, and guidelines for theoretical development. The initial interview guide used for data collection is also presented and discussed. Finally, the criteria used for judging the quality of the research, compared with subsequent post-research results, is presented.

Grounded Theory Guidelines

As with any rigorous research methodology, a set of "fundamental processes" is involved in properly conducting grounded theory research (Glaser 2001). These processes include establishing theoretical sensitivity (Glaser 1998, pp. 67-80), theoretical sampling (Glaser 1978, pp. 36-54; Glaser and Strauss 1967, pp. 45-77), coding (Glaser 1998, pp. 55-141), memoing (Glaser and Strauss 1967, pp. 108, 112), sorting (Glaser 1998, pp. 187-192), which all contribute to conceptual emergence (Glaser 1998, pp. 133-156) and development of substantive and possibly formal theory (Glaser and Strauss 1967, pp. 21-43 & pp. 79-99). These "core" grounded theory processes are presented within an overall framework of research activities outlined in the follow steps:

1. Establishing the research problem and context.
2. Choosing a research setting and participants.
3. Choosing data collection methods.

4. Enhancing theoretical sensitivity.
5. Conducting sampling.
6. Collecting data.
7. Analyzing data.
8. Writing up and diagramming theory.
9. Evaluating research trustworthiness.

While these items are listed sequentially, several feedback loops exist within and across the processes. For example, the researcher is constantly moving back and forth between data collection (step 6), analysis (step 7) and sampling (step 5). All nine steps are outlined in the next sections, accompanied by descriptions of how they were applied in this dissertation.

Establishing the Research Problem

The first step in the research process is establishing the research problem. This includes selecting a phenomenon, reviewing perspectives on the phenomenon, explaining philosophical and methodological approaches, and selecting proper methods. These issues were addressed in Chapter One. To re-capitulate, this dissertation is concerned with the meaning consumers ascribe to interaction with mobile technology devices. The phenomenon is understood more specifically through the lens of symbolic interactionism as an ongoing stream of interaction with social objects that occurs within the greater context of goal-oriented daily life. It was established that this is a contextually-sensitive phenomenon about which knowledge and theories are sporadic and lack integration. Such a complex, holistic, and understudied social phenomenon, especially as viewed from a symbolic interactionist perspective, is an ideal candidate for application of grounded theory methodology (Flint 1998; Goulding 2002).

Choosing Participants and Research Setting

For this dissertation, consumers were sought who not only possessed an MTD that meets the criteria outlined in Chapter One, but also exhibited the willingness and ability to discuss their experiences with it. Unlike most positivist-oriented research, exploratory, qualitative research typically does not seek generalizability of findings to a greater population. Rather, enough participants are recruited to provide a substantial understanding of experience with the phenomenon. This precludes efforts to obtain a sufficient quantity of "randomized" subjects in order to achieve statistical conclusion validity by adhering to principles of the central limit theorem. Instead, the quality of individuals and their experience is paramount, and participants are sought would can provide rich, "thick description" (Geertz 1973) of the phenomenon of interest.

Given the importance of obtaining a "sample" of the experience of consumer interaction with MTDs, it might seem reasonable to seek consumers who are the most likely to use MTDs. As MTDs are innovative products, it would seem appropriate to seek out innovative consumers. In laymen's terms, these users are "tech geeks." New product development and marketing constituents label them as "lead users." Lead users have been shown to demonstrate an affinity for and thus early adoption of technology, prompted by a synergy of the Veblenian notion of conspicuous consumption (i.e. "Gotta be the first to have it"; Brown 1998; Chaudhuri and Majumdar 2006; Levinson 2006) as well as innate innovativeness and motivations intrinsic to the products themselves (Bruner and Kumar 2007; Franke, von Hippel, and Schreier 2006; Morrison, Roberts, and Midgley 2004; von Hippel 1986).

While some practitioners and academics have studied lead users in an effort to understand directions for future markets, the position taken in this dissertation was to use caution in assuming lead users are indicative of major market characteristics. Based on research in innovation diffusion by Rogers (1995), some industry experts have argued against the assumption, instead taking the position that innovative products often fail to close the gap between early adopters and the rest of the market (Cooper 2004; Moore 1999b). Asserting that design of innovative technology products is primarily the domain of engineers, resulting in products that appeal primarily to technology-oriented enthusiasts, these industry advocates call for more successful marketing to mainstream markets by understanding and designing to them instead. Moore (1999b) describes this process as "crossing the chasm" from early adopters to more mainstream markets necessary to sustain sales (see Figure 2-2).

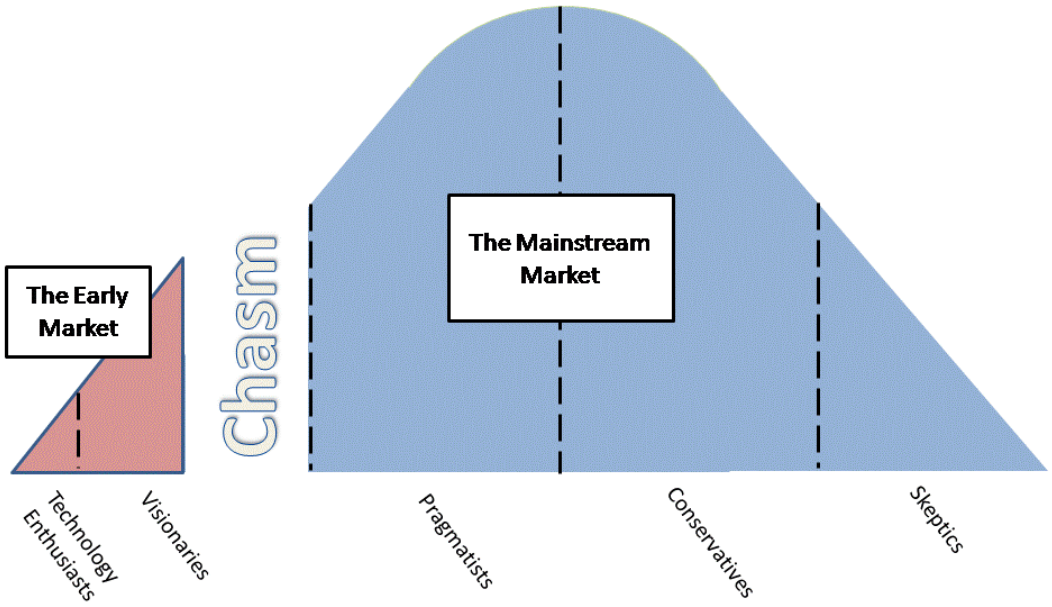

Figure 2-2. Moore's (1999) Interpretation of Rogers' (1995) Adopter Categories with "Chasm" Between Early Market and Mainstream Market

Since capturing a breadth of experience with the phenomenon was a goal in choosing participants, this dissertation approached qualifying consumers who could be characterized as being in *any* of these market segments, not just those who demonstrated an overt enthusiasm for the products. Thus, participants were recruited who cut across a range of consumer archetypes, including varied demographic, geodemographic, psychographic, and lifestyle characteristics. Participants were assessed or overtly asked to indicate their degree of enthusiasm or "lead user status" in order to ensure inclusion of Moore's "Early" as well as "Mainstream" markets (1999b).

Finding this diversity of experience with products as pervasive as MTDs allowed for a wide range of possible research settings. However, in the interest of efficiency, locations were sought that were "pregnant" with opportunity for finding willing and able participants. In an effort to effectively isolate and select a diverse set of qualifying participants who reside in a relatively centralized and accessible location, many participants were recruited from corporate environments. While groups of consumers can be found to gather in other locations such as schools or shopping centers, corporate environments yielded a quickly accessible and prominent base of individuals who owned and used MTDs. Although MTDs are no longer the exclusive domain of professionals, and other groups such as students have adopted the technology as well, working professionals were found to have high motivation and adequate economic ability for owning and using MTDs. Note that while many participants were recruited from a business setting, they did not interact with MTDs exclusively for work-related purposes. Rather, as with the state of increasing "work-life integration" in general, interaction with MTDs, even if originally intended for "professional" use, was found to blur the lines between work and home life. To be sure, this topic emerged as a prominent category in the proposed theory and will be discussed further in Chapter Three.

Specifically, two preliminary corporate locations were identified: a small industrial imaging company in a large metropolitan city, and a large chemical production corporation in a small rural city. Both cities were located in the southeastern United States. These particular locations were chosen for three reasons. The first reason is based on the researcher's contacts within the organizations. Due to the nature and length of data gathering, a personal contact

within each organization was key to finding participants who were willing and able to give up their time for the initial interview and be committed to potential follow-up inquiry. Second, the locations were chosen based on the nature of their respective businesses. Neither of the two organizations are considered to be "technology" companies per se. Therefore, they exhibited a wide enough range of participants so as to capture not only "lead users," which might be more prominent in a technology company, but late market adopters as well. Third, based on personal contacts within the organizations, the opportunity for successful network sampling was increased. Network sampling is purposive participant recruitment where selected participants are asked to point to others, either inside or outside of the organization, who might have experience with the phenomenon. Network sampling resulted in the recruitment of the remainder of the participants in the research, diversifying the domain of experience with MTDs as well as extending the research settings. Thus, the corporate environments served as a starting point for participant recruitment that eventually cut across many contexts.

Choosing Data Collection Methods

Grounded theory accommodates many data types for analysis, including interview texts, "field" artifacts and documents, observational data, other studies, library materials, and even quantitative data (Glaser and Strauss 1967; Goulding 2002). The type of data and techniques for acquiring it are largely left to the researcher's discretion. To help facilitate theory emergence, Glaser and Strauss (1967; Strauss and Corbin 1998) and other qualitative researchers (Arnould and Wallendorf 1994; Denzin and Lincoln 1998; Lincoln and Guba 1985; Maxwell 1996b) advocate using multiple data sources to fill in "gaps" that might occur when relying on a single

source. This study employed three sources of data, in descending order of prominence: interviews, observation of participant activities, and secondary data sources. Interviews and observation were synergistic, providing an opportunity for the researcher to ask about observed behavior and likewise confirm statements made by participants based on their actions. Secondary data, typically from MTD-related internet forums, were used to supplement and cross-check (i.e. "theoretically sample") primary findings from interviews and observations. The following sections outline specifics for each method.

Interviews

The core technique in the qualitative researcher's tool kit is the interview. As Morrison et al. (2002) point out, "Interviewing is considered one of the primary data collection methods in qualitative research" (p. 59). The interview provides a flexible framework to "delve deeply into the everyday worlds of meanings constructed by participants" (p. 46) in an effort to "to understand a participant's world in the way and in the concepts that a participant uses" (p.47). If conducted properly, the interview elicits a "thick, rich description" (Geertz 1973) in the person's own words, providing the researcher with an "insider's view" of "the mental world of the individual to glimpse the categories and logic by which he or she sees the world" (McCracken 1988b, p. 9).

The successful qualitative interview avoids assumptions, conjecture, and postulation on the part of the researcher and instead allows the participant to describe "what really is" according to them (Morrison, Haley, and Sheehan 2002). This amounts to capturing the reality and meaning of the participant according to the participant, a primary goal of this study. While the

researcher can certainly tease out patterns and organize categories of meaning, and even build theory about social processes, it is done within the context of the participant's descriptions and not *a priori* hypothetical deductions by the researcher. The transcribed interview serves as a text of the participant's world that allows the researcher to see and stay close to the data, thus ideal for use with grounded theory methodology (Strauss and Corbin 1998).

Interviews are not without weaknesses, however. Participants might assume the proverbial role of "official interviewee" and anticipate the "official interviewer's" reasons for the interview, subsequently trying to guess the "desired" answers. In other words, participants might attempt to oblige the researcher with what they think he or she wants to hear. They might also simply engage in boasting, exaggeration, or even outright fabrications while taking advantage of the "spotlight" they are in as an "interviewee." Skilled researchers can address these issues by ensuring that the interview is conducted from the interviwee's perspective, allowing the interviewee to become a *participant* in the conversation as opposed to a "research subject." Also, these behaviors should be considered as potentially integral to the phenomenon. Why a participant is boasting, "second-guessing," or basking in the opportunity of the interview are all worthy of reflection.

Another disadvantage of the qualitative interview, and many other research processes that involve gathering data from people, is the fact that participants face time scarcity and privacy concerns. As a function of living in modernized, "fast-paced" societies, it is likely that "respondents lead hectic, deeply segmented, and privacy-centered lives" (McCracken 1988b, p. 10). McCracken goes on to state, "Even the most willing of [participants] have only limited time

and attention to give the investigator" (p. 10). Similarly, participants might be reluctant to reveal sensitive issues or give access to home, work and families. Essentially, an interview that goes far enough to establish rapport and capture the essence of a phenomenon might exceed the time or comfort zone of the participant. As such, "social scientists are denied the opportunity of participating as observers in the lives of many of the people they wish to understand" (McCracken 1988b, p. 11). While other methods of analysis such as mailed or phoned questionnaires or surveys might be able to circumvent the logistical constraints of time and place, and perhaps even address privacy concerns through anonymous distribution, such methods are unlikely to provide the context, interchange, subsequent detail and overall nuance necessary to understand the lived worlds and social processes that interviews typically allow.

Interviews conducted as part of this dissertation occurred in primarily face-to-face situations, and occasionally by phone or email. In all cases, an individual profile was created for each participant, accompanied by field notes and an initial interview guide which was subject to modification during the interview. The interview guide and the procedures that were employed in using it will now be discussed.

Interview Guide Specifics

While allowing interviews to be a flexible and "informal, interactive process" that utilizes "open-ended comments and questions" (Moustakas 1994, p. 114), qualitative interviews generally employ some type of interview guide. Though it was subject to change due to the dynamic nature of conversational interviews themselves, a preliminary interview guide used in

this research can be found in Appendix A. Details about the various sections of the guide and will now be discussed.

Interviews typically began casually in an effort to establish rapport, and as such broad biographical questions about life, work or family were asked early on (McCracken 1988b, p. 34; Morrison, Haley, and Sheehan 2002, p. 48). More specific biographical and demographic information were then weaved in to the early rapport-building conversation, providing insight into potentially relevant lifestyle characteristics and serving as a repository of pertinent personal information that could be brought into the discussion at a later juncture. Collecting this "basic" information up front also allowed for easy reference of key facts during the analysis stage. These questions are found in Section A of the interview guide.

Next, the guide included nondirective inquiries often referred to as "survey" or "grand tour" questions (Fetterman 1998, pp. 40-42; Spradley 1979, pp. 86-87). These questions were intended to keep the conversation open and participant-directed, without "overspecifying the substance or perspective" of the topic (McCracken 1988b, p. 34). While general in nature, these questions provided a framework for keeping the conversation within the domain of the phenomenon of interest. The outline is non-sequential and provided "planned prompts" or "something to push off against" during appropriate points of the conversation (McCracken 1988b, p. 35). In general, as the qualitative interview progressed, "what [was] asked next [was] always based on what the participant just said" (Morrison, Haley, and Sheehan 2002, p. 50). While participants led the discussions in relation to their personal experiences with MTDs as it

related to what was going on in their lives, the interview guide served as a "rough travel itinerary" of prompts and probes to keep the interview on track (McCracken 1988b, p. 37).

Specifically, prompts and probes were of three types: contrast, category, and exceptional events, as outlined by McCracken (1988b, p. 35-36) and summarized here. Contrast prompts utilized *emic* descriptions (i.e. words used by the particpant) and asked for divergent conditions (e.g. "What is the difference between category X and category Y?"). Category prompts attempted to elicit formal characteristics or properties of described occurrences and phenomena, assuming grand tour questions were inadequate in uncovering such specifics. They helped uncover how a respondent defined or gave meaning to key actors, central action, important social objects, and significant conditions and consequences. Variations on these characteristics surfaced as interviews progressed, resulting in inevitable "on the fly" modification to the interview guide. Finally, exceptional incident prompts asked the participant to recall "strange" or "exceptional" occurrences as they related to the phenomenon. An effort was made to assess the meaning of countered expectations (e.g. "Why was it surprising?" "What was most striking?"), providing in many cases new directions of inquiry. Section B of the interview guide contains the "grand tour" questions and response prompts.

Since the phenomenon of interest was the *interaction* with a physical object, the technique of "auto-driving" (McCracken 1988b, p. 36-37) was also used, as presented in Section C of the interview guide. Auto-driving is a prompting strategy that involves asking participants to respond to a stimulus, providing a commentary or account of they see. For this research, the stimulus was the actual mobile technology device itself. Where appropriate, participants were

asked to produce their MTD and refer to it during the interview. Bringing the device to the foreground seemed to cause participants to think more deeply about the phenomenon. In a previous study on mobile technology (Rader 2007), it was discovered that participants expressed the desire to handle their devices and refer to them while they were being interviewed. Not only was the discussion that unfolded while auto-driving important, but also the behavior exhibited while interacting or referring to the device. This observation activity is discussed next.

Observation

In addition to observing use of mobile devices during interviews (i.e. "auto-driving"), formal participant observation of MTD interaction was included as a source of data for analysis. Direct observation can be an effective method for gathering data regarding behavioral aspects of a phenomenon, and serves as a useful supplement to self-reports (Fetterman 1998; Lofland 1976; Russell 2002; Spradley 1979, 1980) and is particularly underutilized in marketing and consumer research (Hirschman 1986, p. 237). Participant observation can be seen as representing a range of observation, from distanced to completely engaged activity (Hirschman 1986; Spradley 1980). This continuum mirrors the depth and richness of information gained, from limited and superficial to direct, first-hand experience with a phenomenon (Hirschman 1986, p. 247). Participant observation couched on the participatory end of the continuum is often favored by symbolic interactionist researchers, where gathering data from participants while interacting with them is *de rigueur* (Adler and Adler 1994, p. 378)

Due to the potentially sensitive nature of data that might reside in mobile technology devices, and concomitant privacy concerns, observation in this study occurred from a relatively

distanced perspective, although still "participatory" in the sense that it was accompanied by "informal interviews" via "casual conversations" (Fetterman 1998, p. 38). Close up, more engaged activity was also curtailed by the fact that the physically proximal nature of holding and using a small, portable electronic device typically limits interaction by more than one person at a time. However, where permitted by participants, observation also included watching "over the shoulder" as interaction occurred. In fact, many participants invited such observation while interacting with specific applications in support of their comments.

During and after participant observation, an observational protocol for recording data was used. This involved taking notes of both a descriptive and reflective nature, recording what was seen as well thoughts about observations. Other demographic information was recorded, such as time, place, date, and other characteristics regarding the physical location of the observation.

Secondary Data

In addition to the primary data collection methods of depth interviews and observation, information was gathered from internet web sites and popular press articles related to mobile technology devices. Particularly, online discussion forums containing conversations among consumers of MTDs proved to be a useful source of additional data. Effectively, the forums served as venues for distanced observation as no interaction transpired between the author and forum participants.

Additionally, popular press articles and essays were taken from non-academic publications such as magazines and newspapers. This included product reviews, editorials, and newsworthy accounts related to MTDs. Where they was used in this dissertation, these articles

were properly cited. The secondary data sources served as a useful supplement to interviews and observation, and often provided a means for "validating" findings as part of selective coding and theoretical sampling efforts. A key dictum in grounded theory is that "all is data" and the method not only accepts, but advocates use of such "alternative" data sources (Glaser and Strauss 1967, pp. 161-183).

Enhancing Theoretical Sensitivity

The concept of theoretical sensitivity is a major characteristic of grounded theory methodology. Theoretical sensitivity is concerned with the issue of the researcher's awareness and knowledge of theories, experience and information that is or could be brought to bear on the current research. As opposed to holding personal knowledge and experience in abeyance to avoid bias, grounded theory promotes the careful application of the researcher's existing knowledge base to the phenomenon under study. In short, it requires the researcher to be theoretically sensitive to what could be occurring in the data so as to engender emergence of concepts and theories, while at the same time preventing premature or unrelated conjecture.

Theoretical sensitivity is developed by familiarizing oneself with various bodies of literature, both related to the focal discipline as well as theory farther afield, so as to become adequately familiar with the "received" understanding of the phenomenon and build rapport with participants. This must be kept in balance with avoiding preoccupation with extant "pet" theories (i.e. what Glaser refers to as a "conceptual grab"; Glaser 1998, p. 70) and as a result losing sensitivity to other theories which might be applicable to the phenomenon. The ideal balance is discovering grounded theory that places primacy on concepts emerging from the data

while leveraging some extant theory that might also be useful in understanding the phenomenon (Glaser and Strauss 1967, p. 46). The fountainhead of theory development is always the close analysis of the data combined with "sensitive insight of the observer" (Glaser and Strauss 1967, p. 251).

In addition to attempting to avoid preconceived ideas originating from extant research, grounded theorists should attempt to avoid bringing existing preconceptions and expectations that are a result of previous experience or exposure to the phenomenon. Through a process known as "bracketing," qualitative researchers attempt what Husserl (1962) and other phenomenological researchers would refer to as a "transcendental attitude." The idea behind bracketing is to suspend, as much as possible, one's preconceptions and biases. To do this, the researcher must first make those preconceptions explicit in "as clear a form as possible" (Valle, King, and Halling 1989, pp. 10-11). This "self confession" provides an explicit rubric for facilitating "stepping back" and reflecting on whether an interpretation is sufficiently reflected in the data or is an artifact of the researcher's bias (Strauss and Corbin 1998, p. 45).

Theoretical Sensitivity Considerations for this Research

Theoretical sensitivity is a delicate balance between being objective while remaining sensitive. Theoretical sensitivity in this research was attempted through two activities: the review of perspectives outlined in Chapter One and a bracketing exercise. In an attempt to be simultaneously aware but also ready to ignore the literature (Glaser 1998, pp. 67-79), a caveat was provided in Chapter One that addressed the necessity of considering the reviewed perspectives with caution. The option was reserved to integrate said perspectives, or dispense

with them completely. Only ongoing analysis of the data dictated which path was taken. While some of the initial perspectives proved useful, others were altogether abandoned. Importantly, theory and concepts extending beyond the scope of the initial reviewed perspectives were sought out and integrated with the substantive theory that emerged, as will be demonstrated in Chapters Three and Four.

Additionally, a bracketing interview was conducted with the dissertation advisor and the resulting transcript is included in Appendix B. Notably, the author is not an MTD user and exhibited a degree of ambivalence with regard to the usefulness of MTDs, although he has had exposure to the products in the past. This facilitated rapport with participants without seeming to advocate use of or particular consumption scenarios with the devices.

Conducting Sampling

Sampling, or selection of participants for the research, was described earlier as being based initially on a purposive approach to finding consumers who were likely to have experience with the phenomenon, in initial locations where a concentrated number of such candidates congregated. Specific criteria for participant selection were utilized by the personal contacts inside the two aforementioned organizations in an effort to locate work associates who were known to use mobile devices on a regular basis. As MTD usage in a work environment is typically visible to others, inside contacts relied on "reputation" as well as direct observation of "frequent" or "regular" interaction with MTDs. Based on the widespread adoption and conspicuity of such products in corporate environments, an earlier study (Rader 2007) found this to be a simple but effective "first cut" at recruiting participants.

Inside contacts also screened candidates who are willing and able to participate in a lengthy interview. Upon initial contact by the author, candidates were asked for an estimate of frequency of usage of their mobile technology device. Those claiming to use their mobile devices on at least a daily basis were included in the study. An effort was also made to find people who represented a diverse range of demographic and lifestyle characteristics. Continuing to utilize inside contacts, as well as initial participants, resulted in network, or "snowball" sampling, where recruiting proceeded from initial participants to other key informants they pointed out as potential candidates for the research. The following list of criteria was used to select candidates for the research:

1. *Reputation*: Is this person known to use mobile devices?

2. *Visibility*: Has this person been seen using mobile devices? (Assuming the devices are a part of their lives and they are not just a casual or infrequent user, it is expected that they will be visible at some point during the work day.)

3. *Frequency of Use*: Does this person use the device on a "regular" basis? (Note that, more specifically, "regular" use entails at least once a day.)

4. *Diversity*: Is this person representative of a diverse demographic/lifestyle range? (i.e. diversity in gender, race, age, position within company, job description, experience level with technology)

5. *Willingness/Ability to Participate*: Will this person be willing to share their experiences and participate in a potentially lengthy interview?

After data analysis began, theoretical sampling was employed, described as "the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them" so as to develop emergent theory (Glaser and Strauss 1967, p. 45). Conceptual indications as a result of initial coding were

used to guide subsequent data collection, driving the selection of groups, persons, or resources to turn to next for pursuit of conceptual category saturation (Glaser 1978). Theoretical sampling naturally resulted in recruiting participants beyond the two organizations that served as initial research settings.

Collecting Data

The primary data collection method for the study was interviews. It was preferred to conduct interviews in person, but some were facilitated by phone where face-to-face meetings were not possible. Interviews were recorded using a small digital voice recorder. While real names were captured at the onset of the interview, they were later replaced with pseudonyms for reference in analysis and presentation of the research. The interviews were transcribed verbatim by the author. Participants were given the opportunity to retract any or all data provided for the study. Participants were aware at all times that data was being collected for this particular study and no persons were involved who had not given express permission to be included in the study.

Participant recruitment continued until theoretical saturation occurred. Theoretical saturation means no additional data were being found that resulted in additional properties of a conceptual category. A repetition of instances with marginal novel contribution to the category is an empirical indication of theoretical saturation (Glaser and Strauss 1967, p. 61). McCracken provides a heuristic predicting eight interviews as the conceptual "saturation point" (McCracken 1988b). Other qualitative researchers similarly describe robust and conceptually rich data in the first few interviews, with diminishing returns thereafter (Krueger 1994, p. 88), and a "typical" grounded theory investigation possibly requiring up to 20 to 30 interviews (Creswell 2003, p.

56). This dissertation involved 26 interviews with 20 participants. Their pseudonyms and basic demographic information are included in Appendix C.

Field notes accompanied all data collection efforts. In addition to "contextual" considerations of environmental conditions, behavioral effects, and the general tone of the interview, notes were also captured that included the researcher's ideas and musings. The process of note-taking followed provisions set out by Barnard (Barnard 2002), and fit into one of two categories: journal entries and field notes proper. A journal was used to capture personal thoughts and feelings as the research was conducted, whether or not they are related directly to a particular aspect of the research. Creating an entry for each day that research was underway at a separate time from research activities (e.g. day's end) provided information to help interpret field notes and make the researcher more aware of personal biases. The journal offered a convenient comparison to the previously mentioned bracketing instrument. Proper field notes were written before, during, and after research activities and consisted of methodological notes (i.e. dealing with techniques in data gathering and ongoing modifications to the research process), descriptive notes of "what's going on" that resulted from watching and listening during data gathering (including participant observation efforts), and analytic notes that indicated the researcher's thoughts and ideas that were of a conceptual or theoretical nature.

An effort was made to digitize all collected data for posterity's sake and ease of analysis. All interviews were recorded digitally and saved as audio files. Transcriptions of the audio files were saved as electronic documents. Field notes were taken on regular notepads and scanned as

digital images. The software packages *Microsoft OneNote 2007* and *QDA Miner v. 3.0* were used to organize and analyze all data.

Analyzing Data

Glaser and Strauss (1967) and Glaser (1978, 1992) promote approaching the investigation as openly as possible in terms of the way initial data is analyzed. The first few interviews proved instrumental in understanding broad characteristics about the phenomenon and promoting theoretical sampling. Analysis proceeded as collection of data primarily in the form of interviews, line-by-line inspection of interview transcripts to identify codes, and recording of researcher thoughts and insights in the form of memos. This network of activity evolved as an iterative, nonlinear process of moving back and forth between and among these tasks. The process can be thought of as a "zig-zag" of gathering information from the field, analyzing data (i.e. coding, recording memos), going back to gather more data, conducting further analysis, and so forth (Creswell 2003, p. 57) As this occurred, the author followed the method of "constant comparison" (Glaser and Strauss 1967, pp. 101-115), looking for conceptual categories that ultimately led to theoretical propositions and verification in an effort to develop a theoretical model. These data analysis activities will now be discussed in more detail.

Coding

Coding is used by qualitative researchers to uncover "meaning units" or constituents of experience that emerge from the data and are clustered into common categories or themes (Moustakas 1994, p. 118; Polkinghorne 1989, p. 54). The process is essentially an exercise in

pattern-finding, where "codes conceptualize the underlying pattern of a set of empirical indicators within the data" (Glaser 1978, p. 55). Coding is an area where the Glaserian and Straussian procedures for grounded theory diverge. Strauss and Corbin (1998) dictate a more structured and prescribed approach to coding, whereas Glaser approaches the process in a more open and researcher-directed manner (Glaser 1978). While the Straussian approach provides a clearer set of procedures to follow which may be welcome in light of the daunting task of analyzing the data, the trade-off is in reduced flexibility and what Glaser (1992) calls "forced description versus emergence" (Glaser 1992) of theory. The "classical" approach to grounded theory coding is prescribed by Glaser (Glaser 1978), and was used in this dissertation based on its focus for remaining as open as possible to conceptual emergence.

The Glaserian grounded theory approach followed in this dissertation resulted in a relatively straightforward coding procedure. The first step was "open" coding which led to emergent categories and properties facilitated by theoretical sampling. After emergence of core variables, the next step was "selective" coding, which was directed toward the discovery of a "core category" (Glaser 1978, p. 93) that tied the concepts in the research together. This process will be examined further.

Open coding is described by Glaser as "coding the data in every way possible" or "running the data open" (1978, p. 56). By nature, this process is contrasted with applying preconceived codes or concepts. In a line-by-line inspection of the data, the author "fractured" data into "analytic pieces" which could then be coded into as many categories as necessary (p. 56). New categories were constantly emerging at this early stage, and new incidences were

found to fit existing categories. The goal was maximizing possibilities of fit, with workable categories being allowed to emerge on their own as dictated by the data, not outside theory or ideas.

Open coding involves constantly asking the data questions, both at a microscopic and macroscopic level (Glaser 1978, pp. 57-58). The questions used to constantly query the data gathered in this study included: "What is this data a study of?" "What category does this incident indicate?" and "What is actually happening in the data?" This line of inquiry drove pattern-finding efforts within the data, at a line-by-line level and also upon inspecting the entire data set as a whole.

Open coding set the stage for theoretical sampling. Theoretical sampling involved the use of extant analysis to drive the direction of further inquiry. The sampling was "controlled" by the emerging theory, and newly collected data was integrated into extant categories and their properties until theoretical saturation was attained (Glaser 1978, pp. 45-77; Glaser and Strauss 1967). Emerging categories, and particularly pending convergence on a core category, served as the guide for where to sample in order to further substantiate the surfacing theory.

Selective coding picked up where open coding left off. As analysis proceeded, emergent categories began to congeal around a core variable that explained the maximum variance in the phenomenon. Other variables were not lost, but were demoted and subsumed within the domain of the core variable. Selective coding meant focusing analytics on the emerging core variable, effectively limiting coding to "only those variables that relate to the core variable in sufficiently significant ways to be used in parsimonious theory" (Glaser 1978, p. 61). At this stage, the core

variable served as a guide for further data collection and theoretical sampling, which in turn led to further refinement of the developing theory. This build-up of emergent categories which led to a core category is based on the foundation of the constant comparison technique.

Constant Comparison

Constant comparison is the process of comparing incidents found in the data to previous incidents and categorizing them according to whether they fit an existing or warrant a new code, property or category. Categories themselves are compared and assigned in a similar manner. Constant comparison "literally forces generation of codes" (Glaser 1978, p. 57). It is facilitated by the "concept-indicator model" as depicted in Figure 2-2. In this dissertation, empirical indicators in the data were compared to one another and subsequently categorized. Categories were in turn compared to one another to converge on a core category. Note that the depicted model is a simplification of the constant comparative process and collapses several layers of conceptual code development, such as property-category development. However, it represents the basic process for constant comparison, regardless of the level of abstraction.

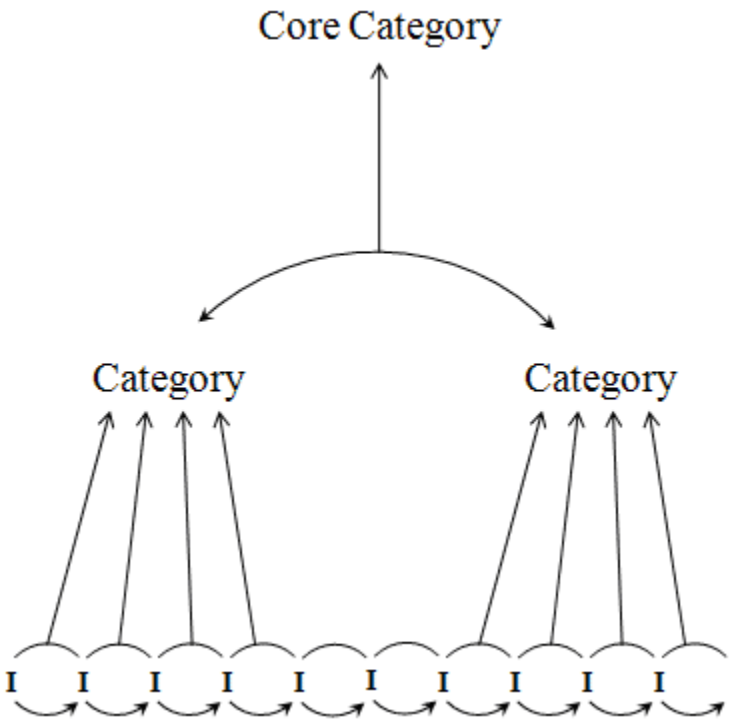

Figure 2-3: Concept-Indicator Model (adapted from Glaser 1978)

Memoing

Throughout the data analysis process, the author was constantly taking note of ideas, insights, relationships, and potential new directions. These were captured in memos which served as "field notes" for the data analysis process. Of importance was the role of memos in theoretical development. As thoughts and ideas were captured, early theorization based on emergent findings in the data began to take place "in the marginalia" which were represented by memos (Glaser 1978). Memos were written about whatever topic and in whatever format

deemed appropriate, and served to "[capture] the frontier of the analyst's thinking … as they strike [him] while coding" (Glaser 1978, p. 83).

Theory Development and Contextualization of Literature

As meanings emerged from data through open coding, analysis, theoretical sampling, memoing, and selective delimiting of codes, explanatory categories began to surface. At that stage, theoretical sorting occurred, where the author began to put "fractured data back together" in an outline to explicate the emergence of theory (Glaser 1978, p. 116). A conceptual ordering of memos took place, sorting and relating insight derived from the analysis. Theoretical sorting provided a generalized framework for connecting theory with the data for which it was reflective. More memos were generated which called on higher conceptual levels that further condensed the theory. During theoretical sorting, outside literature was brought to bear on the analysis. All claims to theory were integrated with their respective ties back into the data. Initial theoretical sorting began to construct the initial draft of this dissertation, illustrating an integrated theoretical model that explains the phenomenon (Glaser 1978).

Evaluating Research Quality

Inquiry paradigms differ in their approach to "goodness" of research, but they all typically exhibit standards by which to judge research quality. The standards of evaluation employed in this research are akin to criteria originating in general qualitative research and relativist inquiry paradigms (Lincoln and Guba 1985; Thompson 1990; Wallendorf and Belk 1989), and are modified for appropriateness of fit to grounded theory methodology (Glaser 1992,

2001). The criteria are: fit, workability, relevance, modifiability, and parsimony and scope. Of these, the first two are considered most important for grounded theory studies and together assert that the theory must *fit* the situation being researched, be *relevant* to the participants involved, and *work* in explaining the social psychological behavior of participants when put into use (see Glaser and Strauss 1967, p. 3). The criteria are presented in Table 2-2 and will now be described further, along with the measures taken in this dissertation to address them.

Table 2-2. Evaluation of Research Quality: Criteria and Outcomes

Criterion	Description	Outcome
Fit	Evaluation of how readily conceptual categories apply to and are indicated by the data; relies on interpretation	Multiple levels of interpretation intent on emergence of core category; conducted by author, grounded theory experts, and participants
Workability	Evaluation of theory's meaningfulness and ability to explain phenomenon under investigation	Member checks with participants supported relationships among proposed concepts
Relevance	Evaluation of the outcome of research endeavor's relevance to constituents, including scholars, practitioners and consumers	Relevance to scholars supported through diverse and nuanced emergent fit with extant theory; relevance to practitioners supported through depth understanding of consumer use scenarios; relevance to consumers through member checks and ongoing focus on participant concerns
Modifiability	Evaluation of theory's resilience to new indicators of participant experience	Continued rigorous focus on core category, as opposed to incidental variables, expected to support modifiability
Parsimony and Scope	Evaluation of maximum variation for explaining phenomenon using minimum necessary variables	Rigorous pursuit of core category gave rise to selective coding, resulting in extensive refinement of conceptual categories used to explain phenomenon

Fit

Fit is an indication of how well categories readily apply to and are indicated by the data. That a proposed theory corroborates with a substantive area of investigation is the primary requisite for a grounded theory study. Theories should be examined with respect to their correspondence with data so as to discern between what is empirically evident versus the deductive application of "pet theories" or supposedly bracketed assumptions. The concept of fit relies on the notion of interpretation. In an attempt to bolster the sophistication of interpretation in this study and rigorously converge on the core category of the theory, assessment of fit of indicators and conceptualization of categories occurred in three successive contexts.

First and foremost, the author interpreted and re-interpreted data in light of ongoing data collection, analysis, and theoretical sensitivity to the literature, adhering to the precepts of the Glaserian tradition of grounded theory methodology (Glaser 1978, 1992, 1998, 2001). Conceptual primacy was always given to the problems being processed by participants *as described in their experiences* over any theories or frameworks that might have been found in the literature or recommended by outside counsel. In short, participant data were held sacred. Where *a priori* ideas, concepts, constructs, and theoretical positions made sense as candidates for possibly supplementing or juxtaposing the emergent theory, they were given consideration via grounded theory's constant comparative method (Glaser 1992, 1998) and were required to earn their way into the discussion like any other conceptual idea. However, they were not necessarily accorded preeminence due to expert speculation on their supposed "likelihood" of fit or

preponderance of their use and claims of relevance in other areas. Concepts presented in the theoretical framework presented here are relevant not because of their reverence to extant theory, but in their "*connections* to other variables" (emphasis in original, Glaser 1978, p. 137) in the current theory.

Second, supplements to the author's interpretation and conceptualization occurred through counsel of experienced researchers expertly versed and published in the methodology of grounded theory, including the author's dissertation chair as well as Dr. Barney G. Glaser, PhD, co-founder of the grounded theory methodology. Dr. Glaser currently oversees a limited number of yearly troubleshooting seminars held exclusively for dissertation-seeking PhD candidates who are using grounded theory. As an attendee of the seminar in October 2008, the author was fortunate to have Dr. Glaser and an experienced international team of grounded theory troubleshooters review, code, and help provisionally conceptualize excerpts of participant indicators with a focus on emergence of the core category.

Third, "member checks" were conducted in later stages of data analysis with four key informants in the study, where preliminary models of the theory were presented, discussed and modified. Special attention was given to participants interpretation of the meaning of conceptual categories, with improvements to descriptions and integration of *emic* terminology surfacing as a result. Although not all categories affected all participants, member checks resulted in the proposed concepts “making sense” to participants regardless of their degree of experience in all aspects of the model.

Workability

A study that is workable will be meaningful and able to explain the phenomenon under investigation. Data collected from participants should not present obscure representations of actions, definitions and meaning. Certainly at a substantive level, findings should be accessible not only to the scholars but also participants and "significant laymen" (Glaser and Strauss 1967, p. 3).

Workability was assessed in this study through the member check process described in the previous section. In addition to their input on interpretation of categories, participants also provided feedback on the relationships between categories. In other words, they validated the workability of the theory itself. Special attention was given to conceptual saturation of categories and the extent to which some concepts varied across experiences.

Relevance

Relevance applies to at least three constituencies: scholars, practitioners, and consumers. The phenomenon of interest was selected and justified in large part based on its increasing relevance to these three groups, as outlined in Chapter One. In the remaining chapters of this dissertation, relevance for scholars of several disciplines is highlighted through the integration and emergent fit of extant theory with the substantive framework of the current theory. Importantly, alternative paradigmatic considerations for viewing the act of consuming MTDs are suggested, providing nuanced conceptualization that is congruent with newly emerging perspectives on re-evaluation of the very assumptions of the marketing discipline. Early

evaluations by the dissertation chair and scholars comprising the dissertation committee also lent support and direction for academic relevance.

Relevance for practitioners is supported through the illumination of in-depth exposure to both idiosyncratic and more generalized consumer interactions with mobile technology devices. Insight into novel use scenarios, grievances, creative co-optation, and uneven progress along unexpected “adoption” paths provides insight not only for producers of the devices per se, but also other technology products that are either convergent with or provide functionality similar to MTDs. The implications, and therefore relevance, to practitioners receives more extensive treatment in Chapter Four.

Lastly, relevance was considered as it pertained to consumers themselves. Throughout the research, participants were assumed to have significant substantive knowledge as "localized experts" regarding their interaction with mobile technology devices and all efforts at conceptualization attempted to maintain reverence for their expertise and associated trials and tribulations with MTDs. The basis for the assumption that participants were experts and that conversations related to the phenomenon were relevant to them was supported as their stories unfolded in an easy, enthusiastic, inquisitive, and conversational manner, ripe with insight and "thick, rich description" of the phenomenon (Geertz 1973). As participants' experiences were evaluated and interpreted during data analysis, an ever-present mantra driving conceptualization was: "What is the basic social psychological problem(s) that are a concern to the participants as it relates to the phenomenon?" To this end, the goal of developing an explanatory theoretical

framework substantively grounded in the experiences of participants (and thus relevant to them) was accomplished.

Modifiability

The theory presented here should be understood as an empirically grounded but conceptually modifiable explanation of variation in patterns of behavior surrounding the focal phenomena. Grounded theory is not "proven," but rather *suggested* as a conceptual proposal based on systematic acquisition and interpretation of patterns of experience as grounded in the data. There are no overt claims as to the degree, level of intensity, relative prominence, or specific variance of concepts among or across participants. Nor are claims made or sought based on gender, race, age or other popular and speculative "face sheet" variables (Glaser 1978, p. 60) or moderating conditions, unless and until they emerged from and within the context of experiences as relevant to participants.

In light of this, however, through the criterion of modifiability, it is reasonable to expect that the framework presented here should be resilient to new or varied instances of the phenomenon. Such indicators could emerge from additional participant experiences, incidents in the literature, case studies, or other external sources. In other words, as it is proposed that the model converged on a workable and relevant core category, purposeful introduction of new indicators should be accommodated by the theory. If the theory is robust, the discovery of an "exception" should not weaken the theory, but instead modify it to increase its explanatory power (Glaser 1998, p. 76). Such "tests" of the modifiability of the model are welcomed and expected in the future.

Parsimony and Scope

A theory developed through research should account for as much variation in the phenomenon as possible with the least variables as possible. A well-developed theory should transcend and organize activity and behavior within its conceptual domain. Glaser (1978) describes this criterion as "theoretical *completeness* [original emphasis] – accounting for as much variation in a pattern of behavior with as few concepts as possible" (p. 93). Outlying, "loose" ideas and concepts, or what Glaser (1998) refers to as "non-earning" categories and properties (p. 148) that do not seem to converge on a core category should be either be integrated or abandoned.

This "pairing down" activity occurred in light of efforts to converge on the core category as described in the conversation on the criterion of "Fit" above. Concepts were always thought of as provisional and subject to constant revision, including the consolidation of codes through merging, splitting, or rejecting them all together. Beginning efforts at open coding generated an initial list of over 250 substantive and conceptual codes which were filtered down to the final framework comprised of one core category subsuming three stages comprised of a total of 22 properties. Qualitatively prominent indicators led to conceptually prominent codes that, although not necessarily grounded in the experience of *all* participants in the study, earned their way into the theory by being tested against future data. Ultimately, through many such revisions, all concepts came to fit within the core category, which provides parsimonious convergent explanation of the social psychological problem(s) processed in the action scene of interacting with mobile technology devices.

Chapter Summary

The intent of this chapter was to show how inquiry paradigms as rooted in philosophy of science can impact research approaches and outcomes. Additionally, methodological choices were shown to arise from criteria including assumed inquiry paradigms, the nature of the phenomenon of investigation, and the degree of extant research on the phenomenon. This research assumes a primarily "relativist" inquiry paradigm. More specifically, it employs the theoretical lens of symbolic interactionism through which to view human conduct. Conducive to both the inquiry paradigm and symbolic interactionist perspective, grounded theory methodology was selected for data collection and analysis. These three components articulate together to provide a cohesive framework for understanding and explaining the phenomenon of consumer interaction with mobile technology devices. Criteria for evaluating the outcome of the research effort were presented, along with measures taken to address them.

CHAPTER 3
CULTIVATING THE SELF

Chapter Outline

This chapter presents the proposed theoretical framework for explaining the majority of variance in the social psychological processes involved with the phenomenon of consumer interaction with mobile technology devices. In the nomenclature of grounded theory, this chapter explicates the *core category* and its properties as emergent from interpretation of the data. An explanation of the presentation of the theory precedes an overview of the core category proper, followed by an exposition of its various properties. Where relevant, extant concepts and theories from various literatures accompany the substantive explanation of the theory.

Understanding the Explanation of the Theory

A challenge in demonstrating the results of a holistic exploration of a phenomenon is the necessity of presenting academic information in a non-holistic manner. By nature, constituent parts of the phenomenon must be understood together as a whole and this produces the technical problem of needing to "show everything all at once." Holistic understanding of a phenomenon often requires perceiving how and why parts of a theory overlap each other and integrate together. In sum, the whole of the phenomenon is reflective of the parts and the parts are reflective of the whole. This quandary results in two general issues that should be addressed as a preface to the chapter: 1) apparent redundancy of excerpts and, 2) the whole-to-part/part-to-whole style of structuring chapters and sections.

Regarding the first issue, it should be noted that multiple indicators from the data can be used to illustrate a single concept, just as multiple concepts can be used to explain a single indicator. Although context is paramount in a holistic, exploratory study, the dictates of structuring information in a logical, digestible way require the use of data *excerpts*. Unlike the results of quantitative research, the "juicy bits" of a theory based on qualitative data are impossible to display in a convenient, condensed formula or table. Rather, a *bricolage* of related ideas is herein constructed, with explicit as well as implicit cross-references, resulting in incremental insight that is intended to lead to an understanding of the "big picture" by the conclusion of a section, chapter, and the dissertation itself. In spite of this disclaimer, an attempt was made to avoid redundancy as much as possible while still respecting holistic perspective. Unique indicators will be used as often as allowable and information will be presented in such a way as to provide a sequential, stepwise explanation of a theory that is anything but sequential and stepwise. What might be lost in the reductionist exercise of dissecting and inspecting at the microscopic level is hopefully gained in backing away from the phenomenon for an expansionist exercise of integrating and understanding at the macroscopic level.

As to the second issue, be aware that at the beginning of an explanation of the core category and in each section describing its properties, a high level category is presented in totality, with a brief summary of how the components of the category (i.e. its sub-categories, stages, or properties) fit together. Following this introduction is a discussion of relevant issues regarding the high level category, with a slant toward understanding it at a holistic level. Then, the various properties are isolated and receive attention, accompanied by relevant excerpts of

indicators from the data. Throughout these elaborations, where literature or extant ideas make sense in illuminating concepts, they are given due attention at that point, woven in to the discussion and "conceptually transcending, while grouping together, empirical articles" (Glaser 1978, p. 138). This foregoes the need for a separate literature review chapter, as per the dictates of grounded theory (Glaser 1978). Since this dissertation is conducted within the domain of marketing, special consideration is often given to seemingly related theory and ideas from marketing and consumer behavior literatures.

Overview of the Core Category of *Cultivating the Self*

> "So when they gave me this, I really complained because I don't like the layout of the device as far as using it for a phone. Because, you know, when I first got it, I just treated it as a cell phone because that's what I thought it was because that's what it was replacing. So I was just trying to use it as a cell phone. Then quickly I started realizing that I could use it for checking my email. Then from there, texting. I started using the calendar more. You know, for scheduling things. Then my contacts. One of the people here at work started telling me about these special PDA web pages for news sources and I put those in and that's been really helpful. So it's just been, you know, one thing at a time. I've not used the GPS function on this, but I know some other folks who've started using it and they've found it very helpful. So maybe that will be something new for me as well." (Barbara)
>
> "I couldn't live without it. Sometimes I have to stop and think how did I do it before this?" (Barbara, later in the same interview)

Barbara's experience reflects the process of *Cultivating the Self*, the core category of the theory of consumer interaction with mobile technology devices. In *Cultivating the Self*, consumers interact intimately with MTDs over time, investing "pieces of themselves" into the device in order to actualize goals, all the while becoming ever closer to the devices, both figuratively and literally. As this chapter unfolds, a conceptual specification of *Cultivating the*

Self will be presented and explained through a substantive framework of emergent concepts from the data along with extant ideas and theory from the literature.

Barbara's excerpt above, which will be subject to frequent elaboration throughout this chapter, contains indicators of all three sub-processes through which *Cultivating the Self* evolves: *Transitioning*, *Integrating*, and *Bonding*. These sub-processes can be roughly understood as interlaced stages and while they sometimes follow a particular order, they are by no means mutually exclusive or necessarily sequential. As ongoing processes, stages overlap such that properties of one stage can "cross over" into other stages and an instantiation of a property of a given stage can remain within the domain of that particular stage or carry through to any or all other stages.

The stages of *Cultivating the Self* are depicted in Figure 3-1: *Transitioning* in blue, *Integrating* in gray, and *Bonding* in red. The smaller, detailed images appearing inside the boxes are a representation of the properties, or sub-processes, of the stages. They will be presented in larger form at the beginning of each stage's respective section in the chapter.

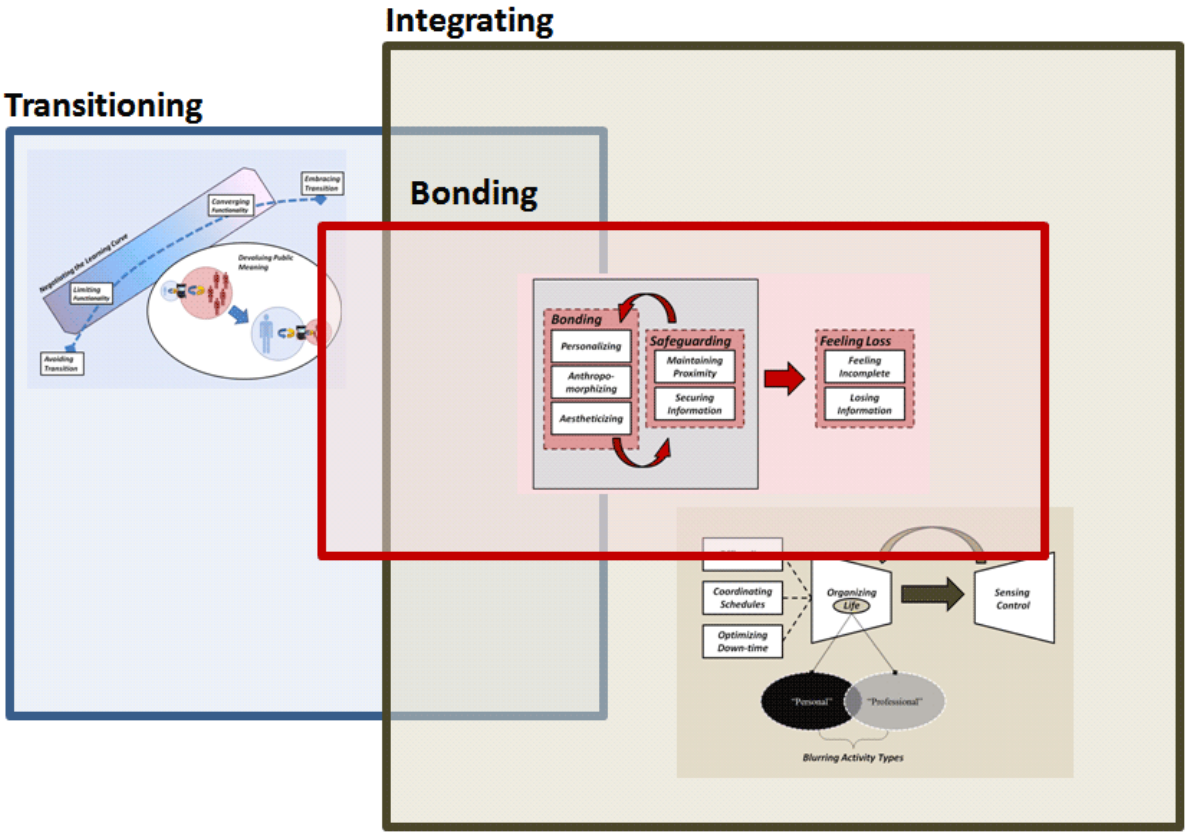

Figure 3-1. The Stages of the Core Category of *Cultivating the Self*

The rest of this chapter explains the core category of *Cultivating the Self* in detail. First, a general analysis of the overall substantive process of *Cultivating the Self* will be presented through a discussion of the prominence of MTDs in consumers' lives and a supporting selection of relevant indicators from the data. Following that, interdisciplinary findings are explored that can provide outside perspectives on the core category. Specifically, an examination of divergent structuralist and interactionist views of person-object transactions will reveal an emergent fit of extant theoretical concepts with key substantive aspects of the general process of *Cultivating the*

Self. Then, the remainder of the chapter explores in detail how the three stages of *Transitioning*, *Integrating* and *Bonding* integrate to form the core category of *Cultivating the Self*.

A Substantive Explanation of *Cultivating the Self*: "My whole *life* is in that thing."

Through interaction, consumers come to understand mobile technology devices as a central part of their lives. MTDs represent a flashpoint of capabilities. They are a means through which to manage schedules, organize tasks and projects, compile addresses and contact information, communicate with others, store and enjoy favorite photographs and music, connect to the internet and its vast resources, find places using global positioning system (GPS) technology, and be entertained in between by movies, books, radio, television and games.

While even a cursory examination of consumer interaction with MTDs will reveal such activities, consumers have also co-opted the devices in what could be considered unexpected and creative ways. Leveraging the portability and constant presence of MTDs, consumers use them to keep private diaries, track and be a reminded of medication regimens, list collections of comic books, stamps, coins and movies, catalogue and coordinate wardrobes, maintain recipes and grocery lists, remember gift preferences and past purchases, develop photo/audio/video journals, create art and poetry, compose songs, and write books, reports, homework assignments, and dissertations. In sum, MTDs facilitate a diverse accumulation of things that are important to consumers. As the following participants indicate, MTDs are both a repository and enabler of life-worlds:

> "Well, I have … as I would say, I have my whole *life* in that thing. *Everything* is in there." (emphasis original, Sheila)

"Everything I do is in the [MTD]. My entire life is in there." (Melissa)

"The [MTD] is a special thing. You put your life into it." (Kayla)

These participant indicators, along with Barbara's opening excerpt, allude to an interaction with mobile technology devices that is not sporadic or incidental, but constant and thoroughgoing. As this dissertation will continue to demonstrate, few products are as wholly involving or fundamentally important to consumers as their MTDs. Few products, as Kayla puts it, are as "special" or, as Levine here discusses, constantly present:

> "I'm a note-taker. That's how I use it. I pull it out, jot something in it … a quick note, a book to get, something I need to do later. Yeah, I mean it doesn't take me long to enter things. The speed is not what I like. It's the repository aspect of it. Because I like to have it all in one place and if I write it on a piece of paper, even if I write it in something like a [paper-based organizer], I might write it in one of ten different places – on the date page, or in the back or … whatever. In this situation, I'm always putting it in the same place, where I always know where it is." (Levine)

In a similar fashion, Sheila, who above asserts her "whole life" is in the MTD, continually tends to her device as she goes about her daily activities. Here, she explains how interacting with the MTD has impacted her through the years:

> "Gosh, I can't seem to remember life before it. I know I didn't have as much information at my fingertips. The things I needed. For instance, tracking my son's migraines and sharing that with his doctor. With this [MTD], I always log when he gets them and what events are associated with them and what part of his arsenal of medication he takes and whether or not it is effective. Before, I guess I could have had a list. Somewhere – maybe in a drawer. But just having it here and building it up over time. I mean, that's what I can *do* now." (emphasis original, Sheila)

Among many other ways she interacts with the device, Sheila has accumulated a detailed history of her son's migraine headaches and treatments. Describing her efforts in a much

lengthier conversation, she explained how over the course of years this ongoing effort has assisted her family and their doctor to better diagnose and help her son. The MTD has become an enabler for working through a severe and important problem that affects her and her family. While Sheila admits above that hypothetically she could have managed the same information through a paper journal or other means, it is the portability, seemingly limitless storage, centralized convenience, and additional value from other features that prompts her to diligently enter and maintain the information in her MTD, regardless of when or where her son experiences the ailment.

The gerund "cultivating" aptly connotes the absorbing, evolving, and culminating process that Sheila experiences. It is a concept emergent from and grounded in substantive actions; it is what consumers *do* with their MTDs. The organic nature of the metaphor should be carefully considered. Consumers do not merely "use" the MTD as a static receptacle to "save" information. Rather, *Cultivating the Self* suggests the more elaborate processes involved in selecting, arranging, classifying, updating, personalizing, sharing, correlating, reflecting on, agonizing over, and destroying information. In other words, these actions collectively constitute an effort not just to put things in the device, but rather to *tend* to those things, with the expectation and actualization of reaping rewards and gains from that effort.

Cultivating the Self is not a regimented concatenation of pre-arranged, specific inputs that lead to a single, consummate reward in finality. This would be akin to cultivating a single plant which grows to its peak and is perfunctorily harvested and consumed. Rather, *Cultivating the Self* is a process characterized by the unfolding interplay of interaction and reward, proceeding as

incremental engagement and continual, piecemeal deposits of resources accompanied by commensurate ongoing incremental benefits. *Cultivating the Self* is more like tending to a perennial garden that at various times and through the seasons bears the fruits of many different plants.

The relationship between interaction and reward is mutually dependent and exponentially cumulative. As consumers go through life engaging in everyday activities, they correspondingly interact with MTDs, integrating experiences from life into the device. As everyday activities from life are reflected in and managed through the devices, consumers respond to the devices by subsequently modifying their activities in everyday life, as Levine indicated in leveraging the MTD to prompt him for things he needs to do later. This change in everyday activities instigates further interaction with the device where it is updated according to the adjustments in activities and the cycle continues henceforth. In Sheila's case, the more and more precisely she manages, or tends to, her son's migraine history, the better her doctor is able to diagnose and prescribe appropriate medications and treatments, which gives her incentive to continue her diligence in tracking the activity through the device. A cumulative causation, or positive feedback loop, ensues where consumers experience increasing gain in value over time as they continue to interact and invest more of themselves into the device. Kayla succinctly supports this notion, discussing her experience of initially transitioning to the MTD:

> "In the beginning I'd sometimes leave it at home. But the more I used it, the less I'd want to do that." (Kayla)

The preceding discussion and presentation of empirical indicators emerge from the three stages that comprise *Cultivating the Self*. Those stages, their respective properties, and relevant indicators will be presented later in this chapter to provide further substantiation of the evolving process of *Cultivating the Self*. However, prior to that elaboration, attention will turn to exploring how extant literature might illuminate the powerful impact of MTDs on consumers' lives that has been illustrated thus far. The aim of the exploration of literature is to provide theoretical tractability for the general notion of *Cultivating the Self* outlined above. Specifically, extant concepts will be leveraged in an effort to better understand and explain the substantive process that has heretofore been metaphorically described as consumers "investing pieces of themselves" into the device over time. In completing this exploration, a platform will be established for elaborating on the rest of the substantive theoretical framework.

A Theoretical Explanation of *Cultivating the Self*: Two Views of Person-Object Transactions

As per tenets of grounded theory (Glaser 1978, 1992), after the discovery of conceptual characteristics and emergence of an integrated, explanatory framework of *Cultivating the Self* that is grounded in the data, literature was sought beyond the domain of the substantive area of mobile technology devices in order to better understand and explain what appeared to be a potentially broader social psychological phenomenon: intimate human interaction with objects. An examination of relevant literature from the fields of psychology, sociology, and consumer behavior will now be presented, with an emphasis on how paradigmatic differences between

structuralist and interactionist views vary in their contribution to understanding person-object transactions and ultimately the process of *Cultivating the Self* emergent in the current theory.

Structuralist Views

Taking a cue from the perspectives and methods of inquiry in the natural sciences, structuDralist views of human behavior assume that underlying deterministic forces or *structures* serve as the causes of human action. Within this paradigm, reducing behavior to these epiphenomenal components (ergo, *reductionism*) is the goal of scientific inquiry. Structuralist approaches represent the "stable human view" of traditional social science, where human behavior is the result of "releasing" reactions from preceding influences. This view is outlined by Warriner (1970, pp. 1-13), and summarized in Figure 2-1 of Chapter Two of this dissertation.

Within the broad range of structuralist psychology research is the seemingly relevant subfield of "object relations." Object relations theory was developed as part of psychoanalytic, or "depth," psychology. Primarily through the works of Freud (1900/1965), Klein (1952/1975), Fairbairn (1954), Jung (1966), and Winnicott (1953), object relations theory is centered almost exclusively on the individual's transactions with other *people* (as "objects") rather than inanimate *things*. Where inanimate objects are addressed at all by these theorists they receive relatively minor attention and are understood primarily from a single perspective: the individual's psyche. Objects are reduced to "empty vessels" upon which meaning can be projected by individuals. The origin of this projected meaning is often considered to latently reside in a person's preconscious via repressed desires and restraints (Jones 1916). Classic examples include tree trunks, baseball bats, and other elongated objects representing fixations on the penis, as Freud

(1900/1965) would have it, and religious mandalas and *I Ching* divinations representing an unconscious yet universal aspiration for wholeness, in the case of Jung's (1966, 1969) approach.

Despite ongoing modifications to object relations theory during the last century, including an interest in objects solely as they elicit attitudinal responses (Abelson and Prentice 1989; Shavitt 1990), the scant work conducted in the area still maintains a basic premise that objects symbolically reflect vestiges of the subject's internal needs and desires. For depth psychologists, the meaning of objects is still relegated to a passive role, with interpretations of meaning remaining centered on emanations from the individual's subconscious outward to the object.

Where sociologists have been concerned with understanding the meaning of inanimate objects, it is in the context of expressions of the self and the status-granting properties that objects present within a social hierarchy (e.g. Dittmar 1992; Durkheim 1947; Geertz 1973; Goffman 1951). Prominent interest centers on the symbolic nature of objects as they pertain to underlying characteristics of the culture or society from which they originate (e.g. the samurai sword in feudal Japan, a king's scepter in medieval Europe, fashionable clothes in the modern metropolis). Of primary importance is how the object's meaning confers or infers socially-accepted characteristics or role assumptions to the person or persons with whom it is associated. While this approach assigns a somewhat more active role to the meaning of objects themselves than does psychoanalytic object relations theory, objects are still viewed as being relatively static in meaning and understood largely as they serve to demonstrate (or exaggerate) traits of the possessor.

Assessing symbolic meaning in this context is also the general approach behind a large stream of research in consumer behavior, focusing on how products and brands contribute to the concept of self and aid in establishing identity (e.g. Chaplin and John 2005; Escalas and Bettman 2005a; Grubb and Grathwohl 1967; Sirgy 1982) . Essentially, these studies suggest that consumers compare and attempt to match products or brands whose symbolic characteristics are in accordance with an image they have of themselves. Similar to the approach assumed by sociologists, the meaning of the product or brand is considered important to the extent that it facilitates this matching process. Further research in this stream that addresses post-purchase consumption contends that the meaning of a brand or product not only aids in expressing the self, but in constructing and facilitating it as well (Belk 1988; McCracken 1989). A common element that cuts across all of these studies is that while meaning can be derived from many sources (Richins 1994), either personal (Belk 1988; Kamptner 1991; Myers 1985; Solomon 1986; Wallendorf and Arnould 1988) or arising from external venues such as culture (Douglas and Isherwood 1979/1996; McCracken 1986, 1988a, 1989) or reference groups (Escalas and Bettman 2005a; Furby 1978a, 1978b; Muniz and O'Guinn 2001), it occurs as an intrinsic property of either the object or the person. To be sure, the congruency between these latter two entities is typically the main concern of this line of research.

While the theoretical framework of *Cultivating the Self* does accommodate the notion of MTDs as either actual or potential status-granting objects, such symbolic meaning emerged as but one aspect of consumer interaction with mobile devices. In contrast to the popularity and attention received in the consumer behavior literature, it is by no means the predominant

experience and does not account for substantial variance in the social psychological process of consumers interacting with MTDs. Rather, symbolic meaning figures into a relatively subordinate role as one part of a property (*Devaluing Public Perception)* of a single stage (*Bonding*) of the core category (*Cultivating the Self*) of the greater theory of consumer interaction with mobile technology devices.

Having as Being versus *Having as Doing*

In the current theory, what emerged as important to consumers was not attempting to articulate or understand how aspects of their personality might align with or affect their use of mobile technology devices. Nor did they exhibit much concern with the supposedly status-oriented characteristics of the devices themselves. Rather, the central process that accounted for the majority of variance in their behavior was the active, transformative meaning of interacting with mobile technology devices. Through *Cultivating the Self*, meaning arises dynamically from what consumers are able to accomplish by interacting with the devices, more so than who they are as individuals (i.e. psychoanalytic and self-concept concerns) or what their products might represent (i.e. self-expression and product symbolism concerns). Consumers exhibited less interest in what the device *is* compared to what the device *does.* In sum, MTDs provide consumers with less of a sense of *being* and more of a sense of *doing*.

In his influential article on understanding possessions as extensions of the self, Belk (1988) entertains considerations of "having, doing and being" (p. 145). Employing a Sartrean treatise (Sartre 1943/1965) that postulates how these three states form a supposedly inextricable relationship, Belk (1988) summarizes Sartre's proposal that "doing is merely a transition state or

a manifestation of the more fundamental desires [of being]" (pp. 145-146). In other words, any meaning derived from interacting with products ultimately facilitates some aspect of an inherent or explicit self-concept or notion of identity. This articulation is conducive to Belk's (1988) model, where products and their capabilities constitute an "extended self" which is understood relative to its proximity and value to a Cartesian-esque "romantic idea of an authentic self" (Ahuvia 2005, p. 180). Put differently, through *doing* things with products, or "extending" the self in Belk's metaphor, one is simply facilitating more "fundamental desires" of *being*, or realizing the "unextended" self. While Belk (1988) finally concedes that the triad of having/doing/being presents "significant questions that are not necessary or possible to resolve here" (p. 146), his endorsement of Sartre's assertion that *doing* is merely a precursor to *being* potentially obscures the possibility that doing *is* being, and transformative possessions that facilitate *doing* are valued by consumers in that regard, without necessarily being subservient to a separate, ontologically distinct, and supposedly more desirable state of *being*.

A few studies have expressed this same concern, presenting the distinction of "meaning as doing" as an alternative to the popular focus on "meaning as being" (e.g. Ahuvia 2005; Kates and Varzos 1987; Mittal 2006). In a particularly memorable and poignant articulation highlighted by Belk (1988) himself, Kates and Varzos (1987) proffer a challenge to Tanay and Freeman's (1976) Freudian-inspired suggestion that a handgun is a metaphor for its owner's penis. The authors recommend instead that relevant meaning arises not from the priapic interpretation of what the gun supposedly *is* in a symbolic sense, but for what it allows the owners to *do* in a real sense. Mittal (2006) expounds on this position, stating:

> "Products (consumables and durables alike) can relate to one's self-concept without becoming part of the self-concept. This would be the case when products are instrumental in furthering some component of the self-concept … These instrumentalities create involvement, even attachment, but these products do not themselves become part of the 'I' unless … a consumer explicitly defines his or her 'I' through those possessions" (p. 555).

The distinction Mittal articulates here is important. An owner can highly value his handgun because it provides security, and being secure is part of his self-concept. Wholly different is meaning derived from a decorative handgun-as-heirloom, a highly memorable and sole remnant of a deceased father's possessions, and fully part of who the recipient considers himself to be.

For consumers of mobile technology devices, this concept of self-enablement contrasted with self-representation is analogous to a distinction emergent in the data between the idea that "my life (or part of me) is in this thing" versus "this thing *is* me." Deborah's experience provides an indicator of this nuance:

> "I wouldn't be worried that somebody could steal my identity [by stealing and using] my [MTD]. But they would … well, they would [laughing] take away a big *part of* my ... my life. *In terms of the sense of control I have over my life.* And managing my day and my time without it … But you know, it's very much a part of my life." (emphasis added, Deborah)

Deborah would not so much be losing her "self," as might happen if an heirloom was stolen, as much as a "part of" her life would be gone, and namely a part that *does* something very valuable for her in giving her a "sense of control." In light of previous empirical indicators demonstrating the significant impact that MTDs have on consumers' lives (i.e. "my whole life is in there"), participants still primarily interpret the meaning of the device not through its symbolic

properties, but in what it helps them accomplish. Susan, who claims nothing is with her as close or as often as her MTD, save for a cherished ring from her loved one, goes on to explain her experience with the device in terms of "being able," or what it allows her to do:

> "I realize how much I use it and how much ... how important it is to have around, *just because of its capabilities*. Of always having the address book. Always having some kind of alarm that I can set. Always having a calculator even, you know … It's important as far as being able to be in contact with people. Being able to get on the internet. Being able to have all the stuff that this does in one relatively compact little device. Really, that's worth a whole lot." (emphasis added, Susan)

Further, the value of MTDs for consumers is not in the physical device itself (i.e. what it physically "is") or even the raw data it holds (i.e. what it "has"), but in how represents a conduit for action (i.e. what it "does"). In the current theory, MTDs are a means for *Cultivating the Self* and the action of cultivating is what is meaningful. Efforts would be remiss in attempting to ascribe or impute "meaning as being" to objects whose very being is considered expendable:

> "The device itself, as far as the physical piece of equipment, would be very replaceable. The information that's on it, as far as the addresses and calendar stuff? That would be replaceable as well. It's easy to get [from backup]. But the *capability* it gives me. The things it allows me to do. I don't know if I could put a price on that, you know?" (emphasis original, Susan)

The *process* of cultivating, even more than the "raw" content (i.e. information, retrievable from backups) or what it is cultivated in (i.e. the device, replaceable with a new model), represents the central meaning of MTDs for consumers. Extant frameworks for explaining person-object transactions present a gap in understanding how consumers interpret "having as doing" – or meaning constructed through action. Collectively, the research assumes a relatively stationary and one-sided understanding of meaning, whether through the trait-based

characterizations of persons as they relate to objects or in the societally-sourced meanings affixed to the objects as they are related to by people. In either case, meaning of the object is static. It is either static in the sense that what the consumer *is* projects meaning onto the object or static in the sense that what the object *is* projects meaning onto the consumer. Neither approach takes into account the holistic, dynamically involved, and constantly changing nature of consumer interaction with mobile technology devices. To handle meaning-making in such a context requires focus to be redirected toward perspectives that accommodate dynamic change in meaning.

Interactionist Views

Differing from structuralist views, interactionist approaches to human behavior dispense with deterministic notions of meaning, and instead look to meaning as emergent from interpretations during interaction between persons, objects, and society. Human conduct is dynamically *formed* through these interactions, rather than simply being *released* by extant factors. As an acting, rather than responding, organism, human behavior exemplifies the "emergent human view" in Warriner's (1970, pp. 1-13) analysis summarized in Figure 2-1 from Chapter Two.

Interactionism originates largely from the works of Mead (1934), Dewey (1896), and James (1890/1918) and is formally presented by Blumer (1969) as *symbolic interactionism*. The symbolic interactionist paradigm, and its epistemological and methodological relevance to this research, has been covered in detail in Chapters One and Two of this dissertation. To summarize its basic premises as established by Blumer (1969): 1) human beings are constantly engaging in

goal-directed action, encountering and acting toward objects (i.e. things, people, or ideas) based on the meaning those objects have for them, 2) such meaning is derived not from intrinsic qualities of the object or psychological components of the person, but from social interaction, and 3) meanings are handled, or used, by the person through a process of interpretation, or self-interaction.

Interactionism accommodates the complexity of individual meaning-making quite nimbly. Across disciplines and paradigmatic views, one of the most influential and frequently cited works on the meaning of objects is an interactionist study of household possessions by Csikszentmihalyi and Rochberg-Halton (1981). Through interpretation of participant responses from more than 300 interviews with 82 families over the course of five years, the comprehensive dissertation explores how people derive meaning, and hence value, from repeated interactions with personal possessions. The authors assert that meaning of personal possessions arises not so much from components of the owner's inner psyche or symbolic properties of the object itself, but through "the transaction people have with [objects] in an existential context" (ibid., p. 25). The results of their work point to interactionist interpretations of meaning, where objects "serve to express dynamic processes within people, among people, and between people and the total environment" (ibid., p. 43). This assertion corresponds with the core premises of symbolic interactionism: an object's meaning is interpreted through interaction with the self, society, and object.

Of all the things that people confront in their environment, Csikszentmihalyi and Rochberg-Halton (1981) focused on "the most special objects" and particularly things that

"people *attend to regularly* or *have close at hand*" (emphasis added, p. 17). While the authors chose household possessions to meet these criteria, the description aptly characterizes the nature of interaction with mobile technology devices as it emerged in this dissertation. Mobile technology devices are indicative of an updated, if not even more pertinent, category of possessions that are "attended to regularly" and "kept close at hand."

Cultivating the Self: Actualizing Goals through Objects

The central theme that emerged from Csikszentmihalyi and Rochberg-Halton's (1981) research is the notion of *cultivation.* The concept originates from an interactionist view of human development (Rochberg-Halton 1979a, 1979b) that is very similar to the position of symbolic interactionism, suggesting that life progresses as ongoing self-actualization through "a process of interpretation and self-control motivated by goals rather than origins" (Csikszentmihalyi and Rochberg-Halton 1981, p. 4). This reflects the person-object interaction process as per the discussion surrounding Figure 1-6 in Chapter One. No esoteric interpretation of the term "goal" is intended here. Goals are simply what a person intends to do. Some goals are grand (e.g. writing a dissertation) while others minor (e.g. reaching for a book), some are anticipated to be short-term (e.g. drinking a coffee) while others are long-term (e.g. learning to play piano). But suffice it to say that over time goals are ever-changing. They are constantly updated, modified, abandoned and re-defined. Goals both initiate and are achieved through everyday activities. Through ongoing cultivation and attainment of goals, the self is actualized over time.

Csikszentmihalyi and Rochberg-Halton (1981) argue that this goal-directed nature of man is reflected in his goal-directed use of objects. Personal possessions are understood and valued insofar as they correspond with and enable this process of self-actualization. Essentially, cultivating, or actualizing, the self occurs through cultivating objects. The authors propose that "the potential significance of things is realized in a process of actively cultivating a world of meanings, which both reflect and help create [goals]" (ibid., p. xi). In other words, the meaning of objects is derived from both their embodiment and enablement of goals, both large and small. Possessions are not only regarded as part of the self (as Deborah indicated) through a reflection of those goals, but valued in what they allow consumers to do (as both Deborah and Susan indicated) in order to achieve those goals.

Importantly, the goal-directed nature of objects accounts for the considerable amount of variation in meaning that they can have for people. Because peoples' goals are extremely diverse, their use of objects is extremely diverse and therefore variation in meaning of objects is nearly infinite. This hearkens Blumer's (1969) analogy of the highly diverse meanings of a tree: a lumberman, botanist, or a poet will each understand the tree differently because of respective ways those individuals act toward the tree. This seemingly intractable nature of "infinite meaning" likely contributes to structuralist scholars' perceived difficulties in measuring the concept (Harman 1981; McAdams 1997).

Mobile technology devices, perhaps more than other products a consumer might own, are conducive to Csikszentmihalyi and Rochberg-Halton's (1981) interactionist view of self-actualization through objects. As was discovered to be the case with household goods, MTDs as

well help to "shape the patterns of the owner's self" (ibid., p. 17). While their research predates the advent of mobile technology devices *per se*, the authors allude to the importance of studying them, or objects like them, as they speculate on the future impact of technological devices in general. From the vantage point of the era during which their research was conducted (i.e. late 1970s and early 1980s), they conclude that "recently, the rate at which new things have arisen to shape and reshape our lives has, if anything, increased" (ibid., p. 46) and express concern over potential knowledge deficits in how new technologies will affect people. In suggesting particular categories of objects that should receive focus, they mention microcircuits, the enabling technology of many modern electronic products, including MTDs.

Going on to specifically address technological innovations, the authors' assert that "each new object changes the way people organize their lives" and new products that are developed to cope with a specific problem "have a way of changing the way people do things and of altering how they relate to each other … eventually affecting the way people experience their lives" (ibid., p. 46). It is reasonable to assume that Csikszentmihalyi and Rochberg-Halton would consider interaction with MTDs as a phenomenon worthy of exploration. This dissertation attempts to do just that, and help mitigate the "potential knowledge deficits" these scholars speak of.

The substantive category of *Cultivating the Self* as it is explained in this dissertation corresponds to the interactionist-influenced conceptualization as outlined by Csikszentmihalyi and Rochberg-Halton (1981). Within the methodological framework of grounded theory, its use is an example of "emergent fit between the data and a pre-existant [conceptual] category" (Glaser

1978, p. 4) that has earned its way into the current theory. Glaser (1978) predicts that emergent fit of an extant concept into a grounded theory will usually result not in simply borrowing the concept, but in modifying and expanding it as well. As it will be shown, because MTDs provide the opportunity for an unprecedented range of activities for actualizing the self through a *single* product, and hence an extremely wide variation of potential meanings for consumers, the concept of *Cultivating the Self* as it is used in the current theory extends Csikszentmihalyi and Rochberg-Halton's (1981) interpretation of the idea.

The preceding review began in an effort to explicate the substantive process of *Cultivating the Self* -- illuminating *how* consumers interact with mobile technology devices. An argument has been made that *Cultivating the Self* as it emerged through empirical indicators of consumer interactions with MTDs more reasonably reflects interactionist views of goal-directed, self-actualization through objects than structuralist views of the manifestation and materialization of identity and self-concept through objects. Attention now turns to an important remaining component of the process: the nature of "pieces of themselves" that consumers are investing into MTDs. In other words, *what* is being "sown" that may later be "reaped"?

Sowing the Seeds of Psychic Energy

Human action is the result of intentionality, or attempting to achieve goals. Goals are achieved by a concentration of effort: mental, physical, and often emotional. In Csikszentmihalyi and Rochberg-Halton's (1981) conceptualization, this concentration of effort is equivalent to an investment of *psychic energy*. There are many ways to concentrate effort in an attempt to achieve goals, and hence many ways to invest psychic energy. This variability

accounts for the seemingly infinite number of ways that consumers can be found to tend their mobile technology devices. Psychic energy is what consumers are investing and tending to when interacting with their devices.

The concept of psychic energy is, perhaps ironically, derived from a structuralist formulation by Freud (Freud 1900/1965, pp. 134 and 632). As it pertains to psychoanalysis, an investment of psychic energy is often seen as a libidinal *cathexis*, or psychical accretion of repressed psychosexual energies into a symbolically appropriate object (Freud 1914/1991) or even dream (Freud 1900/1965). While this characterization captures the spirit of an active "charge" of mental or emotional energy, it is in the service of a supposedly quiescent and often "psychopathological structure" (Freud 1900/1965, p. 634), an eponymous indicator of the structuralist perspective assumed by Freud. Csikszentmihalyi and Rochberg-Halton (1981) expand its use from a producer-oriented, psychodynamic structure to a goal-based, interactive process of cultivation:

> "Cultivation is a psychic activity that is only possible because humans are able to focus their attention selectively in pursuit of goals. Because attention is the medium through which intentional acts can be accomplished, it is convenient to think of it as 'psychic energy' … Attention and psychic energy are used interchangeably here, on the grounds that intentional psychological acts cannot be carried out without the allocation of attention" (p. 4).

Thus, attention enables intention. Goals are achieved through allocation of psychic energy *qua* attention. Because people cannot attend to the totality of stimuli in their environment, psychic energy is limited (hence the "energy" metaphor) and dispensed selectively in the pursuit of goals. People can only concentrate on so many stimuli in a given moment, execute so many

tasks over the course of a day, and achieve so many projects over the course of a lifetime. Choices in investing scarce psychic energy influence what kind of goals are achieved and to a large degree what kind of self emerges from the process, reflecting the interactionist-inspired adage: "We are what we do."

The concept of psychic energy is useful in the current theory in that it ably conceptualizes the "pieces of themselves" that consumers invest into their mobile technology devices. These pieces may be observed superficially in the form of data entered into or captured by the device. But this one-dimensional characterization ignores the effort, or *energy*, involved in tending to a concentrated fusion of "resources" including time, thought, emotion, and action -- indeed, *attention* -- that serve to actually subordinate the "raw" data more so than simply embellish it. Data in the device are simply the manifest artifacts of invested psychic energy. As Susan proffered, the device and the data are actually expendable. It is the investment of effort, or cultivation of psychic energy, that is valued.

Interaction with MTDs seems especially suited to the process of investing psychic energy. By their nature, MTDs are mechanically conducive to allowing consumers to concentrate their psychic energy into one place and aptly reflect a characterization by Csikszentmihalyi and Rochberg-Halton (1981):

> "Only by concentrating attention can we 'make things happen.' Therefore it is convenient to think of attention as psychic energy, because through its allocation *ordered patterns of information and action* are created" (emphasis added, p. 5).

This ordering of information and action emerged empirically throughout the process of *Cultivating the Self*, and can be interpreted from Barbara's opening excerpt where she explains

her gradual acceptance of all the things her MTD can do, Sheila's account of tracking her son's migraines, and Susan's experience of "always having" many capabilities in "one relatively compact little device."

Csikszentmihalyi and Rochberg-Halton's (1981) examples of empirical relationships between people and their household possessions demonstrate a convincing, albeit slightly more abstract, notion of creating ordered patterns of information and action through objects. Furniture is understood as presupposing domesticated actions and lifestyle, in-home artwork guides attention and thus conversations, mood or ambience, and old photographs elicit memories and hence a sense of appreciation in the present. But in a prescient metaphor, the authors seemingly predict the nature of indicators of consumer interaction with MTDs, particularly participants' "my life is in there" phraseology:

> "When someone invests psychic energy in an object -- a thing, person or an idea -- that object becomes 'charged' with energy of the agent … *Part of a person's life has been transferred* to that object … " (emphasis added, p. 8).

With the notion of psychic energy conceptually suitable for consolidating and crystallizing the various characterizations of *what* consumers invest into their MTDs, a workable understanding of the inputs to the process of *Cultivating the Self* is established. The explanation of psychic energy *as an investment* can be integrated with the conceptual alliance between substantive and theoretical understandings of cultivating *as a process*. Taken together, a revised definition can now be applied. *Cultivating the Self* is ongoing, intimate interaction with mobile technology devices whereby consumers invest psychic energy into the devices in order to achieve goals and thereby actualize the self over time. In short, by cultivating the device,

consumers are cultivating themselves. This foregoing characterization provides a conceptual platform for expounding on the processes comprising the substantive theory.

Understanding the Properties of Cultivating

The three stages that serve as properties for *Cultivating the Self* evolve as an integrated process, summarized as follows: *Transitioning* involves a fundamental change in consumers' life-worlds, where interactions with MTDs are introduced and assimilated in a staggered fashion. *Integrating* is a process of linking daily activities with corresponding capabilities derived from interaction with the device. *Bonding* occurs as consumers generate intimate affinities for MTDs by manipulating and understanding the devices to be a more personal part of their lives.

Cultivating the Self involves the instantiation and potential integration of aspects related to some or all of the three stages. *Cultivating the Self* through a fully saturated trajectory of all stages could manifest as follows: *Transitioning* begins and facilitates the process of *Cultivating the Self* as consumers move toward *Integrating* the device further into their daily routines. *Integrating* can occupy the majority of activities with the device, but as consumers invest more psychic energy over time, *Bonding* occurs, where they exhibit increased intimacy by personalizing, personifying and admiring physical characteristics of their MTD.

Barbara's excerpt at the beginning of the chapter illustrates aspects of all three stages of *Cultivating the Self*, as well as its potentially non-linear character. She begins by pointing out that when she was first confronted with the device, she was reluctant to use it for anything more than the "traditional" function of making a phone call. She experienced, and is still experiencing, the phenomenon of gradual, non-linear *Transitioning* to activities that involve *Integrating* the

device into her life and daily routines, including activities she made explicit: communications, scheduling, maintaining contact information, and checking the news. Note that Barbara does not experience a distinct "cutting point" where she resolutely "adopts" the MTD. Rather, she exhibits a "muddling through" process of understanding what the device can do and how to use it, which exemplifies a property of *Transitioning* to be explained in the current theory as *Negotiating the Learning Curve*. Muddling through means re-experiencing or "looping back" to *Transitioning* while *Integrating* functionality of the device, an example of non-sequenced progress through the process of *Cultivating the Self*. As she is *Integrating*, she becomes aware of features which she is not taking advantage of (e.g. GPS capability). At the point of discovery, if she decided to forego *Transitioning* to the new feature, she would effectively be *Limiting Functionality*, a property of *Negotiating the Learning Curve.* If and when Barbara acts on the idea of using the heretofore neglected GPS capability in her MTD, she could find herself back in the *Transitioning* stage, specifically *Negotiating the Learning Curve* again, before ultimately *Integrating* the feature into her repertoire of MTD interactions. In the end, Barbara exhibits the culmination of a sense of *Bonding* as she sums up her experience after three years of using the device by proclaiming that she "couldn't live without it."

With an overview of the general nature and integrative aspect of its stages, the properties of *Cultivating the Self* can now be explored in full. A concept map of the entire core category listing all of its stages and their properties is presented in Figure 3-2. Attention will now turn to elaborating on these stages and their properties.

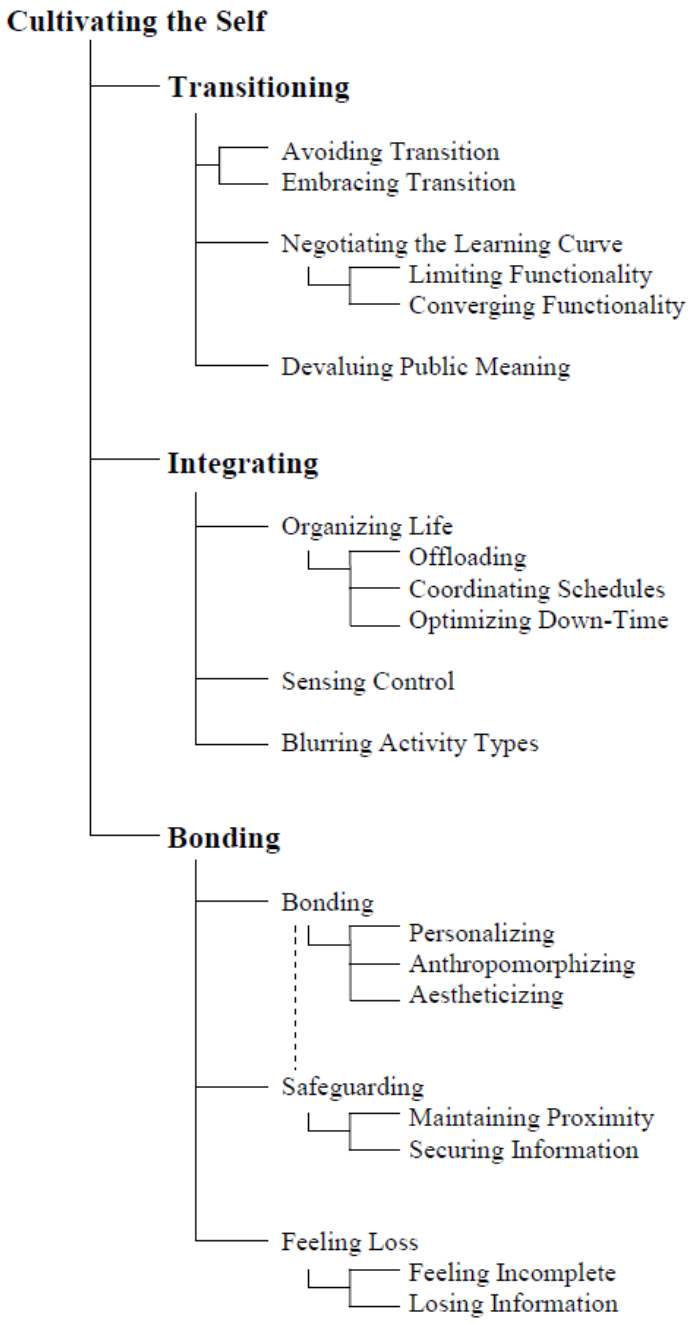

Figure 3-2. Concept Map: Stages and Properties of *Cultivating the Self*

Transitioning

> "My daughter just *had* to have it. It was a hot thing then [in 2002] called a PalmPilot. It was expensive. She said, 'Oh Mom, it's going to be great.' Of course, I foot the bill and she never used the thing. So there it sat. And one day I picked it up and thought 'What *is* this thing?' And I just … started using it. I just took to that concept of having that little handheld calendar. Then, I thought, well I can do this and I can do this. I just sort of transitioned." (Sheila)

> "When I got it and got it home and started reading about it, I started using it gradually. It wasn't like an overnight switch or anything. I do remember when I had the [previous mobile phone], I also carried around a little date book. Like a planner. That's totally obsolete now. I don't even have one because eventually I moved everything over to that [points to MTD]." (Susan)

As a stage of the core category of *Cultivating the Self, Transitioning* accounts for how consumers explore, understand how to use, and come to accept mobile technology devices as part of their lives. It is the starting point of a longitudinal and complex process of product "adoption" that is a precursor to the process of *Integrating*. Although a definitive "cutting point" exists where the device is actually obtained, of relevance to consumers is the ongoing, uneven, and sometimes very gradual "uptake" of the device. This "adoption over time" involves an evolving interplay of reluctance and enthusiasm: intermittent learning as well as incremental setbacks and successes. As Sheila and Susan indicate in their opening excerpts above, *Transitioning* occurs as a process in "fits and starts" as opposed to a single, neatly discernible, and isolated event.

Transitioning is comprised of the following properties, depicted in Figure 3-3: *Avoiding Transition, Embracing Transition, Negotiating the Learning Curve, Limiting Functionality,*

Converging Functionality and *Devaluing Public Meaning*. These properties represent sub-processes through which *Transitioning* evolves and exhibit the same non-linear staging characteristics as the core category of *Cultivating the Self*. As with *Cultivating the Self*, properties of *Transitioning* are by no means mutually exclusive. *Transitioning* is a longitudinal process, representing a continuum from *Avoiding Transition* to *Embracing Transition*. Aspects of some or all of the other properties can be experienced in a potentially uneven manner as consumers move along the continuum. Properties of *Transitioning*, particularly *Negotiating the Learning Curve*, and its sub-processes of *Limiting Functionality* and *Converging Functionality*, can span the entire process of *Cultivating the Self*, continuing to occur well after consumers come into possession and begin interacting with the device. *Devaluing Public Meaning*, depicted in the figure's inset, often starts during early efforts at *Transitioning*, but can occur and continue throughout the greater process of *Cultivating the Self*.

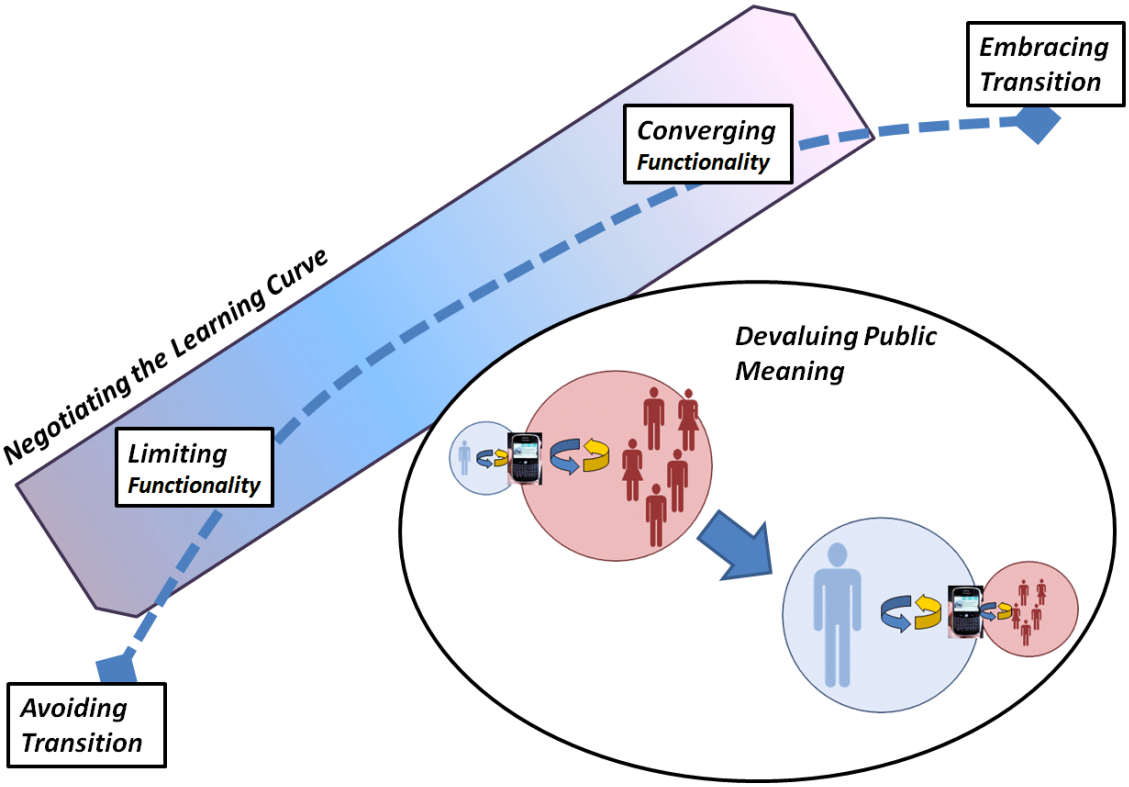

Figure 3-3. The Process of *Transitioning* and Its Properties

The following example summarizes one possible permutation of the overall process of *Transitioning*. The trajectory along which *Transitioning* occurs is a continuum from *Avoiding Transition* to *Embracing Transition*. Once a consumer acquires the device, they move along the continuum, *Negotiating the Learning Curve* in various ways and at various times while attempting to understand what the device is capable of doing and how to integrate it into their lives. Part of this learning process can involve *Limiting Functionality* and/or *Converging Functionality* of the MTD. In the case of *Limiting Functionality*, consumers proactively "reduce" the feature set of their MTDs, opting to take advantage of only part of the MTD's

capabilities. With *Converging Functionality*, they seek to integrate capabilities from other products into their MTD. Over the course of the entire process, consumers find themselves increasingly averse to the public "hype" that is related to their device as they commence with *Devaluing Public Meaning*.

With this overview as a backdrop, aspects of *Transitioning* will now be explored in further detail. Perspective will first be provided on how the overall process of *Transitioning* in particular, and symptomatic of *Cultivating the Self* in general, engenders a substantial shift in the way consumers experience their everyday lives. This includes an examination of literature and theory from several disciplines along with an analysis of marketing communications efforts regarding MTDs. Following that, individual properties of *Transitioning* will be presented, with relevant indicators from the data and useful conceptualizations from the literature.

An Ecological Shift in Life-Worlds

By *Transitioning*, consumers experience the phenomenon of *living* with mobile technology devices. As consumers invest psychic energy through MTD capabilities in response to everyday activities, their lived existence transpires in a fundamentally different way than before the device was introduced. This assimilating process unfolds, whether in a gradual or more accelerated manner, and is experienced as a profound shift in consumer life-worlds. At first, consumers might understand the MTD as simply a digital storage device and ascribe primarily utilitarian meaning to it. Alternatively, they might apply prior knowledge and experience with other portable electronics and view the MTD as "just a mobile phone," as Barbara indicated in the chapter's opening excerpt. But ultimately a newly evolved consumer emerges while

Transitioning, one who integrates the MTD into his or her life as a nearly ubiquitous presence and, as Barbara admitted in the opening excerpt, a crucial part of life. Deborah, who claims that her MTD is her "lifeblood," illustrates the wholly integral nature of this change:

> "To me, it's not about the machine itself. The machine does things and you can either like those things or not like those things. But it's how it *lives* with you. You know. That's important to me. You know, and I've never thought about it but this thing *lives* with me … which is a weird thing to say about a machine [laughs]." (emphasis original, Deborah)

Similarly, Melissa explains the holistic nature of how the MTD spans her life-worlds, capturing what she "does" and, further, containing her "life":

> "Everything is mixed together in there. Everything from both my personal life and business life are in there. I use it for every aspect of my life, not just my work stuff ... Everything I do is in the [MTD]. My entire life is in there." (Melissa)

The admission that "everything is mixed together" connotes that the device is not just seen as a "work tool" or a "personal product," but rather a totalizing experience for Melissa. By transcending contexts of her life, the device facilitates the proposed holistic change to her life-world.

The absorbing effect of interaction with the device is also reflected in how consumers explain "pre-MTD" and "post-MTD" experiences. Participants characterized pre-MTD life as a "different time" and post-MTD life as now just "the way life is." Of note is the fact that they often expressed difficulty in remembering what life was like before the device was introduced, despite interacting with it for only a few years in most cases:

> "(When you say it's changed your life, can you tell me what life was like before?) Gosh. Before it. It seems so long ago. It's hard to remember." (Sheila)

> "The way life used to be, well, I was just glued to my [office]. I spent a lot of time waiting in one place. Now I keep moving 24/7. I've gotten used to it. It's just a part of how we do things." (Barbara)
>
> "Well, life before this was just … a different time, you know?" (Jaren)
>
> "Everything's in this now. Everything's [stored] electronically. You know, it's just a matter of keeping up with the way life is." (Wilma)

Attention will now turn to a broader perspective on understanding this change in life-worlds (i.e. "the way life is" now) instigated by introduction of mobile technology devices.

Technology as Ecological Change

Csikszentmihalyi and Rochberg-Halton (1981) explain that technologies, and particularly what they saw as imminent innovations, significantly change the fundamental way people do things, "affecting the way people experience their lives" (p. 46). This technology-induced wholesale change has been acknowledged across academic disciplines. In particular, it is the central focus for scholars of a cross-disciplinary subfield of communications studies known as *media ecology*. Media ecologists focus on contemporary, technology-enabled communications and the study of complex media systems experienced *as environments* (for a review, see Lum 2006; Strate 2006). Especially pertinent to the current theory, media ecology concerns itself with "the *interactions* of communications media, technology, technique, and processes with human feeling, thought, value, and behavior" (emphasis added, Nystrom 1973, p. ix). The media ecology perspective views modern society as experiencing a fundamental, thoroughgoing and environmental change to the extent that media such as radio, television, the internet, and other new forms are introduced and assimilated at an accelerating rate.

The terms "media" and "technology" are often used synonymously in media ecology scholarship, and it is reasonable to assume that media ecologists would see MTDs as prime candidates for inclusion in the domain of their investigations. While typically referring to ecological change as it pertains to communications-related activities at a broader societal level, characteristics of media ecology concepts are similar to the individual experiences of consumers who are *Transitioning* to MTDs. Neil Postman (1931-2003), preeminent media ecologist and generally regarded as the "father" of media ecology, here expounds on the ecology analogy, which provides perspective on the totality of integration as discussed in the previous section:

> "Technological change is neither additive nor subtractive. It is ecological. I mean 'ecological' in the same sense as the word is used by environmental scientists. One significant change generates total change. If you remove the caterpillars from a given habitat, you are not left with the same environment minus caterpillars: you have a new environment … the same is true if you add caterpillars to an environment that has none. This is how the ecology of media works as well. A new technology does not add or subtract something. It changes everything." (Postman 1992, p. 18)

In phenomenological terms, it is not just the "life" or the "world" that changes with the introduction of technology, but rather the inseparable entity of life-world. The individual interacting with a new form of technology experiences an entirely new world as a result of that technology. This is what Deborah means when she describes how the MTD *lives* with her.

Postman and the media ecology perspective are positioned in a broader lineage of sociological and anthropological perspectives on technology, where scholars have considered, and in many cases warned against, the integration of technology into society due to its potential to overwhelmingly change peoples' life-worlds (e.g. Ellul 1964; Innis 1951; McLuhan 1964; McLuhan and Fiore 1967; Mumford 1963; Ong 1982). Foremost among these scholars is Lewis

Mumford (1895-1990), who wrote extensively on the history of human interactions with technology. Formally trained as an engineer, Mumford was an early critic of his profession, emphasizing the need for engineers and product developers to consider the interdisciplinary aspects of machines and society. Specifically, Mumford (1934/1963) argued:

> "The possibility that technics[5] had become a creative force, carried on by its own momentum, that it was *rapidly ordering a new kind of environment* [emphasis added] and was producing a third estate midway between nature and the human arts, that it was not merely a quicker way of achieving old ends but an effective way of expressing new ends -- the possibility in short that the machine furthered a new mode of *living* [emphasis original] was far from the minds of those who actively produced it. The industrialists and engineers themselves did not believe in the qualitative and cultural aspects of the machine" (pp. 322-323).

This sentiment almost precisely echoes Wind and Mahajan's (1997) call to action for new product developers to more closely consider the holistic "social-cultural-economic" context in which new technologies are consumed, and employ "anthropological research methods that can produce actionable results" (p. 5) in lieu of extant and seemingly obsolete new product development models.

In particular, Mumford (1934/1963) suggested that technologies were not merely independent, neutral tools, but integrated, dynamic, and value-laden aspects of human life. As he saw it, the problem with the historical understanding of technology as it had transpired up to the point of his treatise had been its assumed utilitarian and deterministic character, as opposed to the "reciprocal and many-sided relationships" that occurred between machines and people (ibid., p. iii). Mumford's stance is particularly relevant to the proposed ecological shift in life-

[5] The word *technics* here is a term more commonly used in Mumford's time that essentially means "technology."

worlds as indicated by the participants. Deborah's comment that "it's not about the machine itself … it's how it *lives* with you," neatly mirrors Mumford's (1934/1963) declaration:

> "The most durable conquests of the machine lay not in the instruments themselves, which quickly [become] outmoded, nor in the goods produced, which quickly [are] consumed, but in the *modes of life* made possible via the machine and in the machine … " (emphasis added, p. 323).

The consensus that spans the scholarship of Csikszentmihalyi and Rochberg-Halton, Postman and the media ecologists, and their intellectual forebear Mumford, supports the proposal in the current theory that assimilation of mobile technology devices engenders a wholesale, ecological change in the experience of living. While these scholars speak from the past about things like household possessions, television, and even more archaically, "technics," their concerns are reflected in a broader technology narrative that has been transpiring among social scientists for some time (for a review, see Pickering 1997). The focus of the next section is on how mobile technology devices, and interactions with them by consumers, integrate into this ongoing dialogue.

MTDs Represent Unprecedented Ecological Change

In light of the intellectual advances of the aforementioned scholars, which largely pre-date the advent of mobile technology devices, the question arises as to how, if at all, the phenomenon of interacting with MTDs is similar to or different than transactions with such objects as household possessions, media forms, or even mobile phones. It was argued in Chapter One of this dissertation that MTDs represent an immensely popular and rapidly growing category of consumer products. MTDs are considered to be the current cutting edge as well as

the forward-looking prophecy of what is to come from the prolific and seemingly never-ending stream of personal consumer electronics. They represent a "terminal velocity" point of what Csikszentmihalyi and Rochberg-Halton (1981) referred to as the ever-increasing "rate at which new things have arisen to shape and reshape our lives" (p. 46). As mobile technology products become cheaper, smaller and easier to use, they become more popular with and proximate to consumers, giving rise to unprecedented and increasingly prominent possibilities for intimate interaction. This intimacy increases opportunities for investing psychic energy into the devices, thus accelerating the process of actualizing goals through *Cultivating the Self*, and in turn spurning the probability of pronounced shifts in consumer life-worlds.

As a result of this seemingly imminent progression of increasing intimacy, MTDs should be considered even more susceptible to the epistemological and theoretical concerns of ecological change than other products, past or present. MTDs allow -- to be sure, *invite* -- consumers to maintain proximity and invest their psychic energy, more so than with other portable gadgets such as dedicated MP3 players, mobile phones, and digital cameras. The fact that MTDs are increasingly convergent with other popular consumer technologies further supports the argument that the propensity is increasing for *Cultivating the Self* through these devices. Certainly from a historical context, it is hard to imagine mobile technologies of antiquity such as the Sony Walkman, belt-worn pager, or Casio electronic datebook would be positioned to enable the same life-world shift as modern MTDs. Although certainly representative of innovative technology products at the time, by nature of their limited functionality, they were not as "receptive" to the preponderance of activities that can be

actualized through feature-laden MTDs of today. In short, they did not contain as many opportunities for investment of psychic energy, actualization of goals, and thus transformation of life-worlds.

The "compressed" and continually converging functionality of mobile technology devices also increases the velocity of *expectations* for how the self can be cultivated through products. Not only do MTDs allow consumers to cultivate themselves in unprecedented ways, they introduce unprecedented ways of thinking about how to possibly cultivate. In providing consumers with new, heretofore unrealized modes of interaction, mobile technology devices indicate the dawn of "fundamentally new forms of human activity from which new goals, values and desires emerge" (Pickering 1997, p. 50). As Barbara indicated in the chapter's opening excerpt, she did not arrive at the MTD with a pre-defined set of daily activities waiting to be mapped to existing functionality in the MTD. Neither did Susan who, although skeptical at first of needing a camera, has now found herself photographing all manner of everyday things for unique integration into her MTD and her life. Sheila, in managing her son's migraine history, revels in the new-found capability by simply stating: "I mean, that's what I can *do* now" (emphasis original). As Susan earlier remarked, "being able to have all the stuff that this does in one relatively compact little device," does not present consumers with, as Mumford (1934/1963) points out, a "merely quicker way of achieving old ends, but an effective way of expressing new ends" (p. 322).

That interactions with technology represent a holistic and life-impacting phenomenon is the received view in a stream of substantive research on the domestication and "moral economy"

of personal technologies, particularly in the home (for a review, see Berker et al. 2006). This research, hailing primarily from the UK and Scandinavia, was born out of technology and communications disciplines and hence focuses largely on personal computers, media devices, mobile phones and their particular applications (Haddon 2006; Silverstone and Haddon 1996; Silverstone and Hirsch 1992). Of importance, however, is the general approach of the research: the integrative and inseparable nature of person and technology is generally assumed and as such the dyad is studied as a holistic unit, typically through qualitative and ethnographic methods. While consumer behavior certainly has made some advances in recognizing and promoting holistic inquiry through postpositivist approaches (Thompson 1997; Thompson, Locander, and Pollio 1989), and even the potential for applying interactionist paradigms (Flint 2006; Solomon 1986), by and large it is relegated to being "the alternative view," much less applied to the phenomenon of technology consumption.

The importance of understanding the impact of technology-driven ecological change, and using methodological approaches that respect the empirical experiences of those being changed, has been well-established outside of the disciplines of marketing and consumer behavior. The near ubiquity of the product category confirms the relevance for consumers and companies. This dissertation argues that a holistic view of person-object interactions, and particularly the use of interactionist paradigms, should assume a central role in researching the phenomenon. In effect, it is here argued that Mumford's "new modes of living" require new modes of inquiry.

Having established its prominence, or lack thereof, across academic disciplines, the question now surfaces as to whether producers of MTDs acknowledge the proposed ecological

shift in consumer life-worlds. To gauge their understanding, attention will now turn to an important barometer for assessment: marketing communications efforts for MTDs.

Life-World Shift Reflected in MTD Marketing

In this dissertation, indicators of shifting life-worlds were derived primarily from participants' experiences. Secondarily, marketing materials for MTDs were also analyzed in considering the phenomenon. The goal was to examine whether marketing communications, starting with advertisements for the earliest models of MTDs through to more recent campaigns, were reflective of the life-changing experiences as indicated by participants. While different creatives, messaging, and vehicles within advertising campaigns are assumed to target different market segments, the material selected for analysis was gathered from general media outlets and channels typically leveraged to reach mass, or undifferentiated audiences (Shimp 2007pp. 364-460), including corporate web sites, billboards, retail flyers and general readership magazines and newspapers.

Specific creative advertising styles can be recognized as corresponding with more general product/brand positioning strategies (Frazer 1983; Laskey, Day, and Crask 1989; Shimp 2007; Taylor 1999). Employing a consolidated classification scheme of creative styles using the customer-based brand equity framework set out by Keller (1993), advertisements were categorized according to whether they appeared to be positioning product *attributes* or *benefits*. Attributes are "those descriptive features that characterize a product or service -- what a consumer thinks the product or service is or has" (Keller 1993, p. 4). Benefits are "personal

value consumers attach to the product or service attributes -- that is, what consumers think the product or service can do for them" (ibid., p. 4).

Some of the earliest MTD advertisements were for the Apple Newton. As seen in Figures 3-4 and 3-5, primary messaging centers on benefits of using the device and, owing to the novelty of the product category at the time, suggested use scenarios. Particularly, there is an attempt to appeal to "functional" benefits (Park, Jaworski, and Maclnnis 1986), as per the list of activities in Figure 3-4 (e.g. "Newton will help you get organized," "Newton can help you make phone calls," etc.). Note that these capabilities are now largely regarded as "common knowledge" for what MTDs are expected to do. But as a new-to-the-world product at the time, this messaging likely aided consumers in understanding how the device could be integrated into their lives.

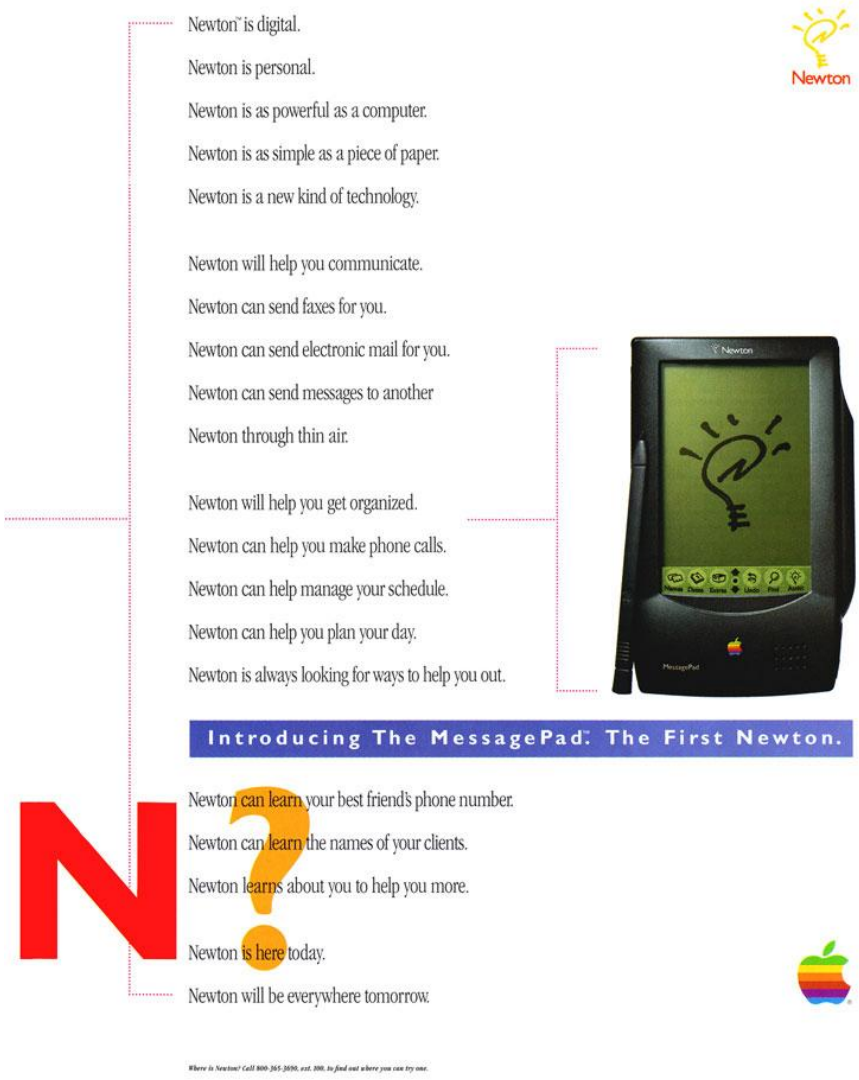

Figure 3-4. Introductory Advertisement for Apple Newton MessagePad MTD (1993)

Figure 3-5. "Your World" Advertisement Emphasizing Functional Benefits (1994)

Apple was a pioneer in terms of at least hinting at the holistic and potentially life-affecting impact of their MTD, as ascertained through the slogan in Figure 3-5: "Your World. Your Newton." In spite of these early indications, later MTD advertising went on to emphasize the product by positioning through attributes and/or functional benefits. For example, attributes are the primary focus in a recent advertisement for the Palm "Pre" MTD, as seen in Figure 3-6. Messaging in the ad includes a list of technical attributes such screen size, keyboard characteristics, operating system, and global positioning system navigation. The image of the product highlights the mechanical aspects of phone's physical operation: its sliding mechanism. In Figure 3-7, functional benefits are highlighted through the metaphorical display of Superman's cape attached to a finger in this 2008 Blackberry advertisement for Verizon Wireless. The ad copy reads: "The fastest Blackberry ever," solidifying the connotation of the image. The 2006 corporate web site for the Palm Treo in Figure 3-8 displays appeals to both attributes and functional benefits.

Figure 3-6. Sprint/Palm Attribute-Focused Advertisement (2009)

Figure 3-7. Verizon/Blackberry Benefits-Focused Ad: "The fastest Blackberry ever." (2008)

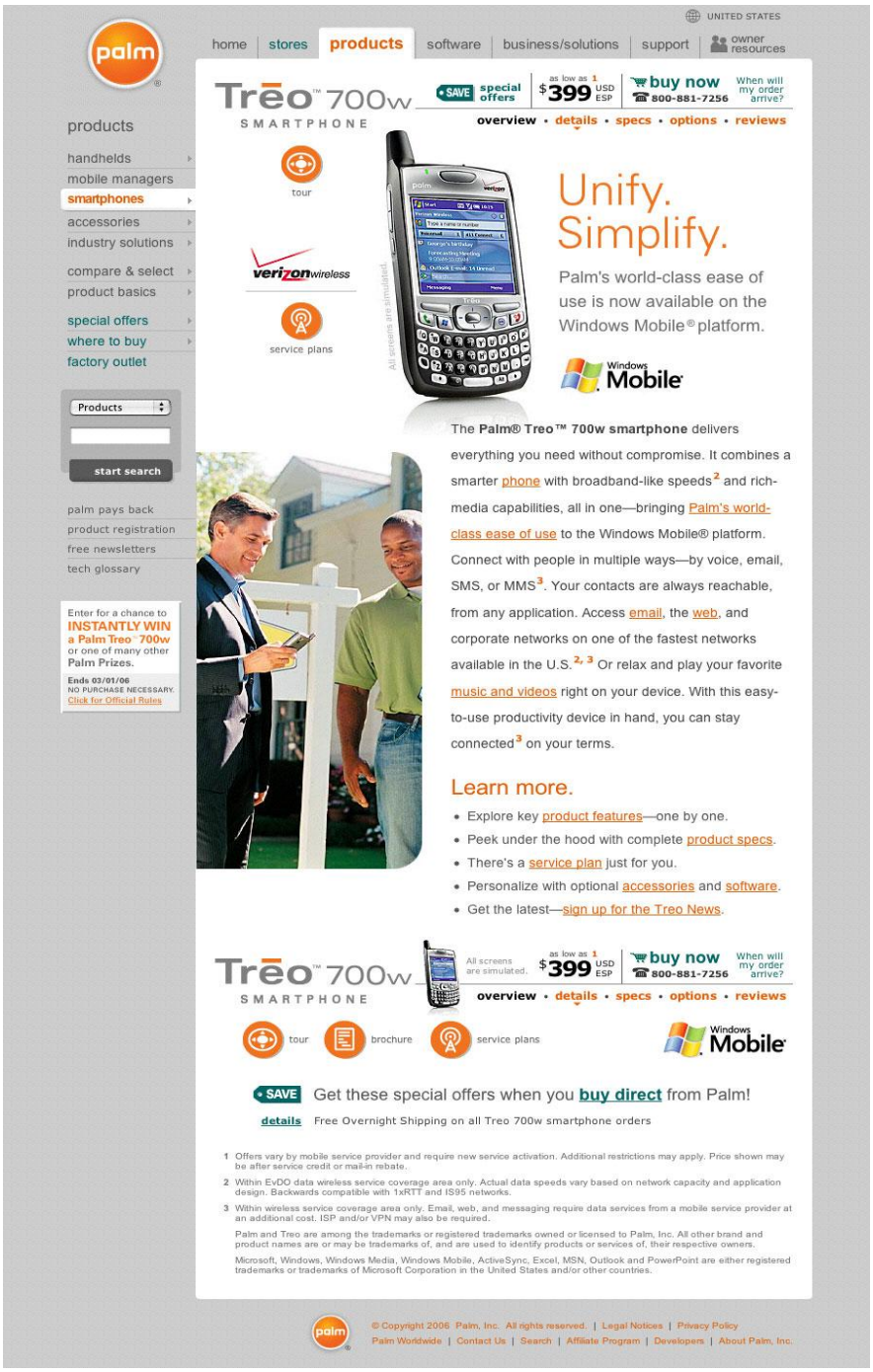

Figure 3-8. Palm Treo Attribute- and Benefits-Focused Web Page (2006)

Very recent exceptions to the attribute- and functionally-oriented advertising include two rival campaigns from competitors Research in Motion (i.e. Blackberry) and Palm Computing (see Figures 3-9 and 3-10). The advertisements were extracted in early 2009 from general readership magazines *Time* and *Newsweek*, respectively. Instead of focusing on attributes or functional benefits, the ads appear to be positioning "experiential" benefits (Park, Jaworski, and Maclnnis 1986) and namely a *resonance,* or "slice of life," strategy (Frazer 1983). Through this approach, ads employ situations that involve "recalling and reliving social experiences through product consumption" (Taylor 1999, p. 13). In both ads, emphasis has moved toward life-world impact and holistic implications for engaging with MTDs.

In the case of the Blackberry advertisement in Figure 3-9, imagery shows "everyday life" activities along with relevant ad copy: "Life on Blackberry" and "Connect to everything you love." Of note is the final message, "The object *for* your desires" [emphasis added], which is a play on the phrase "The object of your desires." This could be viewed as a recognition that the device is not valued so much in its symbolic meaning of "being" as the action-oriented meaning of "doing." The message that the MTD's capabilities "fit seamlessly into your life" suggests the processes in the current theory of *Transitioning* and *Integrating*. The Palm Computing advertisement in Figure 3-10 alludes to a more socially-oriented use situation, but characterizes life-world impact nonetheless, graphically alluding to "my life is (literally) in there."

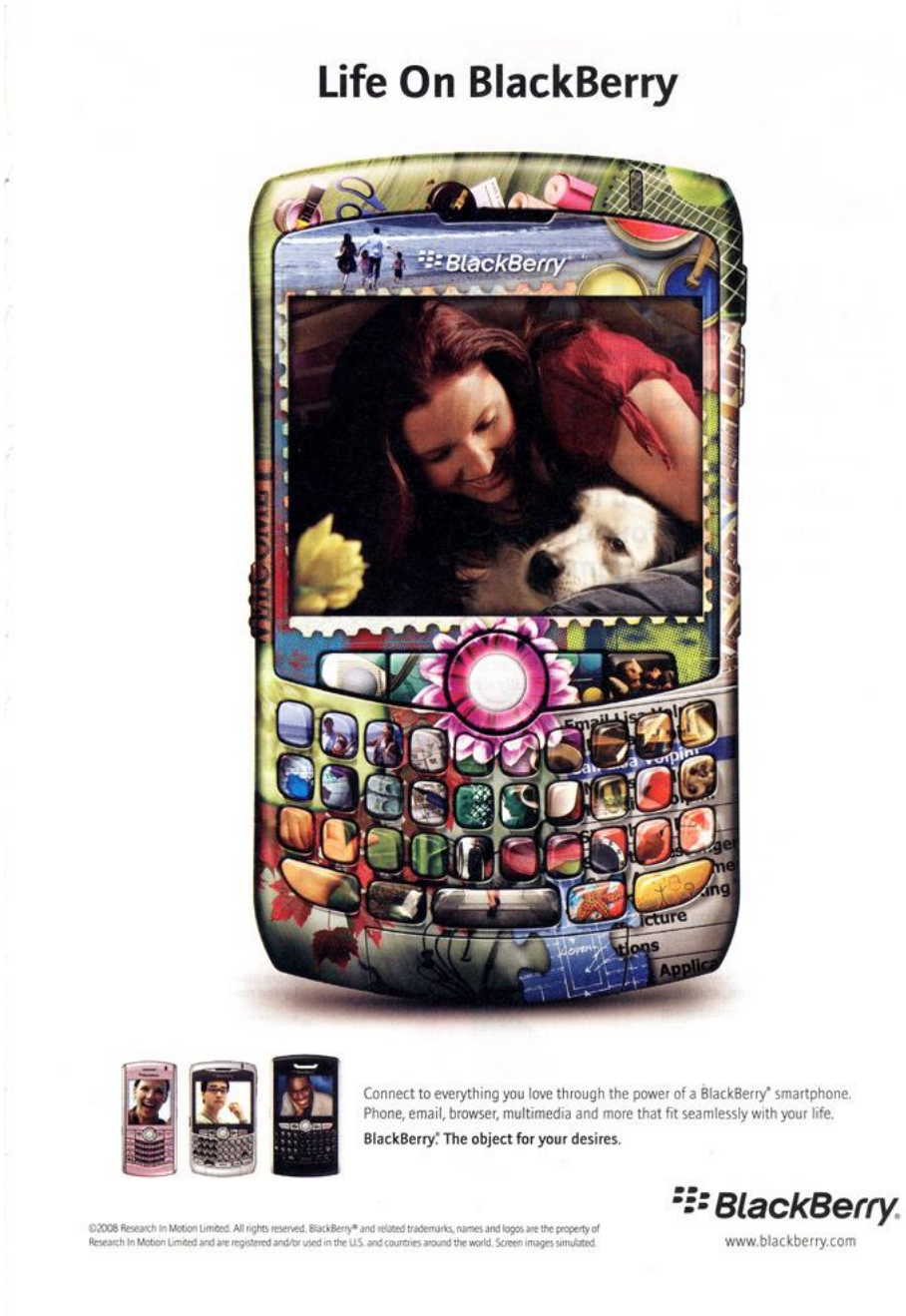

Figure 3-9. Research in Motion's Blackberry Benefits-Focused Resonance Strategy (2009)

Figure 3-10. Palm Computing's Benefits-Focused Resonance Strategy (2009)

Consumers can be aware of producers' efforts to emphasize the potential life impact of their products. Maury, after a lengthy description of the how he integrates the MTD into his life, quips about the brand name (see Figure 3-11):

> "I'm using the Palm LifeDrive. I mean think about that … *Life* Drive [laughs]. They're really going for that integration." (emphasis original, Maury)

Figure 3-11. Palm LifeDrive Mobile Technology Device

In summary, MTD advertising appears to continue focusing primarily on attributes and functional benefits. Recently, holistic and life-impacting aspects of MTDs have been emphasized. This could be indicative of maturing market research and improved knowledge of consumer use situations and preferences. Since nearly all such data is proprietary, it can only be speculated that producers and marketers of MTDs are embracing the concept of shifting life-worlds, with more recent campaigns seeming to support the notion.

With the foregoing discussion as a backdrop for the overarching process of *Transitioning*, attention can now turn to further substantive exploration of its properties. Indicators from the data and relevant literature will be brought to bear in supporting the explanation of *Transitioning* proposed thus far. In some cases, previous excerpts will be re-introduced and expounded on in accordance with the holistic nature of the process.

Avoiding Transition and Embracing Transition

Avoiding Transition and *Embracing Transition* encompass the scope of the process of *Transitioning*. They represent a conceptual dimension that explains the migration of consumers from being potentially reluctant to demonstrating enthusiasm in accepting MTDs as part of their lives.

While these categories emerged as endpoints of a continuum, consumer experiences fell between the two extremes, again as a process of "muddling through" from one to the other. Consumers are not required to experience explicit indications of either absolutely *Avoiding Transition* or wholeheartedly *Embracing Transition*. Some consumers, who prior to acquiring the MTD were highly anticipating *Integrating* it into their lives, might straight away exhibit

experiences that would be readily categorized as *Embracing Transition*. Likewise, skeptical consumers who were given their MTDs by employers might have had preexisting aversion to the devices, thus they were preemptively *Avoiding Transition*. However, participants typically moved from experiencing some aspects of *Avoiding Transition* to eventually *Embracing Transition*.

The current theory of consumer interaction with MTDs, and thus *Transitioning* as a property, naturally assume a post-acquisition context. Participants in the research acquired their mobile technology devices through various means and for various reasons. At a broad level, acquisition can be categorized as either voluntary (i.e. purchased or received as a gift) or involuntary (i.e. acquired by mandate from an external organization, such as an employer). Consumers de-emphasized and even had difficulties recalling details surrounding the actual transaction of acquiring the device, whereas their involvement in the various properties of *Transitioning* was a central concern. Whether consumers came into possession of the device of their own accord or were asked to use it, the staggered and gradual process of *Transitioning* was similar.

When considering the process of *Transitioning* as it emerged in this study, it is also important to keep in mind the criteria used to recruit research participants. The initial aims of investigating the phenomenon of consumer interaction with mobile devices required actively seeking out participants who exhibited frequent and intimate interaction with MTDs. Therefore, experiences were not sought from users who perhaps acquired a mobile technology device and either never began to use it, or abandoned it soon after acquisition. In those cases, consumers

would be understood as steadfastly *Avoiding Transition*, thus never *Embracing Transition*, and therefore by nature disqualified as candidates for this research. As a result, *Transitioning*, like *Cultivating the Self*, should be understood from the context of consumers who have become avid users of MTDs, albeit they might not have been initially.

Avoiding Transition

Consumers who are *Avoiding Transition* incur delays or setbacks in *Integrating* MTD capabilities into their lives. *Avoiding Transition* represents the "fits" in the "fits and starts" metaphor. Consumers may simply prefer not to integrate the device, often as a result of not understanding it, or they might avoid understanding the technical requirements for using it and the routines necessary to maintain it. Examples of *Avoiding Transition* will now be explored.

Consumers can be hesitant in accepting MTDs as part of their lives. While eventually reaching the point where MTDs are robustly integrated, initial efforts at *Transitioning* are not always conducted with enthusiasm. Barbara talks about her antipathy after the initial introduction of the device into her life:

> "Um … at first it took some getting used to [laughs]. Three years ago, I didn't want the silly thing. I was happy with the cell phone that I had. I was also one of those who was resistant to giving up my typewriter and going to my computer, too. I mean I like the old school stuff [laughs]." (Barbara)

Although the starting point of her process of *Transitioning* was actively *Avoiding Transition*, Barbara eventually found herself *Embracing Transition* to the MTD, reaching a point where, it will be recalled from the chapter's opening excerpt, she now considers it as a crucial

part of her life. Over time, as she moved through *Transitioning* and began in earnest an ongoing investment of psychic energy through *Integrating*, the value of the MTD increased as did her acceptance of it. As she put it in an earlier discussion, she at first just thought of the MTD as a cell phone and treated it as such. By *Negotiating the Learning Curve*, she eventually began to explore the features of the device and discover its capabilities. Susan, who earlier admitted to eventually moving all of her paper-based datebook activities over to the MTD, worked through an early process of exploring and understanding the MTD, but also indicates an initial skepticism toward *Transitioning*:

> "I didn't think that I would use it that much, although it turned out that I did … You know, I always thought that I wouldn't need to be able to take pictures or I wouldn't need to get on the internet or whatever. But now that I have it I realize how dependent on it I am, you know?" (Susan)

Kayla, who eventually understood the MTD as a "special thing" that she put her "life into," at first encountered delays of another type. Here she describes dealing with maintenance requirements of the device, which prompted her to initially avoid the transition until a full year had transpired from the time when she actually acquired the MTD:

> "You know I've never really been a big gadget person. You know, some people just have to have toys, and that's just them. I've never really been big on that but I guess it's just … I think part of it goes back to when I saw it sitting there and I hadn't used it in a long time. What would happen was I would pick it up and I would use it for a little while and then the batteries would run out and I would lose all my stuff and then I would let it sit for a little while and then I would pick it back up and try it again. Um, it was a resource that I had that I wasn't using. And I think it was the fact that it was just sitting there. And it was something that I think I could have been utilizing to make my life a little easier." (Kayla)

Whether through overt resistance, lack of understanding capabilities, or not accepting the necessary maintenance of the device, all of these participants experienced the "fits and starts" of

Transitioning. As initial investments of psychic energy are made and benefits begin to be experienced, consumers eventually overcome these type of delays and move toward *Embracing Transition*.

Embracing Transition

Consumers ultimately engage in *Embracing Transition* to their MTDs. *Embracing Transition* both predicates and is a result of another stage of *Cultivating the Self*: *Integrating* the MTD into their lives. Example scenarios using indicators from two participants will illustrate the different permutations of reciprocal causality. Figure 3-12 depicts an "*Embracing Transition* to *Integrating*" scenario. As in Kayla's case, where she "could have been utilizing [the MTD] to make [her] life a little easier," consumers might simply decide to resolutely embrace the device (Position 1), then proceed with investing psychic energy and *Integrating* it into their lives (Position 2), which in turn initiates further embrace (Position 3).

Figure 3-13 depicts the alternative "*Integrating* to *Embracing Transition*" scenario. As per Barbara's experience, consumers can be initially reluctant but simply start interacting with the device, perhaps by mandate of employer (Position 1). As investments of psychic energy pay off and goals are actualized, consumers move toward *Embracing Transition* (Position 2) and hence engage in further *Integrating* (Position 3).

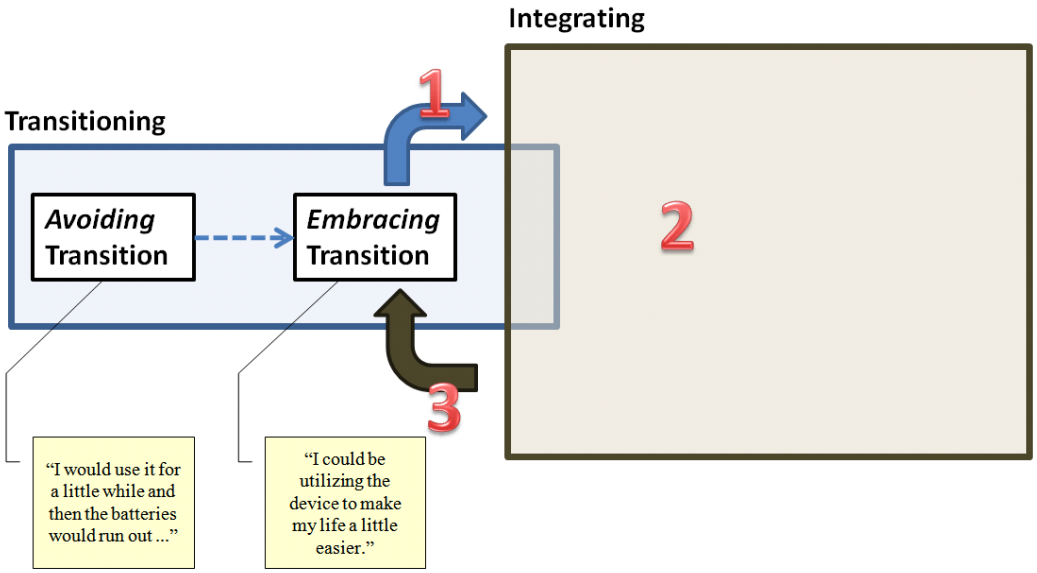

Figure 3-12: Kayla's "*Embracing Transition* to *Integrating*" Experience

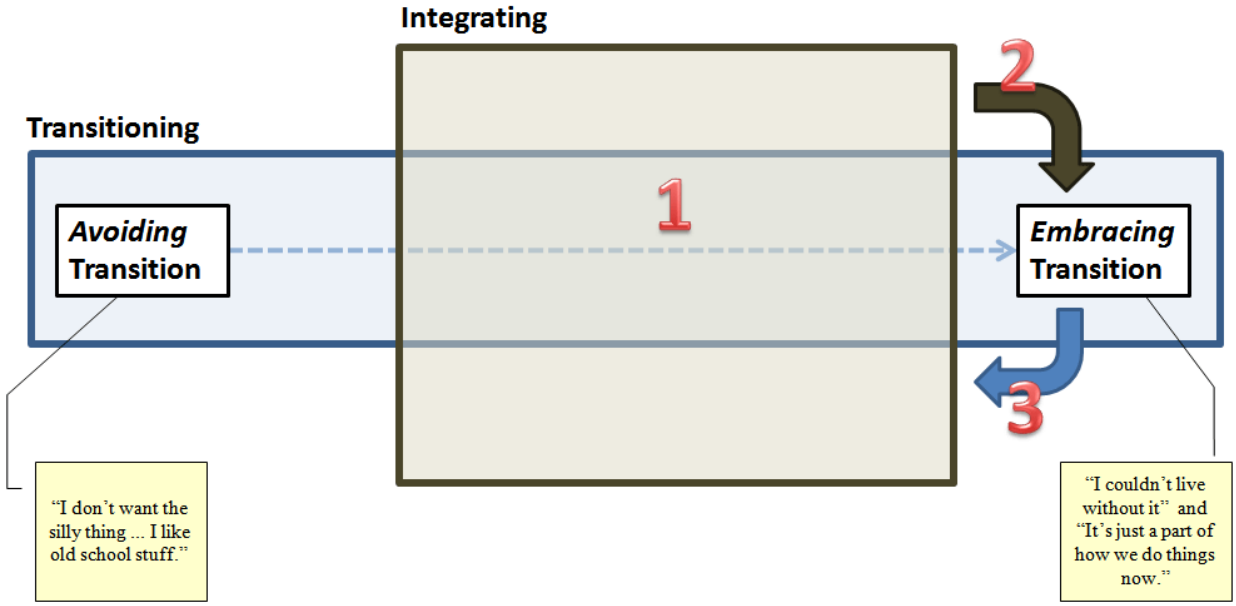

Figure 3-13: Barbara's "*Integrating* to *Embracing Transition*" Experience

From either starting point, as consumers commence with *Integrating* their daily activities into the MTD and thus begin to experience early gains from investing psychic energy and achieving goals, the positive feedback amplifies *Embracing Transition*. The reciprocating nature of this property begins to facilitate the ecological shift in consumer life-worlds. Note that in both cases, participants moved from *Avoiding Transition* to *Embracing Transition*, albeit along two different trajectories. Kayla transitioned from interacting only sporadically with the device to later acknowledging that "you put your life into it." Although Barbara initially found herself *Avoiding Transition*, in part because she was "old school," as she integrated the MTD

into her life she eventually moved toward the other end of the continuum, enthusiastically *Embracing Transition* as she indicated in the chapter's opening excerpt: "I couldn't live without it." But first, she had to "pass through" the stage of *Integrating*. To be sure, as she indicated in the previous section, she appears to have resolved herself to the ecological change (i.e. "It's just a part of how we do things.").

Continuing with Susan's experience of *Transitioning*, where at first she indicated *Avoiding Transition* because she did not suspect the need for her MTD's various capabilities (e.g. camera, internet), she eventually found herself *Embracing Transition* to the point of not only *Integrating* it with many aspects of her life, but upgrading to a supposedly more capable device, which is with her nearly always:

> "This is the second [brand of MTD] I've had. It's nice. I like it better than the other one because it's got a camera. And a media card, which is handy. The other [MTD] I loved just because of its functionality but this one you can do a little more with. I like having the camera on there a lot. I like photography and I really like to be able to capture stuff. It's internet-capable. I use it all the time for that. Text messages I use it for. I actually have it set up so that I get a little reminder when I have an email so it's connected to my email account. It's my alarm clock. It's my date book. It's my address book. Really it's with me *all* the time." (emphasis original, Susan)

It should be noted that while the criteria for participant selection excluded prospective consumers of MTDs, hypothetically they could begin the process of *Embracing Transition* even prior to acquisition. Such is probably the case with "lead users" or "gadget lovers" who are known to wait in line the night before the release date of their desired MTD. Nothing about possessing or interacting with the device, save perhaps brief encounters with demo models in the showroom, would have led to their *Embracing Transition*. They are presumably subject to the

impact of public perception and perhaps conspicuous consumption -- indeed the "swell of the hype" -- and as a result transition immediately to *Integrating* the device. This would represent an accelerated movement along the trajectory of *Transitioning* and a scenario opposite that of Barbara's more hesitant experience.

The process that typically facilitates movement from one extreme of *Transitioning* to the other, and furthers the progress of the other two stages of *Integrating* and *Bonding*, is *Negotiating the Learning Curve*. Its conceptualization and indicators are presented next.

Negotiating the Learning Curve

> "Yeah, it's trial and error ... I learned a lot of it from the people I worked with, the ones who used theirs … they showed me all the different things they could use it for. And I just played with it too … I didn't read manuals, but there are a lot of the help files already on there, so there's a Graffiti [MTD handwriting system] help. And there's a shortcut you can do on screen to take you to Graffiti anytime you need it. Make a straight line down the middle of the screen and it opens up the Graffiti screen and it has all the commands for the different characters on there. You can do that. I think I might've used a quick start guide. Just to double-check how to do everything." (Katy)

> "When I get a gadget like this, I automatically approach it with the understanding that it's going to take me a while to learn how to use it. And so I'm sort of patient from the get-go I guess … in terms of learning how to use them. There's obviously a curve, but you get quicker and quicker at using it." (Levine)

A major property of *Transitioning* which affected all participants in the research was the process of *Negotiating the Learning Curve.* It is a property which also cuts across the overall process of *Cultivating the Self,* commonly overlapping with the *Integrating* stage. As consumers increasingly engage in *Integrating,* they become aware of functionality and potential capabilities within the MTD for which they often find themselves *Negotiating the Learning Curve*. The

gerund "negotiating" was deliberately chosen to establish the notion of an ongoing series of "give and take" measures, as opposed to the finality implicit in a more optimistic label such as "overcoming the learning curve." While efforts at learning how to use the device certainly begin when an initial commitment is made to transition to the device, the learning curve is constantly being negotiated, even well after first steps toward *Transitioning* have occurred. Based on the feature-laden nature of MTDs, *Negotiating the Learning Curve* may seem to never end, or ceases only when a consumer actively engages in *Limiting Functionality* and chooses to correspondingly limit their need to learn more as well.

This "perpetual process" of learning can be attributed to the evolving nature of the devices themselves. It has been demonstrated in Chapter One, and readily discovered by anyone who has a history of exposure to technology in general, that an increasing number of features are integrated into mobile technology devices over time. As new mobile technology devices come to market, additional features are typically presented to the consumer, as indicated by the addition of the camera in Susan's second MTD. New product introductions often mean entirely new user interfaces. But even for existing devices, hardware and software upgrades introduce new functionality by their very nature.

In spite of the complexities, consumers go to seemingly great lengths to learn and integrate the devices into their lives. Especially telling are efforts at *Negotiating the Learning Curve* of the user interface, and particularly the task of entering data. Due to their compact size, consumers must often learn new methods for getting information into the device, compared to existing means for data entry (i.e. keyboards, handwriting). While some MTDs attempt

handwriting recognition, or have miniaturized versions of standard QWERTY keyboards, most devices require the consumer to learn a new way to interact with the device's user interface. Kayla describes her experience with this issue as she explains her attempts and setbacks in learning the proprietary Graffiti "short-hand" recognition system used to enter data into her MTD:

> "Well, and I think it's kind of like typing the right way. When you learn how to keyboard, you get faster as you get more familiar with the technology. So, it just really depends on how much you practice. *Because if you're using it a lot, it's a great incentive to learn how to do it faster*. Especially when I was in the marketing communications field, you had to be fast because you might have had a client standing right there. Or, and sometimes you know what I'll do – if I don't have the Graffiti at top of mind or if it's going to take me too long – if I'm talking to somebody on the phone and I need to get something down – sometimes I'll grab a Post-It pad and write it down real quick and I'll write it into [the MTD using Graffiti] later." (emphasis added, Kayla)

Eventually Kayla became more adept at the unique writing system, but her persistence indicates the lengths consumers will go to in order to learn and thus transition to the device. Of note is her comment about the incentive to learn, which reflects the "*Integrating* to *Embracing Transition*" positive feedback loop discussed in the previous section.

That consumers are willing to overcome the challenge of learning an entirely new way to write in order to transition to their MTDs is the assumption that underlies the strategy of the pioneering producers of Palm brand MTDs. In 1994, competing head-on with the then-breakthrough Apple Newton, Palm abandoned the idea of attempting to recognize handwriting styles and instead reversed the logic, requiring consumers to learn the Graffiti short-hand system. This freed up considerable processing power ordinarily required to manage the complexity of handwriting recognition, thus increasing the PalmPilot MTD's performance and

decreasing costs. Despite significant criticism from both inside and outside the company, the decision was made to rely on the assumption that consumers would find the capabilities of the PalmPilot MTD compelling enough to embrace the learning curve. The PalmPilot MTD was enormously successful and the Apple Newton failed in spite of its innovative qualities. As company founder Jeff Hawkins explained, "People like to learn how to use things that work" (Dillon 1998).

Although Graffiti represents a challenge many consumers are willing to accept, usability of MTDs nonetheless presents obstacles. Consumers might simply resolve themselves to the fact that MTDs are complex products and thus accept that learning how to use an MTD is never complete, as in Levine's case above. For him, *Negotiating the Learning Curve* is recognized as an ongoing endeavor and expectations are established in accordance with that assumption. In recognizing and verbalizing "the (learning) curve," Levine shares his strategy, claiming to simply harbor patience with his MTD. Although it is unreasonable to expect all consumers to assume such a Zen-like posture toward the task, indicators in the data point to a marked persistence in attempting to master potentially complex MTDs, seeming to confirm the assumption made with the PalmPilot strategy. Whether patient in their approach or not, consumers rely on two main strategies for *Negotiating the Learning Curve*. Katy's opening excerpt reveals indications of both: Experimenting and Learning from Others.

Experimenting

> "I just basically – didn't want to read the book. I mean, I'll read the book on like TVs and stuff like that, but this I just play with. To figure out how it works, I just experiment

> [laughs]. I just start pressing buttons. It's pretty intuitive. These things have come a long way." (Jaren)
>
> "But yeah, I've had to learn it and adjust to it. And for me, in baby steps and learning how to do different little things. Because it can be cantankerous." (Wilma)

Whether or not they become masters of potentially "cantankerous" MTDs, consumers typically proceed in *Negotiating the Learning Curve* by simply experimenting through "trial and error," to use Katy's words in this section's opening excerpt. By experimenting, consumers avoid lengthy manuals, as both Katy and Jaren have admitted, and still manage to learn how to integrate the device into their daily lives. Going back to the chapter's opening excerpt from Barbara, her overall experience implies that interacting with the MTD has occurred through experimentation, or as she puts it "one thing at a time." There, she also explained that others show her features on the device, thus indicating that she takes advantage of the next strategy for *Negotiating the Learning Curve*.

Learning from Others

Consumers can learn from other peoples' interactions with MTDs, whether through active instruction or passive observation. This strategy is often used in conjunction with Experimenting, as indicated in both Katy and Barbara's experiences. Unlike a fixed or relatively less portable technology, such as a television or personal computer, MTDs are often subject to interpersonal observation and discussion due to consumers' proximity to and frequent interaction with them. Hence, they present ample opportunities for Learning from Others. The reciprocal to Katy and Barbara's indicators of Learning from Others is the process of teaching others:

> "I was sitting around the campfire one night and something came up about [MTDs] and I said 'I've got one' and everybody asked to see it. So I demo'd it, you know. People just want to see it. They want to see how it works." (Deborah)

This ongoing process of learning and teaching about MTDs amounts to an acculturation of the products. Pickering (1997, pp. 46-48) highlights this tendency for "sociocultural learning," or transmission of knowledge about technological practices through everyday social interaction. In sum, technological aptitude is transmitted through societies and generations as it arises through *action*, more so than abstract or formal venues of learning. As such, even when they are not overtly seeking to engage in either learning or teaching, because consumers keep MTDs closer to them than most other possessions, acculturation of the products occurs through awareness and knowledge based on their ubiquity, even under unlikely circumstances such as Deborah's campfire situation.

Pickering (1997) goes on to point out that this passing on of technological knowledge is especially prevalent from adults to children. While a proper discussion on the topic would go beyond the domain of the current category, participants did indicate experience with interpersonal interaction involving children and MTDs, particularly as it pertained to young peoples' curiosity and desire to learn how to use the devices:

> "My son steals it away from me [laughs]. I mean, he is four years old and with limited computer experience, he can figure it out. My two year old daughter tries to figure it out. They navigate the thing all by themselves, especially with the games. I mean, my daughter knows how to touch the screen, slide it over to get to an application. She knows to touch the application. She knows to select the window that she wants to go to. Shapes or colors or what have you. She knows how to play it and to click on the 'X' which goes back to the main screen and select the next one. I mean, she's two years old." (Maury)

> "But, you know, then my son will say 'Mom, how do you do such and such?' or 'Where is so and so?' And I'm like, 'Well … I don't know, let's look that up.' Just the other day we were driving in the car and he was like, 'Can we go to a movie today? What time are the movies on?' So, let me look it up! And we knew what time the movies were. So we were out but we could say, OK let's finish these errands. We'll go get us some lunch and then we'll go to *this* movie, and it allows us to plan our family day together. But we could do it [snaps finger] and we could do it very easily. So even my son appreciates the kind of the information availability you've got. The real-timeness." (Deborah)

These interaction triads between consumer, MTD, and family member give rise to ongoing learning scenarios. They also support the notion that MTDs change not just the lives of consumers, but their life-*worlds*. As these indicators of Learning from Others exhibit, other members of the household are involved in *Transitioning* to the device as well, lending further support to the notion of ecological change.

Next, the processes of *Limiting* and *Converging Functionality*, instantiations of further strategies for *Negotiating the Learning Curve*, will be discussed.

Limiting Functionality and Converging Functionality

Limiting Functionality and *Converging Functionality* are two concepts that represent ends of continuum which make up a sub-process of *Negotiating the Learning Curve*. As part of the greater process of *Transitioning*, this conceptual dimension pertains to how consumers take note of, consider, and select the functions within their MTD that they will interact with, and thus the capabilities they expect to cultivate. In other words, it involves which of their everyday life activities will be integrated with the MTD and hence where and how they will invest psychic energy into the device. On the one hand, consumers can voluntarily refrain from *Transitioning* to and *Integrating* particular features or aspects of their MTD into their lives, thus *Limiting*

Functionality. On the other hand, they can include even more capabilities through *Converging Functionality* from other products.

As an example of instantiations of both concepts, in the case of *Limiting Functionality*, a consumer may be aware that their MTD is capable of making phone calls, storing addresses, maintaining a calendar and taking photographs, but they choose not to use the camera feature, at least for the time being. In the case of *Converging Functionality*, a consumer who is carrying a mobile phone, a portable MP3 player, a handheld calculator, a watch, and an MTD exhibiting functionality of all of the those products decides to abandon one or more of the other devices and instead take advantage of that capability as it exists in the MTD. Note that the two processes are not mutually exclusive. A consumer can engage in *Limiting Functionality* (i.e. deciding not to use the camera feature) while simultaneously *Converging Functionality* (i.e. deciding to use the MTD's calculator feature in lieu of a separate handheld calculator).

Limiting Functionality

Where a consumer is aware that their MTD has capabilities they are not *Integrating* into their life, they are *Limiting Functionality*. Of importance is the fact that they have knowledge that other features exist but still refrain from taking advantage of them. In this way, they are purposely *Avoiding Transition* to that capability. As this concept is part of *Negotiating the Learning Curve*, we will continue with Levine's conversation started earlier in that section:

> "If you look at it I know it's obviously possible to download all kinds of software for these things, but I never have. It probably entered into my decision and I probably even over the years expected to load more stuff on to this thing. I just never have. It's always been the stock, out-of-the-box software that came on it. So just by that I'm limiting what I can do on it beyond calculator, date book, addresses." (Levine)

Here, Levine is certainly *Limiting Functionality* but still *Embracing Transition* nonetheless, ultimately *Integrating* the "out-of-the-box" features that are included with the MTD. Consumers who are *Limiting Functionality* because they do not have the inclination to learn how to use other features are engaging in what can be thought of as "rational ignorance." Rational ignorance is a concept borrowed from economics that suggests when the cost of educating oneself about something exceeds expected benefits from having that knowledge, one will remain intentionally ignorant (Downs 1957; Schumpeter 1950). Re-articulated as a process, it will be understood here as Rationally Ignoring.

Rationally Ignoring can be seen as a strategy to avoid *Negotiating the Learning Curve* for a given feature or features. Consumers have a limit to their willingness to learn, implying variance in the degree to which they will tolerate experimentation and muddling through the learning process. As Katy and Jaren concur, consumers are generally averse to reading lengthy user manuals. Hence they are Rationally Ignoring the information. This is a phenomenon no doubt recognized by producers of MTDs, as evidenced by the introduction of "Quick Start Guides" and video tutorials.

Consumers indicate that time constraints prevent them from *Negotiating the Learning Curve*, and thus result in their Rationally Ignoring capabilities. In light of his claims for having plenty of patience, time appears to be more scarce for Levine:

> "Yeah, I'd say it's related to *time issues*. You know, I just didn't have time to research all the softwares you could load on it. Didn't have time to think through what do I do in my daily life that I could move over to this thing." (emphasis added, Levine)

Although Levine effectively limited the potential functionality of the device due to not having time to learn about all of the things he could install onto it, he recognizes the opportunity, or receptiveness, the MTD has for *Cultivating the Self* through the things he does in "daily life." Through this realization, Levine also alludes to a problem with Rationally Ignoring, which is that one does not always know how much knowledge will be worth until it has been acquired.

In Kayla's case, attempting to synchronize technologies presents an obstacle that limits functionality. With a goal of consolidating the psychic energy invested across several technology products, she mentions the impediment of time constraints and indicates a tolerance level (i.e. "three hours") for experimentation before she decides to abandon the effort:

> "I've got some data on my mobile phone that I want to move over to the MTD. But it's one of those things. Anything I do on the computer takes three hours, I've found. *And I don't have three hours right now*. It's the trial and error part. It might not take that much time, but I don't feel like I have any to spare to mess with it. And I think that's where the toy thing ends with me. If it's going to take me longer than I feel like is prudent to use on playing with gadgets, then I give up on it and I just go with it as-is." (emphasis added, Kayla)

Like Levine, Kayla here is satisfied in *Negotiating the Learning Curve* for and *Transitioning* to the "standard" or extant functionality of the device. *Limiting Functionality* can thus be understood as an outcome for consumers who have reached thresholds of the learning curve before Rationally Ignoring the would-be capability. The threshold will certainly vary across consumers, but the end result is that when attempting to transition to certain capabilities within the MTD, if the threshold is exceeded and the costs of learning are not thought to be worth the benefits, the outcome is one reason consumers will engage in *Limiting Functionality,* as can be interpreted in Wilma's case:

> "It's great for email and OK for phone use. I don't really use it to get on the internet to check my stocks or anything else. *I haven't taken the time to learn that.* But calendaring is very good. If you're in a meeting and you feel like you need some information or somebody's phone number or something you can just call up what you need." (emphasis added, Wilma)

Wilma has been and is *Transitioning* to the device by *Integrating* many of its other features, and in fact can be recognized as *Embracing Transition*, despite Rationally Ignoring and *Avoiding Transition* to the particular feature of the internet.

Note that rational ignorance is a different phenomenon than what can be thought of as naïve ignorance. Rational ignorance is knowing that something exists, but ignoring it. Consumers know features are there, but choose not to use them. This "willful blindness" is different from not knowing about a feature and hence not using it, which was the case for Kayla and Barbara in the beginning, as they indicated in their excerpts in the *Avoiding Transition* explanation above. In effect, naïve ignorance is not knowing what you don't know. As such, naïve ignorance is a state of being, not a process -- one cannot naively ignore. Both types of ignorance can be reasons for *Avoiding Transition*. Rationally Ignoring can result in *Avoiding Transition* to the particular capabilities ignored (i.e. "I know what it can do but don't want to do it"). Naïve ignorance can result in *Avoiding Transition* to the device itself (i.e. "I didn't know what it could do").

Mechanical limits to the device's interface can also constrain consumers and curtail what they do with the device. The size of the display screen, a technical attribute of the device which consumers have no control over once the device is acquired, can nonetheless result in *Limiting Functionality*:

"Honestly I didn't use it to its full potential because it had the miniature office software. You could do word processing on the thing but realistically who wants to type on a 3.5" screen?" (Maury)

"The writing is too small when you're trying to read something. It's not very intuitive to change if you can." (Jeff)

"It's got such a small screen, it's hard to maneuver with it [in certain applications]." (Wilma)

"I find myself printing out some [documents on the MTD] just so I can read them, because if it's long I don't like reading it on the device. It's too narrow and I just don't like doing that." (Peter)

Additionally, while consumers do overcome challenges of data input, such as learning Graffiti, the constrained size can make using miniaturized or virtual keyboards difficult:

"Opening up big documents can be a real limiting factor and if I want to send a lengthy note I can't do that because I don't like typing on it. It's so small and laborious trying to type in a note. If I can get by with a yes or no sentence, then I'm OK but anything that would require paragraphs I wouldn't do." (Peter)

"I have email access from it so I use that to some extent but it's easier to email with a full-size keyboard on a full-size computer than it is on the chincy [MTD] with one of those tiny touch-screen keyboards. But I've used it for that purpose to some degree." (Maury)

"Because I've tried to use that, um, I'm forgetting the terminology – it's like the short-hand where you can learn the letters [Graffiti]. So I use the keyboard. It's not a keyboard but where it pops up and it's a keyboard on the digital screen that you tap out. And so I'm pretty slow. I mean, I've gotten quick on it but I am not quick enough to nearly type out a long message." (Jaren)

As technological advances continue to be made in this product category, it is reasonable to assume that producers will overcome these limitations at least to some degree. Improvements in usability will promote further progress in *Cultivating the Self*, and likely garner even more

consumers. In the meantime, that consumers will continuing interacting with their devices in spite of these challenges is a testament to their importance.

Converging Functionality

> "You want to have so many devices in one thing. You want something that has a phone, a decent digital camera, calendar function, all that in there and it automatically syncs with the computer." (Jeff)
>
> "So it was like, dammit, I just want one thing with all [the features] I want. So I started looking into [MTDs]." (Deborah, on her transition to an MTD from a standard mobile phone)
>
> "Not only does it contain all the phone numbers of people I know, it has loads of treasured SMSes [text messages], acts as my watch, has become my photo album, contains very cute video recordings of my dog and doubles up as a torchlight at night." (Tan 2006)

In contrast to *Limiting Functionality*, some consumers want more. Consumers engage in *Converging Functionality* when they integrate capabilities from other devices or products into their current MTD. As consumers increasingly find themselves owning and carrying multiple technology devices, they can exhibit an inclination to merge their attributes and functions. Instantiations of converged functionality presented here were gleaned from participant indicators, observation, and secondary sources.

Converging Functionality can come from other electronic devices, portable or otherwise, as well as non-electronic products for which the MTD exhibits a substitute function. Consolidating capabilities from other electronic devices will be characterized as a "soft" (i.e. software) form of *Converging Functionality*. Examples would include leveraging the increasingly popular global positioning system (GPS) functions within MTDs in place of

dedicated navigation units intended for use in automobiles. Digital voice recorders can be replaced by similar functionality through microphone-bearing MTDs. As nearly all MTDs have a built-in camera, dedicated digital cameras need not be carried. FM radio tuners are increasingly included in MTD feature sets, as well as the ability to play MP3 music files, thus eliminating the need for separate portable music players. Technological convergence, including consumer preferences for and against, is a well-documented phenomenon in new product development and information technology literatures (Meall 2008; Mitchener 2008; Stapleton and Hughes 2006).

Converging Functionality from other non-electronic products will be explained here as a "hard" form of the process, connoting "hardware" exchange of functionality, some of which might not normally be considered as part of an MTD's repertoire of capabilities. That MTDs are fast replacing wrist-worn watches is an acknowledged phenomenon, especially relevant to the watch industry (Krueger 2005). Consumers use the reflective surface of MTDs as a mirror, similar to a cosmetic-type compact. MTDs can replace the traditional acetate-covered photo booklet carried by consumers in their wallets and purses, as well as other wallet-sized cards or pamphlets, including train schedules, calorie counters, metric conversion tables and, of course, the "little black book" or paper-based calendar/organizer. After the Twin Towers attack on 9/11/2001, occupants were known to have navigated through the darkened building using the backlight from their MTDs (Martin 2005).

Converging Functionality is indicative of consumers' wanting to concentrate psychic energy into a single object. Participants have alluded to this preference in their indicators, with

Levine citing preference for "putting [information] in the same place, where I always know where it is," and Susan's appreciation of "being able to have all the stuff that this does in one relatively compact little device." As consumers continue to converge capabilities into their devices, and producers continue to facilitate the demand, their propensity to interact with them will likely increase.

Attention will now shift to the property of *Devaluing Public Meaning*, a process which begins to occur while *Transitioning*, and can continue throughout the experience of *Cultivating the Self*.

Devaluing Public Meaning

Consumers are aware of the meaning attributed to their MTDs by the public, especially at early stages of the process of *Transitioning*. They articulate this understanding as "the cool factor." Through *Devaluing Public Meaning*, as consumers proceed along the *Transitioning* trajectory, a shift occurs in their understanding of "the cool factor," whereby the public's evaluation of MTD "coolness" is de-emphasized and "cool" comes to represent the usefulness and intimacy of the device.

An explanation of *Devaluing Public Meaning* begins with indications of how consumers understand the public's evaluation of their MTDs. Deborah and Susan discuss MTD interaction in a social context, referring to the related "coolness" of their respective and competing brands of MTDs. The following comment from Deborah's took place about six months after starting initial transition to her MTD:

> "Um, the funny thing about having the [MTD] -- I mean there's several of us here at work who have them and we all kind of laugh at ourselves and each other and go 'Ooh, aren't you cool.' But there is this cool factor with the [MTD] when I will be out in public places. You know, I'll be standing in the queue at the airport to go through security or something, you know, and if it's a really long queue you've got lots of time so everyone's there with their [competitor's MTD]. Clicking through their emails and what have you. So I pull out mine and more than half the time, somebody in the crowd, in the snake line, says 'Ooh! You have a [particular brand of MTD]? How do you like it?' You know, and then they want to see. So there's definitely a cool factor there, you know [laughs]." (Deborah)

The following response from Susan reflects back on her experience after interacting with the MTD for approximately 18 months:

> "Really, honestly, I just … when I first looked at them, I just knew the [MTDs] were cool. You see them everywhere. And I don't mean just like celebrities or whatever. I mean ... I've certainly met people at a restaurant or wherever and they're like 'Is that an [MTD]?' And I'm like 'Yeah' [laughs]. And so, I think everybody kind of recognizes it." (Susan)

While the public's perception of "coolness" might be a consideration during early interactions with the product, as the processes of *Transitioning* and *Cultivating the Self* unfold, such concerns do not continue to resonate with consumers in the same way. In short, the socially-derived symbolic meaning of the device undergoes a notable change. Kayla provides an indicator of this transformation:

> "When I first got it, it was because everybody in my office had one. I probably had it just to be cool [laughs] because it looked cool ... There is something to that. And now it's just because it's handy … um, and I know it'll be there." (Kayla)

Admitting that her peer group influenced her motivation to acquire the MTD, Kayla then characterizes a shift from considering the meaning as attributed by "everybody in [the] office" and her subsequent attempt "to be cool because it looked cool" to understanding the device more for what it can do (i.e. "it's handy" and "I know it'll be there"). This indicates a progression from

"having as being" to "having as doing," and presents an inversion of the causal relationship proposed by Belk's (1988) Sartrean interpretation. Deborah describes a similar shift in meaning, supplementing her earlier comments on "the cool factor" with follow-up correspondence approximately nine months later:

> "The 'cool factor' is still there, but now it's become more a part of everyday life … My husband, who was resistant to the [MTD] because he was resistant to the 'cool factor' … went with the [MTD] somewhat reluctantly. After only a few days, he was besotted with the [MTD] and all the 'cool' things he could do with it, and the ease with which he could do it. So he's a convert to 'cool' now." (Deborah)

Deborah's choice of words also indicates an important transformation in nomenclature. Here, the very meaning of the word "cool" as it is used to describe the device undergoes a *semantic* shift from symbolism to substance that parallels the *processual* shift from concern with public image (i.e. "having as being") to a more operable integration (i.e. "having as doing") into life. Whereas the MTD is initially considered "cool" because of the public perception associated with it -- what it *is* -- later it is understood in terms of the "cool things" it can *do*.

Chad echoes this shift in the meaning of the word cool. After a lengthy discussion on how his particular brand of MTD has many "cool" characteristics, from the product's design to the store experience to the very packaging the product came in, Chad's final analysis is a concession that "cool" involves not so much the product's image (i.e. "the cool way they do stuff") but the capabilities (i.e. "it can be effective and efficient" and "yeah it's cool, but it also does *this"*):

> "And at the same time, once you get into the gadget you realize that not only is it cool the way they [the producer] do stuff, but it can be effective and efficient too. Much of the stuff

> I don't believe they just do for kicks, they'll say yeah it's cool but it also does *this*, so I think that's really what it is." (emphasis original, Chad)

These indicators collectively represent the property of *Devaluing Public Meaning*. While residual meaning associated with public perception of MTDs might remain, the figural process for consumers is how the nature of their MTD's "coolness" evolves over time, moving from a state of being to a process of doing as it covaries with their experiences of *Transitioning* and *Cultivating the Self*. Attention will now turn to extant theories that contribute to understanding this process.

Transformation of the Meaning of Social Influence

The acknowledgement of public meaning as indicated by participants in the previous indicators closely reflects an extant theoretical concept known in social psychology and consumer behavior studies as *social influence* (Blackwell, Miniard, and Engel 2005; Burnkrant and Cousineau 1975; Cialdini and Trost 1998; Cohen and Golden 1972; Deutsch and Gerard 1955). As it relates to purchasing behavior, social influence typically pertains to pre-acquisition decision-making processes. Although this dissertation did not pursue consumer experiences in such contexts, the phenomenon emerged in the transformative sense indicated above. Thus, consideration of social influence as it relates to consumer interaction with MTDs and consequential meaning-making is warranted.

A voluminous stream of research has been produced regarding the issue of social influence on consumer behavior, especially as it pertains to impact on brand preferences, assessing product quality, and decisions to buy (Argo, Dahl, and Manchanda 2005; Bearden and

Etzel 1982; Burnkrant and Cousineau 1975; Childers and Rao 1992; Dholakia and Talukdar 2004; Fisher and Price 1992; Mourali, Laroche, and Pons 2005; Park and Lessig 1977; Pincus and Waters 1977; Stafford 1966). Some research has considered social influence as a factor in technology adoption (Tomaseti and Ruiz 2007; Venkatesh and Brown 2001; Venkatesh et al. 2003), particularly adoption of publicly consumed, high profile innovations, such as MTDs (Hong and Tam 2006). In particular, marketers have recognized and attempted to harness the "the cool factor" for products and brands as it pertains to buying decisions (Levy 2009; Nancarrow, Nancarrow, and Page 2002; Olson, Czaplewski, and Slater 2005). However, this entire body of work has largely neglected social influence's potential impact on post-purchase phenomena. It also assumes that susceptibility to social influence (Bearden, Netemeyer, and Teel 1989, 1990; Netemeyer, Bearden, and Teel 1992), is a relatively stable, latent personality trait, thus belying the dynamic shifts in response to social influence as a result of ongoing interaction with products.

In one of the few attempts to understand the effect of social influence on post-purchase meaning-making, Richins (1994) provides a useful characterization of the difference between public and private meaning. The author relates meaning to value on the same premise as this dissertation, which is to say that value is assumed to be derived from meaning due to a consumer's "value in use," or consumption experiences with a product (Holbrook 1994) and not just economic "value in exchange" (Richins 1994, p. 505). In line with the position taken by Csikszentmihalyi and Rochberg-Halton (1981), Richins (1994) goes on to suggest that products

play a role in both communicating and developing the self, and supports Solomon (1983) in arguing that this transpires through both public and private meaning-making.

Richins (1994) and Solomon (1983) suggest that products are consumed for both their public and private meanings. Public meaning is defined as "subjective meaning assigned to an object by outside observers (nonowners) of the object, that is, by members of society at large" (Richins 1994, pp. 505-506). This is in line with a symbolic interactionist view, where "out of a process of mutual indications common objects emerge -- objects that have the same meaning for a given set of people and are seen in the same manner by them" (Blumer 1969, p. 11). Deborah and Susan's earlier acknowledgement of the public's perception of MTDs' "cool factor" support this characterization.

Private meanings are defined as "the sum of the subjective meanings that [an] object holds for a particular individual" which "may include elements of the object's public meanings, but the owner's personal history in relation to the object also plays an important role" (Richins 1994, pp. 505-506). Richins (1994) goes on to employ Csikszentmihalyi and Rochberg-Halton's (1981) concept of cultivating psychic energy to explain how "the value and meaning of an object is 'cultivated' over time and emanates from the psychic energy invested in it" (Richins 1994, p. 506). The author goes on to further explain private meaning as tending to be idiosyncratic due to the idiosyncratic and thus multiplicitous *uses* of the objects. Without explicating it as such, this articulation supports Blumer's (1969) symbolic interactionist characterization of the "infinite meanings" of objects in use.

The foregoing conceptualization of public and private meaning provides a platform for understanding the current property of *Devaluing Public Meaning*. As depicted in Figure 3-14, which uses Kayla's experience from above as an example, while the MTD is still understood in terms of public meaning (represented by red figures and sphere), over time emphasis changes to "idiosyncratic" or private meaning (represented by blue figure and sphere). Richins (1994) and Solomon (1983) recognize that both meanings exist, are important, and evolve. They also articulate the origin of both types of meaning in a way consistent with participant indicators and a symbolic interactionist approach. But they do not account for how one type of meaning or the other can shift in emphasis based on the dynamics of ongoing interaction. In attempting to understand the shift, symbolic interactionism proves useful.

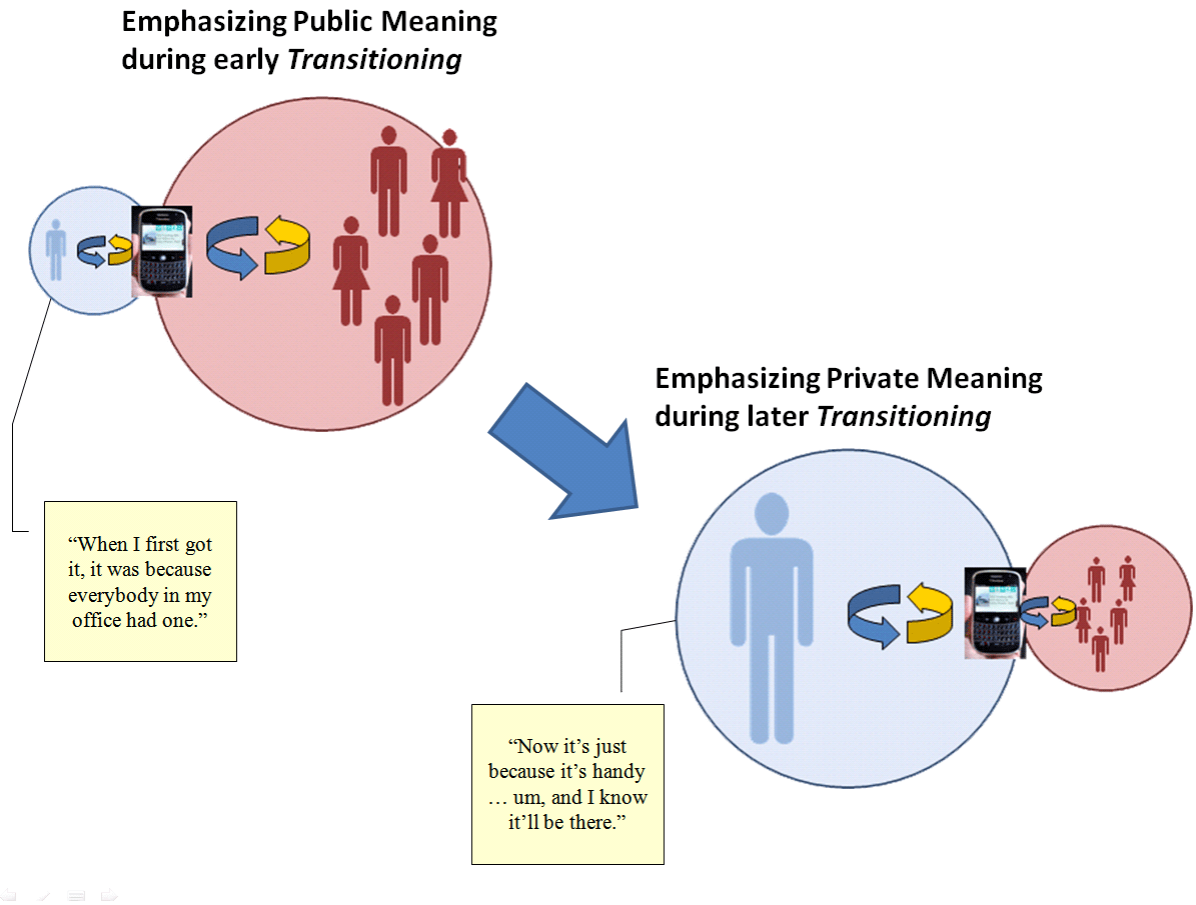

Figure 3-14. *Devaluing Public Meaning*: A Shift in Emphasis from Public to Private Meaning

Symbolic interactionism is primarily concerned with the nature of meaning and, as per Richins's (1994) intent, does not set out to establish the degree to which meaning, as derived from interaction with self, society and the object, can be measured. However, it does accommodate the potential shift in emphasis proposed here. While symbolic interactionism views all objects as *social* objects, for which meaning is derived only through social interaction, the nature of that socially-derived meaning is subject to change as interaction with the object changes:

> "The meaning of anything and everything has to be formed, learned, and transmitted through a process of indication -- a process that is necessarily a social process. Human group life on the level of symbolic interaction is a vast process in which people are forming, sustaining, and *transforming the objects of their world* as they come to give meaning to objects. Objects have no fixed status except as their meaning is sustained through indications and definitions that people make of the objects. *Nothing is more apparent than that objects in all categories can undergo change in their meaning* ... The life and action of people necessarily change in line with the changes taking place in their world of objects." (emphasis added, Blumer 1969, p. 12).

Thus, while always a factor in understanding objects to some extent, the role of social, or "public," meaning is recognized as being malleable. Simply put, in the current theory, the meaning of the device in terms of how others regard it undergoes a change as consumers interact with it and society over time. Although Blumer (1969) provides examples at a historically evolving "human group life" level of how this change can happen, such as "a star in the sky being a very different object to a modern astrophysicist than it was to a sheepherder of biblical times" (p. 12), by its nature symbolic interactionism accommodates transformations of meaning at an individual, or private level as well.

From a symbolic interactionist perspective, the way in which the MTD, as a social object, is construed by society contributes *a priori* to a consumer's understanding of the device, but does not constitute that meaning in totality. The consumer already arrives at the device with some notion of meaning in mind, based on his/her interaction with society as it relates to MTDs. It is up to this point in the meaning-making process that research on social influence in consumer behavior and marketing has attempted to understand and manipulate that meaning. Over time, however, ongoing interaction with the MTD transforms that meaning, devaluing the contribution from society (i.e. social influence), and shifting primacy to personal meaning. Applied at an individual level, an inversion of Blumer's final statement in the excerpt above, still fully in line with the reciprocating nature of interactionism, would assert that change in an object's meaning for a person occurs as a result of changes in the life and actions of that person over time.

Contributing to a gap in consumer behavior research, the process emergent in *Devaluing Public Meaning* not only continues to logically extend conceptualization of social influence to a post-purchase context, it does so while respecting the dynamic nature of empirical reality. It supports the argument that symbolic interactionism provides a useful way to handle the potentially volatile meaning of MTDs. In sum, it solidifies a suggestion in Hong and Tam's (2006) pre-purchase research that "[it seems that] information appliances [i.e. MTDs] are not only tools to achieve utilitarian goals or *means to signal social compliance*; they have become personal accessories that are strongly tied to one's individual identity" (emphasis added, p. 172).

Integrating

> "So it's not just a machine. It keeps my life in order. It's my calendar. I can communicate with people easily. I got the phone stuff, the contact list. I mean it's just all -- it's everything I need in one place. And when I get bored, I look at my pictures. And so, it's like being able to stay in touch with personal people, you know, because I can see pictures and flip through pictures and places I've been when I've got a few minutes of down-time. And I'm not one to sit and look at my photo albums at home a lot. I make the photo album then I sit it on the shelf. I flip through my photo album on here *so* much. It's my lifeblood. But it's more than that. I mean, it's got my schedule but because I've got the internet, my husband and I use Google Calendar to kind of keep joint things because both of us travel so much. We can see each other -- what's going on. It just makes our lives easier to coordinate." (emphasis original, Deborah)

Through *Integrating*, consumers select and align activities in their daily lives with capabilities that arise from interacting with their MTDs. These capabilities are enabled by a combination of the applications and facilities endemic to the device, along with creative interaction by the consumer. *Integrating* is the primary means by which consumers invest their psychic energy into MTDs and thus represents the preponderance of explicit consumer activity with the devices. As such, it substantially contributes to the core category of *Cultivating the Self* and facilitates an articulation of the other two stages by motivating consumers toward *Transitioning* to the device and promoting and intensifying the *Bonding* process.

Integrating is a highly substantive, top of mind process that resonates strongly with participants. Left to their own devices (pardon the pun), participants would make *Integrating* the primary topic of their conversations about the phenomenon of interaction with MTDs. As with Deborah's excerpt above, they can readily itemize a flurry of activities that involve interacting

with the MTD. This bundle of actions brings together "conventional," out-of-the-box functionality that consumers and producers might expect MTDs are "intended to do," along with combinations and innovative manipulations of those functions. The following list is a partial representation of *Integrating* activities that emerged across the data:

- Scheduling and being reminded of appointments and tasks (e.g. meetings, doctor visits, television shows, ending online auctions, administration of medicines)
- Connecting to the vast resources on the internet (e.g. news, traffic, stock quotes, sports scores, "on-the-spot" price checks, social networking sites, weather)
- Communicating with others (e.g. phone calls, emails, text messages, chat, voicemails)
- Communicating with self (e.g. journals, diaries, reminders, memos, voice recordings)
- Capturing and viewing photographs
- Capturing and viewing videos
- Capturing and listening to sounds (e.g. conversations, children's first words)
- Creating and listening to music (e.g. humming melodies into voice recorder, using music composition software, listening to MP3s)
- Creating and viewing art
- Organizing tasks and projects (e.g. occupational, hobbies, weddings, reunions)
- Compiling contact information
- Locating and navigating to places
- Composing and reading written documents (e.g. books, newspapers, articles, homework)
- Playing games (e.g. alone or with others)
- Maintaining databases of information (e.g. comic book collections, recipes, medical histories, inventories of possessions and products, shopping lists, gift purchases, employee performance histories, work hours, billable hours, prayer lists, vocabulary words)
- Looking at oneself (in the reflection of the device)
- Providing light in darkness

The *Integrating* process, depicted in Figure 3-15, primarily evolves through activities that contribute to the property of *Organizing Life*. By *Organizing Life*, consumers interact with MTDs in an attempt to form a coherent, ordered structure to their daily activities and goals. *Organizing Life* can involve activities that are reflected in three sub-processes: *Offloading*, *Coordinating Schedules*, and *Optimizing Down-Time*. By *Offloading*, consumers relegate

otherwise mundane information and tasks to the MTD, effectively freeing up time for them to do other things. *Coordinating Schedules* involves consumers organizing social interaction by fitting together joint lines of action between themselves and others. By *Optimizing Down-Time*, consumers "fill in the gaps" of their daily routines by interacting with their MTDs wherever and whenever they are not focusing on other daily activities.

As depicted by the overlapping ovals in Figure 3-15, *Organizing Life* means organizing different *kinds* of "lives." Rarely are MTDs confined to limited types of activities, but as a function of ecologically shifting life-worlds, consumers use MTDs to structure everyday activities that are drawn from multiple contexts. As a matter of convention, these life activities are often bifurcated into two major classifications: Personal activities that occur as part of "home life," and Professional routines that are related to work or occupational duties. While consumers recognize that everyday life activities are often classified as part of one of these two domains, the distinction between them is largely irrelevant as consumers experience the phenomenon of *Blurring Activity Types* while interacting with MTDs.

Organizing Life can be understood as facilitating consumer efforts to create and maintain a sense of control in their lives, a process presented on the far right of Figure 3-15 as *Sensing Control*. As an outcome of *Organizing Life*, *Sensing Control* also serves as a motivation for it and the interrelation of the two processes lends itself to the ongoing progress of the core category of *Cultivating the Self*.

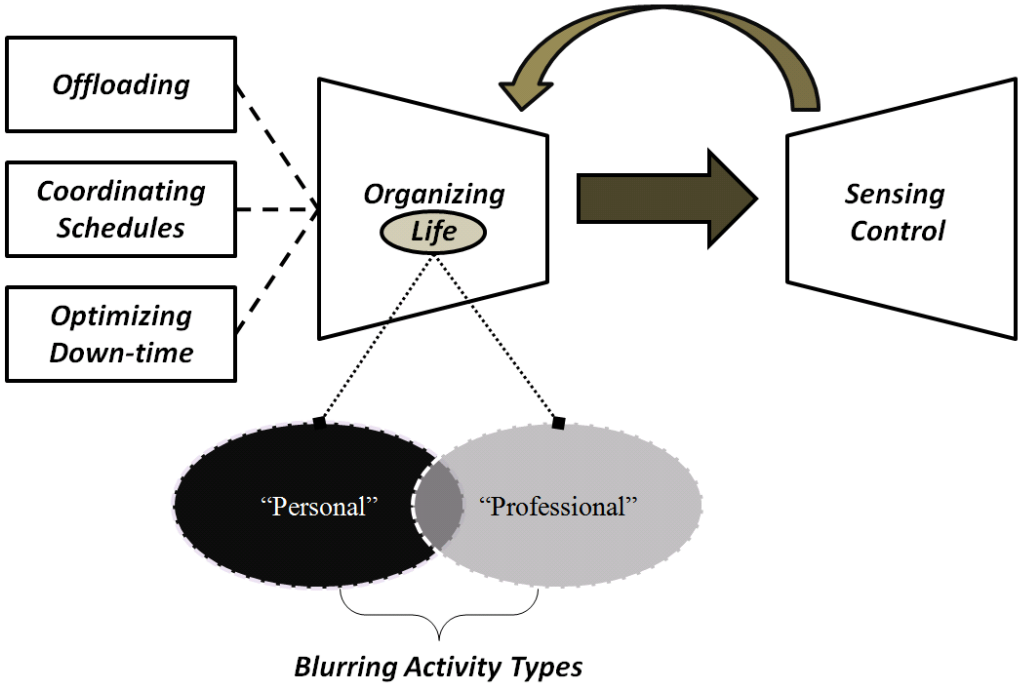

Figure 3-15. The Process of *Integrating* and Its Properties

In Deborah's opening excerpt above, the specific activities that are enabled through the MTD (e.g. calendar, communication, address book) are all part of her efforts at *Organizing Life*. In particular, she engages in *Coordinating Schedules* with her family and *Optimizing Down-Time* by perusing personal photographs. By organizing and enjoying personal data on a device that she has admitted elsewhere is crucial to getting her job done at work, Deborah is involved in *Blurring Activity Types*. Deborah confirms that by helping her organize her daily activities, the device "keeps [her] life in order," corroborating an earlier assertion that by helping her in

"managing" her day and time, the MTD provides a "sense of control" over her life. Both statements serve as overt indicators of the experience of *Sensing Control*.

The following discussion explores the properties of *Integrating* in further detail. While it accounts for a significant amount of activity related to *Cultivating the Self*, *Integrating* is an ostensibly substantive process and its conceptualization predominantly occurs through presentation of empirical indicators emergent from the data, with some import of relevant considerations of extant theory and concepts.

Organizing Life

> "I need this thing to organize and plan my life … It might sound weird but I find my [MTD] to be freeing. Because I have it, I can put my fingers on anything at any time. It's freeing. Once I put something in there and back it up, I let it go. I'm free. If I didn't have it, I think I'd have notes all over. I don't know what I'd do. I mean it organizes my life. It gives me freedom, I think. Without it I'd be tied to to-do lists and a list at the store, a list at work, a list at home. I don't have any lists anywhere. It either goes into tasks or memos or it's on the calendar and I let it go. When that day comes I open my [MTD] and I press the button, I'll see what I have to do tomorrow. Sometimes I actually look a week ahead. Maybe on a Sunday I'll look the week over. But other than that, no I don't -- I think it is freeing. I think it's changed my life in that regard. I mean I have organized things to such a degree that I have a lot more time to do other things." (Sheila)
>
> "My life has become more and more organized around these gadgets because that's what they're so good at." (Chad)

The process of *Organizing Life* explains how consumers interact with MTDs to help create a coherent, ordered structure to their daily activities and goals. As they go about this allocation of psychic energy, creating what Csikszentmihalyi and Rochberg-Halton (1981) called "ordered patterns of information and action" (p. 5), consumers literally "change their life," as Sheila indicates above. Her change, which is similar to Chad's claim that his life has "become more

and more organized," are both indicators of an increasing tendency for *Organizing Life*, and thus *Cultivating the Self*, over time. Their experiences contribute to the notion of an ecological shift in life-worlds.

Using objects as part of *Organizing Life* is not a new phenomenon. Well before the advent of MTDs, means have been available for consumers to structure their activities and goals. For example, paper-based datebooks and planners, and the simple diary before that, have been the mainstays for busy consumers much prior to the introduction of microcircuits and portable electronics. Participants acknowledge these prior methods, and still understand them as alternatives, but extoll the increased value in *Organizing Life* through MTDs. Comparing the "old systems" with the new offers a further understanding of the overall life impact and significance of MTDs, which "make sense" according to Kayla:

> "Before, I actually used a [paper-based] system – a priority management system – which is kind of like a Day Timer [brand of paper-based organizers] on crack [laughs]. It's super-duper programmed and it had dated and timed lined pages with all the lines and it made you make a priority list and what I found was that I was paying a hundred bucks a year for papers that had dates printed on them and I was using them about every … seven or eight days. Now, it was handy to have things written down when I wrote them down. But a lot of times it was kind of bulky and a lot of times I wouldn't have it with me -- to write down the things that were important. Like, I can put this [MTD] in my purse when I go out with my friends and if I run into somebody who has a [business] idea for me or if I think of a [business] idea, you know, or run into somebody I haven't seen in a while that I'd like to see again, I can take this out without having to have a big datebook there or without writing it on a random business card and losing it and it's just a lot handier. It makes sense." (Kayla)

For consumers of MTDs, Kayla's experience is likely to be familiar and even routine. The commonplace, workaday interactions with MTDs frequently revolve around such prosaic activities. Of importance here is the newfound immediacy of *Organizing Life* by investing

psychic energy "on the spot" -- nearly anywhere and at any time "things that are important" occur. In addition to this immediacy, MTDs act a centralized point of organizing activities, as opposed to the scattered investments of psychic energy that Kayla describes with the old system. Sheila similarly values the centralization, indicating in her excerpt above that without the MTD she would likely have "notes all over" including lists at her personal business, workplace and home.

Through their scheduling capabilities and corresponding reminders (e.g. audible or tactile alerts), mobile technology devices provide consumers with a means for *Organizing Life* that can give rise to what Pickering (1997) described as "fundamentally new forms of human activity" (p. 50). Jaren provides an indicator, discussing a seemingly Pavlovian response to her MTD:

> "I've lost my internal time clock. My dad was so amazing. He never wore a watch yet he always knew what time it was. If this thing doesn't go off, you know, I don't know what to do. I can't – I couldn't just sit down and start working on some projects and sort of have that mental 'Oh I've got to remember at noon I've gotta be –' because you know, I'd look up and it'd be 12:30 and I would have supposed to have been somewhere at noon. So it's just – I've just become so reliant on it …. I've become so acclimated I don't remember to do anything unless this thing beeps." (Jaren)

In what could be understood as a biologically-oriented ecological shift in life-worlds, Jaren claims to have lost an "internal" characteristic, ostensibly relegating it to capabilities borne of the MTD. The device here can be interpreted as a programmable compass, guiding her at appropriate times toward goals that she has relegated to it by prior investment of psychic energy. Importantly, this relegation frees her up to concentrate her psychic energy on other activities without being concerned over when she needs to attend to a future event. Melissa, personifying her "gadget," describes a similar experience. In the following indicator, she also alludes to the

impact of the proximate nature of the MTD, compared to the alternative of a paper "print out." Importantly, her experience illustrates that it is not just the data on the device that is important, but rather the interactivity with it (i.e. the device "telling" her):

> "This little gadget tells me exactly where to go and when. If I didn't have this -- if I lost this, I'd be in trouble. I mean, I guess it's all backed up on the computer and I could hit print. But this tells me where I'm supposed to be and when." (Melissa)

Within the context of this discussion on seemingly "automatic" behavior instigated by the MTD, it should be kept in mind that the impetus for being told "exactly where to go and when" is by the consumer's design in assessing and achieving goals. Through consumers' actions, MTDs are manipulated so as to prompt the consumer to take action at a later time. The interaction dyad in this case can even be initiated by the device through an audible or vibrating reminder. Maury at first wrestles with this issue of autonomy and relegation of control, eventually conceding that it is of his own volition that the "little box" tells him "what to do":

> "That is, like, the little box that controls my life, or that I've told to control my life – it's not like I've, I've … I mean I've relegated control to the little box. But good, I chose to do that. I'm not saying that the little box rules me, I'm just saying I've told the box to tell me what to do." (Maury)

Central to the process of consumers "relegating control" to their "little boxes" is another property of *Integrating* called *Offloading*, which is described in the next section. As it pertains to *Organizing Life*, *Offloading* allows Jaren to become absorbed in a project and Sheila to "put something in there" and then "let it go." In each case, participants have invested preliminary psychic energy during their planning activities, effectively conferring responsibility on the device for instigating later action.

Offloading

> "So knowing that they've got doctors appointments and check-ups and now [my son] is doing this little gym thing where he's going to this little toddler gymnastics class. Well, he hasn't done it yet but we're starting it next week. Just to know that I don't have to keep it in my head all the time. Just to be able to say once I get it down in there [points to MTD], I've got the freedom to not need to ruminate about what is it that I need to be doing, what am I forgetting? And, I *can* forget, because, I'm pretty damn forgetful and I like the idea of being able to forget it. I like the idea of being able to just realize that somebody is remembering it for me. And that box does it." (emphasis original, Maury)

Offloading is a process of investing "routine" psychic energy, relegating otherwise commonplace information or events to the device and freeing up consumers to engage in other activities. Through *Offloading*, consumers might think of the device as simply an information repository, but with the understanding that the investments of seemingly humdrum psychic energy will later be leveraged for more important interactions and achievement of goals. As Maury points out above, many relatively minor events crop up during everyday life which require future attention and action. These events inherently take the form of goals, sometimes immediate and at other times more distant. Organizing these goals, as lackluster as some may seem to be, presents an opportunity to leverage MTDs' capabilities for reminding consumers to take action. Maury continues with the previous conversation, expounding on the mundane, yet important, nature of these goals:

> "And it's personal stuff. It's important stuff. It's [name]'s birthday. It's our anniversary. It's my nephew's and niece's birthday. Christ, I cannot even remember [name]'s birthday and she was born just a little over a month ago [laughs]. So, just … it's liberating to have that thing remember very personal stuff. It's stuff that's important but it's -- ooh, here's a point for you [laughs, pause]. There's a disconnect between what's important and what's memorable. You know, what's memorable is the color of the first car I ever owned and it's license plate number. I have no idea why I remember BR5-379 but that was the license plate of my first car. I can't ever get that out of my stupid head. But, it's not important.

> Now, my anniversary … well, I can usually remember that. That's March 29. But it's something that's potentially forgettable. Lots of really important stuff is just not the kind of -- our brains have a different set of priorities in terms of what should stick versus what we think should stick. I don't know why that is but I'm sure there's plenty of biological evolutionary explanations for it, but the reality is we have things we think are important that our brains don't necessarily wind up remembering. So we can tell that thing [the PDA] to remember things we think are important and it's just a relief." (Maury)

Likewise, Kayla discusses the assurances that come with being able to "put away" routine psychic energy:

> "When I put something in my [MTD] for example, I know it's down. I know it's there. And I can look at that when it's time. It's my way of kind of putting it away. What happens [with the old method of organizing using paper-based planners] is that you spend so much of your energy, so much of your thought time thinking about what you have to do that you don't spend, um, that's energy you could be spending doing what you do. So I guess that's a way for me to schedule using electronic stuff … it's a way for me to put that thought time away. It's already written down, it's already scheduled and when the time comes, it's kind of a need-to-know basis." (Kayla)

The activities and verbiage that Kayla uses in describing "thought time" and "energy" are conceptually and semantically conducive to the notion of psychic energy. By *Offloading*, she is freed up to invest her psychic energy into other daily activities. Maury describes this as "liberating" and as part of her efforts at *Organizing Life*, Sheila earlier indicated a similar effect of the "freeing" nature of her MTD.

Maury recapitulates these participant experiences, summarizing what he calls the "basic idea" of the process of *Offloading*:

> "We get better able to spend the time thinking about the things we want to think about by having something else think about -- remember -- the things we don't want to think about." (Maury)

Maury's explanation was an attempt to articulate mathematician Alfred North Whitehead's (1861-1947) aphorism:

> "Civilization advances by extending the number of important operations which we can perform without thinking about them." (Whitehead 1911/1958, p. 61)

By *Offloading*, consumers are not only *Cultivating the Self* through interaction with MTDs, but the subsequent freedom gained in being able to, as Whitehead puts it above, "not think about" necessary and "important operations" means they are also able to cultivate themselves through other interactions and everyday life activities. To borrow Kayla's language, by using the device to "put thought time away," consumers can in turn devote their (psychic) "energy" to "doing what [they] do" and achieving other goals in life. Part of those other goals include managing interaction with others, and MTDs enable this through *Coordinating Schedules*, which is discussed next.

Coordinating Schedules

> "I can't tell anybody what I can do until I look at this device." (Jaren)

In addition to managing their own time as part of *Organizing Life*, consumers attempt to align their activities with those of others through the process of *Coordinating Schedules*. In the paradigm of symbolic interactionism, ongoing interaction with self and objects in the environment inevitably stems from and results in interacting with society. As goal-directed individuals, people attempt to coordinate their "joint lines of action" with those of other goal-directed individuals (Blumer 1969, p. 16-20). In an increasingly busy modern cultural milieu,

this can be no small task. Since people can and often do have widely varying schedules, consumers attempt to enact some degree of control over this coordination by leveraging the capabilities and convenience of their MTDs. In Barbara's example that follows, her family reacts to their 11 year old daughter's recently "more involved" middle school schedule by equipping everyone with an MTD:

> "Coordinating who was going to pick her up when and so on, we learned very quickly that it was beneficial for her to have an [MTD] too. In addition to the other capabilities, she keeps her schedule on it. That's a big thing. I like having the schedule in my pocket. You know, if I forget -- because for our family, it seems like our schedules every day are different. [My daughter] will have band practice on Tuesday and Thursday of this week, but next week it will be only Monday. You know we forget what week it is and what day it is and who is supposed to be where. If it's my turn to pick her up or [my husband's] turn to pick her up so by having our calendars in our pockets it makes it a lot more convenient too." (Barbara)

An ongoing interlinkage of action is enabled for the entire family through interacting with their respective MTDs. During her conversation, Barbara compared the current situation to pre-MTD coordination activity, which required more effort, involved intermediaries to convey messages, and resulted in frequently missed rendezvous. Her family's inconsistent week to week schedules were the norm for many participants, including Melissa:

> "I keep a pretty busy schedule and no two days are alike. No two *weeks* are alike. So it's not like every Tuesday I know where I'm going to be. And every Monday I know where I'm going to be so … it's … it's crazy. So when I wake up in the morning, sometimes I'll remember what meetings I have the next day but sometimes I have so many it's hard to remember. So I go to the [MTD] and look at exactly what meetings I have that day, and with whom ..." (Melissa)

As historically busy people, participants admitted to *Coordinating Schedules* before their transition to an MTD. When asked about "life before" their device and how things have changed

with regard to scheduling, participants cited the proximity and availability of other capabilities as differences and thus reasons for valuing the MTD over paper-based systems:

> "There are some weeks where I have three or four meetings a day so times five days so I have 20 meetings during a week. I'm able to have all that information on here, have my entire schedule and be able to go from there. If I were without that for a week it would be extremely hard. Because, I would have to print out paper calendars from Outlook of where I'm supposed to be. I usually use the notes function [in the MTD] to be able to put directions if I haven't been to locations before and other information and that doesn't print out on that week-long planner. So I'm able to access that on there. I'd be without that. It's really the calendar function that I use the most. Not having access to download an email is OK. That's fine. But being able to have that calendar and knowing where I'm supposed to be and when is a really big thing." (Melissa)

Essentially, consumers are not required to take along "a big datebook" as Kayla earlier described it, which she and others admitted to often leaving behind. Mobile technology devices not only provide capabilities for *Coordinating Schedules*, but allow doing it "on the spot." Based on its portability, the device is always there, since the need to coordinate schedules is always there, as with Maury's experience:

> "(Can you give me a specific example of scheduling?) Well, just all the time I … I can give you specific examples but all the time I'm bumping into people in the hallways or somebody pops their head in my door and says 'Hey, can we meet at a certain time?' or 'Do you have time to talk about this or that or the other thing?' and I whip out the [MTD], look for where the holes are in my schedule and just throw out a time and say how about tomorrow at two o'clock and they say sure and I just enter in to meet with so-and-so tomorrow at two o'clock. Like last Friday it was [name] who is collaborating with me on a project and she wanted to stop by and talk about some issues and I just scheduled that meeting real quick-like." (Maury)

The convenient access to MTDs not only facilitates *Coordinating Schedules* on the spot, it also allows access to other capabilities seemingly any time and any place. By having "quick-like" availability of their devices, consumers find themselves not only scheduling appointments,

but generally *Optimizing Down-Time* in other ways as well, which is discussed further in the next section.

Optimizing Down-Time

> "In normal day-to-day life when I'm here in the United States, um, traveling or at home, what I really like about this [MTD] is that I can check emails when I'm stopped at a stop light [laughs]. I can check my emails when I'm waiting for the pot to boil on the stove kind of thing. It gives me -- when I've got some down-time I can fill it in with stuff." (Deborah)

> "I tend to use it also when I get bored. You know, if I'm sitting in [my husband's] golf cart or I'm waiting for someone to show up, you know, I need something to do." (Katy)

Consumers use MTDs to "fill in the gaps" of their time during, as Deborah calls it, "normal day-to-day life." Given their portability and receptivity to interaction, the devices are leveraged in *Optimizing Down-Time* when psychic energy is not being invested in other daily activities. Down-time opportunities often include periods of waiting. Participants provided examples like waiting in line, waiting at the airport, waiting for someone's arrival, waiting at the doctor's office, waiting for a movie to start and, to be sure, waiting in the restroom.

Like Katy's golfing experience above, consumers also exhibit boredom during certain daily activities and, considering those situations as down-time, begin interacting with their devices. Maury highlights a recurring situation that invokes boredom and instigates his interaction with the device:

> "Because staff meetings, you know, some important stuff gets talked about but so much of it is just procedural rigmarole blah blah blah crap that nobody cares about. It's just boring as hell. And in those moments I will occasionally slip it [the MTD] out and open it up [simulating under the table] and check my email or something like that." (Maury)

Optimizing Down-Time can also be a function of *Coordinating Schedules* with others who are experiencing "up-time." As a manager at large global corporation, Katy describes how her morning routine involves *Optimizing Down-Time* in the drive-thru so as to accommodate international coordination with others and get a "heads up" on her day:

> "Well, you're going to find out about my eating habits now. I tend to go through drive-thrus in the morning. Generally while I'm sitting there waiting, I go through and read my email that came in the night before. Because it just gives me a heads up on the day. Because we have a lot of global email. I get a lot from Europe or I get some from China that would have come in during the middle of the night." (Katy)

It should be noted that while participants indicated that *Optimizing Down-Time* involved checking email or attending to projects, it is reasonable to assume consumers might also entertain themselves with consuming media, playing games, or accessing the internet during this down-time as well. Upon inquiry, participants maintained the position that their devices were used for "important things," although it is anticipated that their declarations were influenced by a desire to be perceived as "professional" by the interviewer. The likely possibility that consumers interact with MTDs as means of leisure and entertainment during "professional" events like "boring as hell" staff meetings is the subject of the next section's discussion.

Blurring Activity Types

> "Well everything in both my personal and my business life are all recorded in it. I use it for every aspect of my life, not just my work meetings. All my personal meetings are in there as well. My personal contacts. My email. Everything is in that one device. It also allows me to integrate both of them. If I have a meeting for business, say tomorrow night, on a Thursday night, then I can't schedule something personal there, because I need to be at work. For me, they need to be integrated." (Melissa)

The types of everyday life activities that can be aligned with capabilities of MTDs cut across life-world contexts. As such, consumers recognize but do not limit their interaction with MTDs to circumscribed domains of action, such as "home" or "work" life, respectively labeled in this theory as Personal and Professional life. As Melissa indicates in the last sentence of her excerpt above, "they," or her Personal and Professional lives, "need to be integrated." In this way, consumers engage in *Blurring Activity Types* when it comes to investing psychic energy into their devices.

The distinction between Personal and Professional lives can be understood as one of conventional wisdom, an artificial delineation resonating from workplace parlance and propagated through academic research in disciplines such as industrial-organizational psychology and human resources studies. It emerged during participant conversations about everyday life as well, with participants indicating that they were aware of an attempt by some consumers to simultaneously leverage the advantages of MTDs while still trying to maintain some type of bifurcation between Personal and Professional life:

> "Everything's mixed together. Because it's not practical to -- I've known some people at work who will manage two [MTDs]: one for work purposes and one for home purposes, personal use. That just doesn't work well for me. But if I put them all into one -- because my life is blended, you know. Sometimes it gets a little gray between work and home, so it's easier just to have one device with everything in it." (Barbara)

A useful way of conceptualizing consumer experience like Barbara's, where "everything's mixed together," is through the lens of role theory as it is formulated in symbolic interactionism. From this perspective, roles are not structured sets of rules or scripts that tell an individual what

to do. Rather, like all social interaction, roles are constantly negotiated, shaped by the individual in order to meet goals. Just as the meaning of objects change according to their use in a given situation, role assumptions will be constantly change as well (Charon 2007, pp. 166-167; Goffman 1961, pp. 139-144). It can be understood in the current theory that consumer interactions with MTDs result in *Blurring Activity Types* because everyday life activities revolve around the type of roles people play. Roles constantly change so activities related to those roles constantly change.

As an example, during a 45 minute conversation, Jaren illuminated multiple roles that she assumes as she goes through life: that of marketing executive, event planner, home decorator, professional mentor, personal mentor, guest speaker, copywriter, party host, board member, athlete, cook, traveler, avid reader and community service volunteer. She moves through these roles fluidly as she goes about life, assuming some roles longer than others, perhaps abandoning a role altogether in line with life changes, and occasionally occupying multiple roles simultaneously. Her MTD reflects and shapes activities related to all of these roles. Here, she speaks of integrating activities related to the role of community service volunteer, which she states is a "tremendous" part of (i.e. role in) her life:

> "Well actually I use it a great deal in my non-profit work. I volunteer for stuff. Which is non-work to a degree. I use it quite a bit for [volunteer] meeting scheduling. Probably almost as much as I do for work. I probably have the same number of non-profit meetings each day that I have for work meetings. As far as different appointments on the calendar. Obviously those and the personal stuff too." (Jaren)

By going about life with "everything mixed together" in their MTDs, reflective of variegated and shifting roles, participants provide further support for this theory's proposed

ecological shift in life-worlds brought on by their devices. Devices "touch" all parts of life and become props in most or all of the roles consumers play. Much as Postman's metaphorical caterpillar was not just an additive phenomenon when interjected into an environment, it is unlikely that Sheila could have predicted the pervasive life integration of the accidentally "discovered" MTD that was abandoned by her daughter. Similarly, the introduction of an MTD by an employer for use in Professional life does not preclude its impact on other areas of life, such as planning a wedding or community service events. The need to integrate Personal, Professional and any other type of "life" is not only accepted by consumers, but embraced with enthusiasm, and signifies efforts to control life *as a whole*, the process discussed next.

Sensing Control

> "I wouldn't be worried that somebody could steal my identity [by stealing and using] my [MTD]. But they would … well, they would [laughing] take away a big part of my ... my life. In terms of the sense of control I have over my life. And managing my day and my time without it." (Deborah)

As consumers proceed with *Organizing Life*, they experience a feeling of authority over managing their daily activities, thereby *Sensing Control* of achieving goals. As consumers recognize this outcome of *Organizing Life* through their MTDs, they are incentivized to continue the process. Thus, *Sensing Control* acts as positive feedback for *Organizing Life*. The experience of *Sensing Control* provides a confirmation that goals are, or can be, achieved and as such integrates with *Organizing Life* to serve as an important facilitator of *Cultivating the Self*.

To bring together the entire process of *Integrating* as it is cast against *Cultivating the Self*, Figure 3-16 provides a visual depiction of how *Sensing Control* fits in to a complete hypothetical

cycle of goal-directed action. Starting with the intention to achieve Goals (where "Goals" can be small, big, near-term, distant, etc.) and moving clockwise, action is directed through Allocation of Psychic Energy. A Concentration of Psychic Energy occurs as various goals accumulate, and consumers start to bring related Goals together to formulate a plan for future action. At this point, consumers will often seek some means for assisting with provide order to these aggregate Goals. Paper-based planners or "traditional" systems are an option, but an ideal alternative for *Organizing Life* is through *Integrating* planning activities into MTDs. Specifically, by *Organizing Life*, MTDs give rise to consumers *Sensing Control*. An interaction of both processes over time is a central contribution to *Cultivating the Self*, which is the ongoing actualization of Goals.

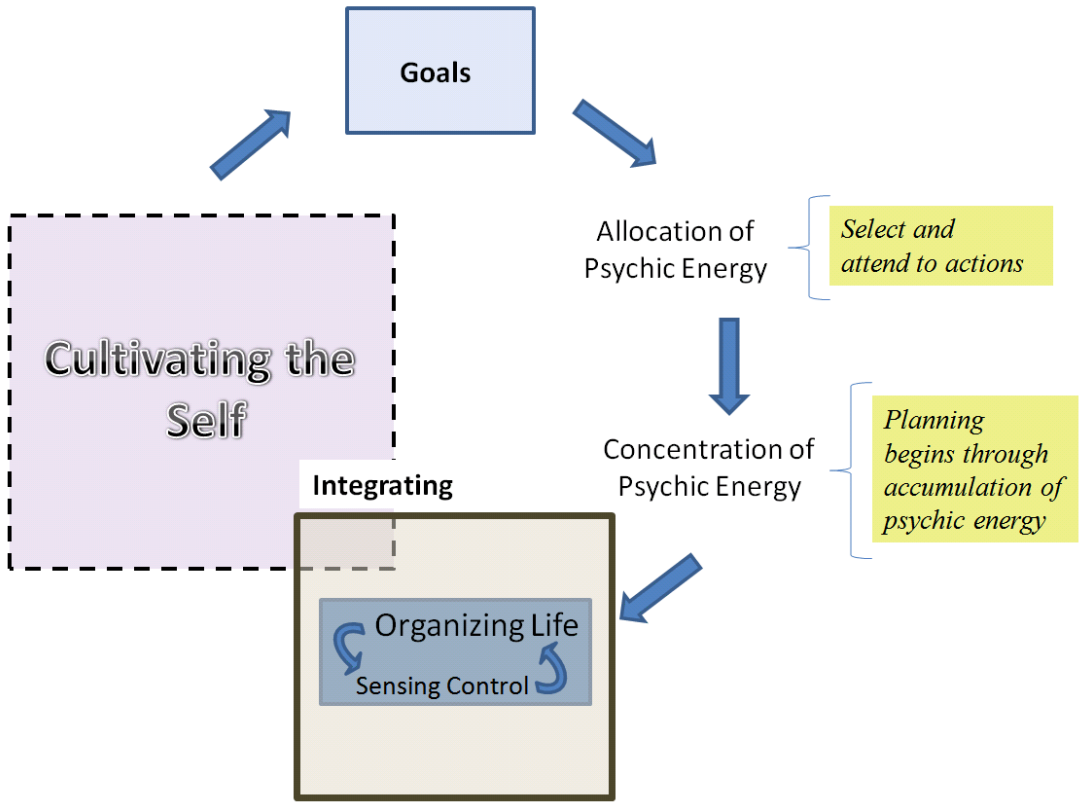

Figure 3-16. Goal-Directed Action Cycle

Evidence of *Sensing Control* emerged *in vivo* during participant conversations through the direct, *emic* use of the word “control” itself, as in Deborah's excerpt above. When discussing how MTDs help organize their lives and achieve goals, consumers also introduced the related term "free" and its variants. Notably, in her response to describing how the organizational capabilities of her MTD have changed her life, Sheila's initial use of "free" was as a gerund: "It might sound weird but I find my [MTD] to be freeing." As opposed to possibly acknowledging that the device meant "freedom" to her in perhaps a symbolic sense, she reveals her primary

understanding of the hypothetical "outcome" of long-term MTD interaction as an enabling process, more so than a state of being. That MTDs provide the means for freeing a consumer indicates their contribution in *Sensing Control*.

Extant Theory on Objects and Control

The purpose of consumption in general could be understood as a means for *Sensing Control*. Indeed, in Csikszentmihalyi and Rochberg-Halton's (1981) scheme, the very impetus for *homo sapiens* as *homo faber* is the desire for a structured existence. In short, man creates objects and interacts with them so he can control life. The very notion of "technology" itself is often specified as it relates to control. A popular definition used in critical theory and cultural studies views technology as "that constellation of knowledge, processes, skills and products whose aim is to control and transform" (Simpson 1995, p. 16).

In consumer behavior, this perspicuous notion is a tacit axiom underlying much research, but receives rare explication, save for a few articulations such as the one here:

> "We surround ourselves with valued material possessions as a matter of our *lives taking course*. A sense of linkage to the concrete and observable world external to ourselves *permits us to obtain a sense of stability and continuity* in an otherwise less stable existence." (emphasis added; Schultz, Kleine, and Kernan 1989, p. 359).

This "linkage" (i.e. interaction) with possessions in an effort to harness "stability and continuity" (i.e. control) in an "otherwise less stable existence" begins in the first years of life, when perception and motor control coalesce so as to guide infants' initial interaction with objects. Through interaction with toys in a crib, this environmental engagement and manipulation transpires as goal-directed behavior, even if those goals are simple, elementary explorations of

the world (i.e. making the toys move). Csikszentmihalyi and Rochberg-Halton (1981) summarize, stating:

> "The self grows largely as a function of environmental responses to intentions; it develops out of feedback to acts of control" (p. 90).

In reference to the results of their research on interaction with household objects, the authors substantiate this explanation:

> "These explorations of how people interact with objects help to illuminate the process by which we become human. In the first years of life the most relevant information attesting the existence of the self consists in kinetic feedback" (ibid., p. 117).

The authors go on to illustrate an individual's progression of *Sensing Control* through objects as they grow older. In their final analysis, while the incunabula of object control mature to become more extensive and sophisticated as children grow into adulthood, the rudimentary motivations and processes of goal-directed object interactions persist, even as symbolic uses for possessions begin to emerge in childhood and adolescence.

Tracing the process of person-object interactions and control back to its earliest stages is a useful lens through which to view the phenomenon of consumer interaction with MTDs. With regard to cutting edge technologies, consumers often employ the metaphor of "toy," as Kayla did in an earlier excerpt describing how some people view MTDs. Jaren referred to Experimenting while Negotiating the Learning Curve as "playing with" the MTD. In the same context, Wilma admitted to taking "baby steps" in initially interacting with the device.

By describing interactions with MTDs with such infant-like characterizations, consumers are perhaps reflecting the infant-like experience of early trepidatious exploration and kinetic

feedback from objects. This tendency likely stems from the fact that mobile technology devices are often classified and understood as "new-to-the-world" innovations, due at least in part to their relatively unprecedented cognitive and mechanical characteristics (Castelluccio 2007; Haskell 2004). These novel interface mechanisms contribute to consumers at least initially "playing" (i.e. experimenting as part of *Negotiating the Learning Curve*), or interacting with the device just for the sake of interacting. Consumers are curiously exploring in a seeming child-like manner. Neil describes this phenomenon in the context of discussing his early interests at controlling technology as a budding computer programmer:

> "As a programmer, I was just making it type out. I mean at the time I was doing this I was eight ... eight or nine. So for me, just getting it [early personal computer] to say 'Hello World!' was the coolest thing I'd ever seen. Because I made something happen on the television screen [as monitor for the computer]. I mean, something that television had never done before, I made it do. And still to this day, I like seeing stuff happen. My first real attempt at actually programming something that had value to myself was programming a database and a system that would keep track of my comic books. There was nothing important about it, I just … you know, I just wanted to look up a total count, what I considered my value and what the market considered my value. I would put in the grade and what the price guides say that grade goes for. Then out came the overall price." (Neil)

Neil's prepubescent interactions with technology were an effort to produce the simple but revealing output of "Hello World!" The choice of words in this triumphant result of his efforts is itself an indicator of the infant-like exploration and control that precipitated its production. Even as Neil matured as person and hence matured in his sophistication of interactions with technology, the creation of a comic book database still intimates characteristics of his first programming effort, namely to manipulate the technology toward his will just for the sake of doing so (i.e. "there was nothing important about it"). The sense of control experienced through

efforts at either age attests to the persistent perception of value found not so much in the objects being controlled, but in the outcomes of their use: achieving goals.

By managing everyday life through interacting with his MTD, as an adult Neil continues to ascertain a feeling of power or authority over the direction of his activities. He continues with his youthful efforts of using technology to "make things happen." In so doing, he perceives progress toward achieving his goals, thus realizing the core category of *Cultivating the Self*.

Bonding

> "Probably nothing is with me as close or as long as this [MTD] other than the ring that my boyfriend gave me. Like even my wallet and my purse. I leave my wallet and my purse behind sometimes and although it would hurt me to lose them, it's in terms of credit cards and stuff like that … But when I go into work, I'll throw my purse under my desk and not think about it until it's time to leave. When I get home I throw it on a table in the corner and not really come back to it because I don't really have any reason. But this [MTD] is always close by [laughs]." (Susan)

Through *Bonding*, consumers get close to MTDs, literally and figuratively. Whereas *Integrating* involves mapping everyday activities to capabilities typically borne of explicit features of the MTD's hardware and software composition, *Bonding* is a process where consumers interact with their MTDs in an increasingly proximate, personalized, and intimate manner. While both *Integrating* and *Bonding* contribute to the overall process of *Cultivating the Self*, *Bonding* engenders meaning that could be considered less tangible than that of *Integrating*, but just as significant for consumers nonetheless. *Bonding* explains how consumers customize, personify and interact playfully with MTDs, and how their life would be altogether different without the devices. *Bonding* represents a poignant manifestation of the proposed ecological change to consumers that occurs through *Cultivating the Self*.

The *Bonding* process, depicted in Figure 3-17, is comprised of three major dimensional properties and two consequences. The dimensions are *Personalizing*, *Anthropomorphizing* and *Aestheticizing*. By *Personalizing*, consumers embellish the MTD in unique, individualized ways. *Anthropomorphizing* is ascribing human-like or life-like qualities to the MTD. Through

Aestheticizing, consumers revere the sensorial characteristics of the device, such as physical traits, ergonomics, and design aspects.

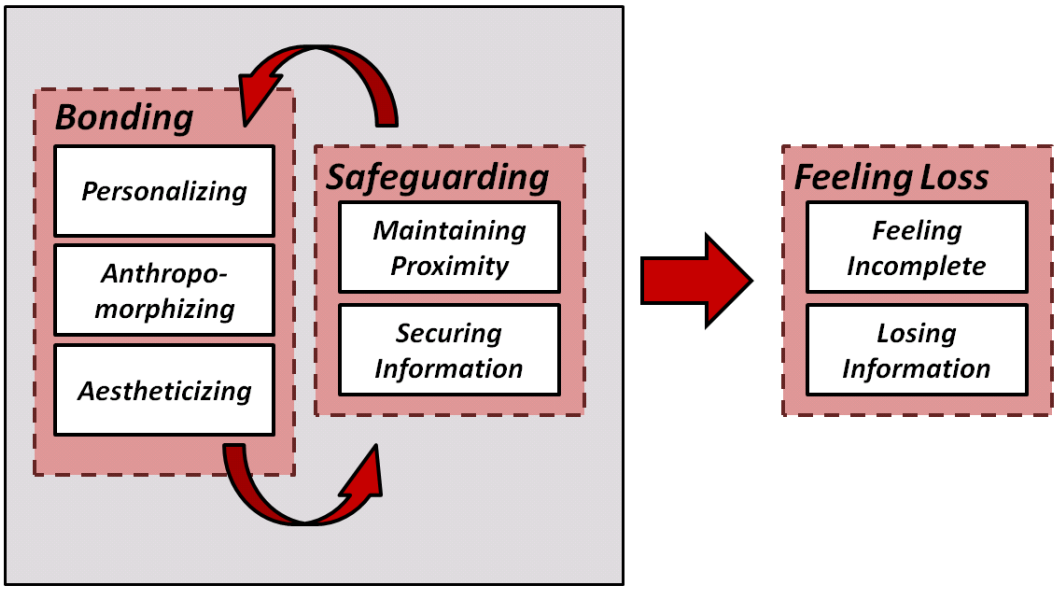

Figure 3-17. *Bonding-Safeguarding* Juxtaposed with *Feeling Loss*

Together, these three dimensions comprise the core *Bonding* process and form a reciprocal relationship with the first of two consequences, *Safeguarding*. *Safeguarding* is both a consequence and a cause of *Bonding* and is itself comprised of two dimensions: *Maintaining Proximity* and *Securing Information*. As consumers bond with their devices, they become increasingly mindful of the physical location of their MTDs, keeping them close at hand (i.e. *Maintaining Proximity*) and safely maintaining the data (i.e. *Securing Information*).

The symbiotic relationship between *Bonding* and *Safeguarding* (contained in the gray box in Figure 3-17) constitutes a process that can be juxtaposed with the experience of *Feeling Loss*, or not having access to the MTD's capabilities. *Feeling Loss* is exacerbated as *Bonding* matures and can be a consequence of not *Safeguarding* the MTD. *Feeling Loss* can be experienced as a result of either not having access to the device itself (i.e. *Feeling Incomplete*) or the personal data within it (i.e. *Losing Information*).

Although *Bonding* could be hypothesized as an outcome of the core category of *Cultivating the Self*, it is important to realize that it is a process endemic to and evolving in parallel with *Cultivating the Self*. As a covariant to the greater process of which it is a part, *Bonding* becomes more elaborate over time and lacks a decisive cutting point where it might follow *Cultivating the Self* merely as a consequence. If a consumer cultivated the self only to reach a point of experiencing a bond "state," it would be unlikely that interaction would simply cease at that juncture. Rather, *Bonding* continues to develop as *Cultivating the Self* proceeds.

Bonding was selected as a gerund that adequately describes the process as it emerged from the data. While sharing some characteristics with an extant theoretical construct of the

same name, its use in the current context exhibits conceptual distinction from “bonding” as it is defined and employed in other literatures, namely psychology and consumer behavior. Similarities and differences will be highlighted in the ensuing discussion.

Considering the "Object" to Which Consumers are Bonding

Before proceeding with a discussion on extant theories and subsequent substantive explanation of bonding, it is useful to first consider the nature of *what* it is to which consumers are actually bonding. As it has been demonstrated, an MTD is valued for the capabilities it provides as opposed to the "expendable" physical device itself or even the data contained therein, assuming both can be replaced or recovered. A consumer's willingness to abandon their current MTD in order to upgrade to a new device is a testament to the expendability of the actual product.

Hence, consumers do not bond to some intrinsic characteristic(s) of the device itself, or even the content contained within the device. Rather, they bond to the device as it represents a conduit for actualizing goals. Conceptualizing *Bonding* in this sense reconfigures traditional theoretical and even commonsense notions of the person-object dyad of bonding, where the object to which a person bonds is either some physical entity, another person, a brand, or even a company. Rather, in the current theory, the bond is with the more intangible "object" of interaction.

Given this understanding of "bonding," threats to and loss of the device or its data can be viewed as temporary interruptions in the process of investing psychic energy into the device. Thus, the property of *Safeguarding* and the consequence it attempts to alleviate, *Feeling Loss*,

should be understood in terms of consumers seeking to secure their outlet for investing psychic energy and hence prevent the loss in capabilities that the device affords them. Secondary to the temporary loss of capabilities is the permanent loss in terms of economic value. If a device is not safeguarded and is ultimately separated from the consumer, and assuming data stored on the device can be retrieved, concern turns to needing to replace the device (and hence its capabilities), and the monetary costs involved in doing so.

With the conceptualization that consumers bond to the device as a proxy for their ability to accumulate psychic energy, a consideration of how extant theory might be emergently fit to the substantive process of *Bonding* can now proceed.

Extant Theories on Bonding

Consumer behavior research has exhibited interest in understanding how consumers become attached to consumption objects such as firms (Price and Arnould 1999; Schouten and McAlexander 1995), brands (Johnson and Thomson 2003; Thomson and Johnson 2006), and particular products and possessions (Ball and Tasaki 1992; Kleine and Kleine Iii 1995; Schultz, Kleine, and Kernan 1989; Wallendorf and Arnould 1988). Attempts to formalize the concept of attachment as a consumer behavior construct are generally resolved to the consensus that it is a multi-dimensional variable representing a degree of connection between an individual and object, and comprised of facets such as strength, valence, social structure, individuation, and temporal orientation.

While most of the research on attachment assumes a structuralist approach to understanding self and object, an interactionist perspective is implicit across definitions in that

attachment is not viewed solely as a property of individual or object, but as a process arising between them and often within the context of societal interaction. In its most intimate manifestations, attachment has also been analogized with cultivating (Ball and Tasaki 1992) and particularly Csikszentmihalyi and Rochberg-Halton's (1981) concept of self-cultivation, where attachment "is a property which reflects the self-cultivation *tasks* which certain material objects facilitate" (emphasis added, Schultz, Kleine, and Kernan 1989, p. 359).

As a more refined articulation of attachment, the notion of "bonding" has received some attention where it helps explain the development of consumer-firm relationships over time (Arantola 2002; Walls 2003; Wilson and Mummalaneni 1986). Conceptually, both attachment and bonding indicate a link in a person-object dyad. However, Walls (2003) leverages Bowlby's (1969, 1973, 1980) research on infants and their care-givers to further connote that bonding involves an element of physical intimacy or proximity that facilitates development of the self-concept and ventures into the world. This nuance confers relevance, or emergent fit, with the substantive concept of *Bonding* in that consumers exhibit intimacy with and are rarely very far away from a device which enables them to interact with the world and actualize the self.

In the literature, bonding is understood as a variable, and is thus characterized as exhibiting strength, or intensity. As the process of bonding occurs over time, it is proposed that "during initial stages of relationship development … the strength of the bond is likely to be weak" but as the relationship proceeds, "the strength of the bond is likely to grow stronger" (Walls 2003, pp. 74-75). This progression is also suggested in the current theory and has been substantively reflected in experiences like Susan's opening excerpt where, though somewhat

skeptical of the extent of her MTD's value at first, she now indicates not only the special intimate significance of the device, but also the importance of its proximity: nothing is as close to her as her MTD other than a significant piece of jewelry.

In the context of successful consumer-firm interactions, Walls (2003) further suggests that "a healthy relationship will continually revise its bond strength to reflect its ongoing experience" because "the bond is dynamic in nature and is a renewal process" (pp. 75-76). Like an infant's comforting blanket or an aging adult's photo albums, bonding is here characterized as an ongoing process that unfolds by the act of consuming as opposed to a state of being that is the result of consumption. This characterization is in line with the proposal that *Bonding* is coextensive with *Cultivating the Self* in that as consumers continue to invest psychic energy into their devices, their bond with them will likely increase. Whereas a rigorous longitudinal study of participants was beyond the scope of this dissertation, reflections of experience like Barbara's introductory excerpt at the beginning of the chapter and Susan's excerpt at the beginning of this section indicate an increase in the prevalence of *Bonding* over time.

While sharing similarities, the substantive conceptualization of *Bonding* also differs from extant theory. First, while it is often characterized as a phenomenon that arises from a confluence of individual, object and sometimes society, attachment and bonding are viewed in the current literatures and their models not as dynamic processes but rather static structures (i.e. a bond state or a state of attachment). While the processual nature of how bonding develops over time is recognized (Walls 2003), the construct remains framed as an outcome variable in a cause and effect model. Also, extant understandings of bonding are typically in service to self-

presentational functions. In other words, attachment or bonds to special possessions or brands are viewed in terms of how they facilitate the presentation of a self-image to others (e.g. trophies, a special piece of clothing, heirlooms) as opposed to the meaning of bonding as it occurs through interaction with the objects.

With the presentation of this overview of the *Bonding* process, and its similarities and differences with extant theory, an exploration will proceed of the dimensions of *Bonding* (i.e. *Personalizing, Anthropomorphizing* and *Aestheticizing*), along with an articulation of the process as it interacts with *Safeguarding* and is juxtaposed with *Feeling Loss*.

Personalizing

"It's personalized to my life." (Deborah)

Consumers engage in *Personalizing* by embellishing or modifying MTD characteristics and functionality in an effort to individualize interactions with the device. *Personalizing* characteristics of the device involves the use of photographs, distinctive sounds, wallpapers, screen savers, color schemes, or stylistic changes to the user interface, as well as changes to menus, "favorites" lists and navigational elements. *Personalizing* capabilities of the device involves modifying the MTD's functionality to allow for unique means of investing psychic energy. *Personalizing* occurs over time as consumers proceed with *Negotiating the Learning Curve* and understand what aspects of the device can be customized. *Personalizing* evolves as a positive feedback loop, where through personalization, MTDs become more intimate for

consumers and subsequentlypromote increased interaction and thus further personalization. Through this evolving process, *Bonding* is strengthened.

Maury describes the unique and unprecedented ability to personalize the MTD, combining a "tool" metaphor for another highly portable and useful product, the Swiss Army knife, with the "receptive" nature of MTD personalization:

> "I mean, to me like the [current MTD], or even the [former MTD], because I had pictures on there too, it's intimate. It's personal. It's individualized. It's like if you could take a Swiss Army knife, mold it to have exactly just the tools you want, plaster it with pictures of your kids and your favorite music. Music, I mean music is what people identify with. In a lot of ways, it explains themselves. It's important to them. Like pictures of their family and their loved ones and whoever else. It's so intimately personal. There have been very few devices or any kind of tool out there in existence that are just so damned personal … " (Maury)

The transcript text belies the playful implication of Maury's assertion of the "just so damned personal" nature of MTDs, which occurs within the context of a preceding discussion about the "cool" design of his MTD. His proclamation imports a tenor of lighthearted defeatism in being resigned to a "gotcha" factor of sorts, purportedly resulting from the MTD's impressive effectiveness at being receptive to personalization. While certainly not all consumers of MTDs store things like their "favorite music," Maury highlights the intimacy and advantage of having the capability and speculates on its meaning and importance in "explaining" the self.

As Maury seems aware, *Personalizing* is a consumer activity that is certainly within the domain of what producers of MTDs expect consumers to do with them. By their nature, MTDs are designed to readily accommodate *Personalizing* in that they increasingly allow and even encourage users to modify the experience of using the device. To this end, MTDs "invite"

personalization and provide significant affordances for manipulations. While customizing menus, fonts, or colors of the user interface may contribute to both usability as well as uniqueness, one of the most common means of *Personalizing* is adding photographs of friends or loved ones to the device, either as "wallpaper" (i.e. viewed as the background of screens or pages within the device) or as an enhancement to caller identification, where an image is associated with a person in the MTD's address book. Susan, who earlier admitted she did not see the initial need for the camera in her MTD, illustrates a progression in *Bonding* (i.e. realizing "how dependent on it" she now finds herself) as she discusses her experience with personalized photographs:

> "You know, I always thought I wouldn't need to be able to take pictures … Now I realize how dependent on it I am, you know? We have all kinds of pictures of our dog in here doing cute stuff. The really cool thing about this too is you can take somebody's picture and when they call their picture pops up. It's nice just to have that shot. I have a friend who is pregnant and I've got a picture of her belly, so when she calls her belly pops up. It's cool just to have that little snapshot there. My wallpaper is, it's uh ... Hang on and I'll show it to you [pause while navigating through the device]. It's actually this funny picture of my boyfriend getting his teeth whitened at work [laughs]." (Susan)

While producers of MTDs provide explicit means for the type of personalization Maury and Susan describe, consumers can extend personalization in ways that might go beyond the overt functionality of the device. Sheila's account of tracking her son's migraine headaches is an example of such personalization, whereby she utilized the built-in notepad feature of her MTD and created a shorthand system to organize and label the entries. Jaren, a busy executive with a schedule where "no two days are alike," has developed a system where color-coded meeting entries in her MTD's calendar function are coordinated with her wardrobe, providing her with an

"at-a-glance" indication in the mornings of what to wear for the day. Other participants indicated using the MTD's "to-do" or notepad feature to maintain dynamic shopping lists for things like groceries, music, books or to keep diaries (with attached pictures). Through these modifications to the device's inherent functionality, consumers personalize MTD capabilities to suit their unique daily activities. While the modifications leverage the software and hardware components of the device itself, they represent customized capabilities that go beyond "out-of-the-box" features provided by the producer of the product.

Anthropomorphizing

Through *Anthropomorphizing*, consumers ascribe human-like qualities to their MTDs and interact with the devices as if they are living entities. This can include overt actions, such as giving the device a name, to more subtle indications, such as muttering or "talking back" to the device during routine interaction. As a property of *Bonding*, *Anthropomorphizing* represents an aspect of interaction and intimacy that approaches or simulates behaviors that typically occur in relations with living beings. While other possessions can certainly be subject to *Anthropomorphizing* (e.g. naming one's prized guitar, kissing a good luck charm, or cursing a stalled vehicle), the intensely interactive and personal nature of *Cultivating the Self*, combined with MTDs' imminent proximity and receptivity to personalization, suggest an unprecedented opportunity to engage in such behavior. As summarized in Chapter One, literature on anthropomorphism has not addressed interaction with MTDs directly, but past studies provide reasonable grounds for extending the theory to the current phenomenon. Specifically, three types

of anthropomorphic meaning emerged from the data: treating the MTD as having a personality, treating it as a person, and treating it as a bodily appendage.

MTD as Having a Personality

> "(Tell me about your mobile device.) Well, please don't call it a device. That just sounds so impersonal. (What would you call it?) Um. Well, I do call it just my phone. But it's more like a capital 'P.' That's its *name* kind of thing. But it's more than just *a* phone … It's intuitive. It's friendly. That's a term I would use with this piece of machinery. It's *very* friendly. " (emphasis original, Deborah)

One type of *Anthropomorphizing* is the projection onto MTDs of personality characteristics that are normally attributed to humans. In addition to giving her MTD a name, Deborah provides an example of a prominent indicator in the data for ascribing personality: the term "friendly." As it is used here, "friendly" has a different connotation than "user friendly," a description that is now common parlance in conversations about consumer technologies, especially when referring to desirable traits in the software's user interface. Albeit semantically related, "friendly" is a more direct adjective that conjures associations with personality characteristics. It should be noted that as participants centered conversations around describing their devices, the term "user friendly" arose with relative ease, a seemingly conditioned response in explaining either the presence or lack of desirable software or hardware usability characteristics. However, thoughtful hesitation and deliberateness preceded words like "friendly," as participants constructed more intimate anthropomorphic meaning when reflecting on the overall nature of their devices.

Secondary data provides an interesting domain of inquiry with regard to *Anthropomorphizing* MTDs. A popular web site containing publicly accessible bulletin boards

targeting consumers of MTD included a recent thread of conversation (everythingiCafe 2009) regarding what MTDs meant to their owners. Consumers consistently used words that would be considered personality adjectives, including:

- Friendly
- Soft-spoken
- Lovely
- Sexy
- Brilliant

MTD as a Person

> "I like the idea of being able to just realize that *somebody* is remembering it for me. And that box does it." (emphasis added, Maury)
>
> "I mean this thing literally – the term personal digital assistant? This machine is like an assistant. Actually it's better than my assistant at work [laughs]. Which is sad to say. Poor thing -- he's just a little challenged. But it helps me way more than a human being that sits outside my office door. It's aptly named." (Jaren)

Consumers can anthropomorphize the MTD as being or being like a person. Pickering (1997) characterized this phenomenon as attributing *perceived agency* to technology, where he predicted an increase in social interaction between humans and decidedly non-human entities (i.e. technology products). While they are not the ultimate manifestation of the android condition depicted by science fiction writers and referenced as a prefigurement by Pickering (1997, p. 49), MTDs certainly seem to represent a step in the direction of human simulacrum through "agent-like artefacts" that are increasingly involved in social discourse as "participants rather than mere tools" (p. 46).

Such is the implication when consumers give names to their MTDs or use pronouns to refer to the devices (i.e. "she" or "he" instead of "it"). Recall that in *Coordinating Schedules*,

participants were "told what to do" by their MTDs in being reminded of scheduled events. Along with these direct references, it was noted that participants engaged in casually "talking" to devices as they interacted with them during interviews. This tendency emerged as a peripheral phenomenon during conversations with participants, giving rise to suspicions that it could be a more prominent occurrence, but was suppressed in the presence of the interviewer. This is perhaps owing to the intimate and potentially embarrassing nature of consumers referring to their MTDs as people. An example of the general awkwardness in personifying or characterizing MTDs in a life-like fashion was indicated in Deborah's earlier admission that "living" with her MTD was "a weird thing to say about a machine."

Where consumers were found to ascribe personality characteristics to MTDs, secondary data also provides an interesting domain of inquiry with regard to *Anthropomorphizing* the MTD as a person. In a recent thread of conversation on a web-based bulletin board (everythingiCafe 2009) regarding what MTDs meant to their owners, an initial post started a conversation thread by simply requesting: "Describe your [MTD] in two words." Out of a total of 81 responses, 26% (or 21 total responses, listed below) included words that described or implied persons. In nearly all cases, the person described would be considered very intimate or close in relation:

- Best Friend
- My Wife
- Second Wife (x2)
- My Girlfriend
- Second Girlfriend
- Other Woman (my wife's words)
- Fourth Brother
- Baby Sitter
- Can't Cook
- Bad Motherfucker

- My Precious
- Good Cop
- My Mistress (x2)
- My Girlfriend
- Only Love
- Second Me
- Toilet Skydiver
- Not Jesus
- Jesus' Brother

A popular press essay entitled "Bringing Up Blackberry" (Gibbs 2007), proposes an analogy between MTDs and needy babies, a telling nod to Bowlby's (1969, 1973, 1980) infant-caregiver articulation of bonding:

> "I've been thinking a lot lately about my relationship with my gizmos. The little ones, not the adult systems all grown up and trailing wires everywhere, the big screen TVs and stereos and desktops. I'm talking about the cell phones and pagers and Treos and BlackBerrys, with which we are much more intimate. We carry them everywhere, so that any time they twitch we feel it on our hip. Because they have no wires, they depend on us to feed them their juice every other night or so" (Gibbs 2007, p. 84).

The author here notes the intimacy and proximity of the devices and alludes to their unprecedented fixture in consumers' lives relative to other technologies. Describing them as "the little ones" within a constellation of technology products, she goes on to compare the process of tending to the device with nights as a sleepless parent of a newborn:

> "I first realized I was reliving the days of my daughters' infancy -- the nights of light sleep, alert to every stirring -- when I began plugging my gizmo into the outlet next to the bed, so it could rest beside me, generally peaceful but pinging quietly every so often when an e-mail came in. And if I was between REM cycles and heard it, I had the choice: Do I ignore it, make it sleep through the night? Or do I find out what it's trying to tell me? When my husband and I spent a weekend away, unplugged, unhinged, it felt a little like that first time we left the baby with her grandmother so we could go hiking for a whole day" (ibid., p. 84).

Although the reference is not overt, similarities exist between this characterization and Susan's explanation of her nighttime experience with the MTD:

> "It's *always* beside me, I'll tell you that much. Even when I sleep it's on the night stand beside me. If I wake up in the middle of the night I look at it. I don't just wake up *to* look at it, but if I wake up I'll check it and see if there's any email or anything." (emphasis original, Susan)

While Susan was rarely disturbed at night by the sound of her MTD, consumers do allow themselves to be awoken and will tend to the device at all hours. Sheila, who made it a point during her conversations to seem as if she is not so proximate to the device during all of her life activities, contradicted herself in the following excerpt about her experience in the evenings:

> "Because when I come home, the [MTD] goes on the charger. And I don't go near it all night, ever. And at night it may be downstairs and I'm upstairs. Like, I don't even know if it rings. I don't hear it because I sleep on the other end of the house from where it's charging. So when I come home I charge it and I don't go near it. Now, if it makes a little bing, I'll check and see if I got an email. I will do that. But unless it makes noise I won't go near it." (Sheila)

Sheila's contradiction between her assertion that she did not "ever" go near the device at night and her reported behavior of "checking" it was similar to inconsistencies reflected in indicators from several participants. While claiming to not need to check the device all the time or especially while talking with someone in person, most participants did just that during the interview, interacting with the device in ways unrelated to the line of inquiry. To wit, during Sheila's interview, which was at her home, she allowed herself to be interrupted by her "distant" MTD on two occasions. To borrow the earlier analogy from Gibbs's (2007) essay, Sheila seemed to "unconsciously" respond to the "twitch" (or beep, as it were) of her MTD.

In line with this metaphor, and certainly owing to the relatively compact size, consumers frequently employ the word "little" when referring to their MTDs. This mirrors Gibbs's (2007) declaration of the special nature of "little gizmos" in the excerpt above. Correlative to the frequent use of the term is an allusion to consumer affection for and fondness of the MTDs and their clever functions. This supports the "MTD as baby" metaphor, where consumers exemplify the positive attraction that humans have for diminutive living creatures, a phenomenon that has been demonstrated with technology products in other contexts (Kinzer 2009). Continuing with the parental doting metaphor, Susan admitted that she keeps the device closer to her by carrying it not in her purse, but her back pocket, which she claims "is horrible … I need to get a little screen guard for it." The word "little" was replete throughout conversations:

"These little devices really enable you to stay constantly connected." (Barbara)

"The little box that controls my life …" (Maury)

"For me, in baby steps and learning how to do different little things." (Barbara)

"I just took to that concept of having that little handheld calendar." (Sheila)

"It's just a fun little thing. I think it's cool." (Kayla)

In summing up a possible reason for this tendency, Gibbs (2007) postulates on the owner-as-caregiver relationship with MTDs:

> "There must be some natural law that the smaller something is, the more emotional space it takes up, the more time and energy it absorbs" (p. 84).

In addition to implications of affection in their descriptions of MTDs, participants exhibited facial expressions characteristic of person-to-person engagement while interacting with their

devices during interviews. Through use of the auto-driving technique (McCracken 1988), participants were asked to produce their MTDs while talking about them. In nearly all cases, there was no need to make the request as participants had already retrieved and displayed them prior to the interview. Visual cues ensued throughout the interviews, including the prominence of smiling, scowling, and gesturing when producing, reflecting on, and interacting with the devices.

Perhaps much as a parent would attend to a messy child, participants also expressed concern over keeping their devices free of blemishes and smudges. In brandishing the devices during the interview, participants would often wipe them off while gazing upon and talking about them. Although a concern to protect the device by using protective sleeves or external cases lends itself to *Safeguarding* as a matter of practicality, participants divulged the desire to keep their devices clean for aesthetic purposes:

> "My son likes to steal it from me and play these [children's] games … and the problem is he gets the screen all smudgy." (demonstrating an unpleasant expression, Maury)

> "The only other thing that bugs me about the [MTD] is this glass face gets kind of smudgy. So you're constantly kind of wiping it off. Because it gets smudgy. It just looks ugly. And it's such a pretty thing [laughs] you don't want it to look ugly." (Deborah)

MTD as an Appendage

> "(How would you describe your MTD to somebody who has never experienced one?) Well, the fact that it's designed to be in your hand. I know it's sort of stupid sounding, but it's – it's right in your hand. The fact that it's just right in your hand means that it's just right there. Just that mapping of all that stuff in your hand – literally – is just really a good way of kind of exemplifying how useful it really is. It's really your 'right hand man.' I think that's why Palm focused on the word. Just to kind of play off that analogy. (Maury)

Another way of anthropomorphizing MTDs moves from treating them as people, to treating them as a *part* of a person. As Maury points out, the conceptual correlation between MTDs and hands is no accident. From early on, producers of MTDs have appeared to leverage the seemingly natural analogy of the hand. One of the first MTDs was called the "Palm Pilot." Its inventor, Jeff Hawkins, who was earlier cited in his discussion of the Grafitti shorthand strategy, maintained the analogy in going on to develop another MTD called the "Handspring." Ultimately the company and its products came to be known simply as "Palm Computing" (Dillon 1998). In consideration of their purposeful hand-held design, this level of comparison might not be considered surprising or even representative of overt anthropomorphization. But it sets the stage for a more nuanced interpretation of *Bonding*:

> "But if I lost this thing I would feel very ... naked. Empty. Lost. Yeah. It's like, it's part of your ... it's an appendage, you know, that belongs to your body now." (Deborah)
>
> "I've considered having it surgically implanted in my hand [laughs]. If I could, I probably would. Just because … honestly, I'm never without it." (Susan)

As an indication that MTDs can perhaps get no more human-like or closer to a person, consumers described them in ways that suggest their potential fusion with the human body itself. The melding of biology and technology, earlier alluded to as imminent by Pickering (1997), has long been illustrated in science fiction literature and film as the fantastical subject of "cyborgs." While indications like Deborah's and Susan's are interpreted as hyperbole, the very notion of such supposedly playful inclinations provides interesting prescience for the emerging phenomenon of the convergence of biology and technology (i.e. posthumanism and biocybernetics; see Butryn 2000, 2001; Carrozza et al. 2006; Gray 1995; Haraway 1991; Hayles

1999; Hughes 2004; Onishi et al. 2003). Although they are not surgically implanted, that consumers now wear small, wireless headsets in their ears for long periods of time perhaps indicates an increasing tolerance for even more constant physical contact with technology than they have with their MTDs.

That consumers harbor the idea of being physically fused with their devices, exaggerated or otherwise, provides a biologically-oriented indication of the ecological shift in their life-worlds. To admit the desire for surgical implantation of an appendage-like product that "belongs to your body now" demonstrates the intensity of MTD integration into consumers' lives. It also provides insight into the extensive nature of meaning derived from MTDs. Whereas most hand-held products can be understood as achieving relatively limited goals and therefore circumscribed instantiations of self-actualization (e.g. a pencil primarily allows one to write, a shovel to dig holes), the pervasive and dynamic capabilities of MTDs are perhaps better explained as what a consumer's *hand* itself allows them to do, as opposed to being understood as a mere extension of it.

It is insightful to recognize implications for the core category when considered through the perspective of the current analogy. *Cultivating the Self* has been explained as actualizing the self through goal-directed interaction with MTDs. Thought of in terms of the appendage/hand metaphor, the "ultimate" goals or consequences of *Cultivating the Self* can be viewed in a more holistic manner. In attempting to ascertain why, or to what end, consumers engage in *Cultivating the Self*, it is useful to ask the same question as it pertains to using one's hands. The capabilities and activities enabled by human hands contribute to multi-faceted goals of varying importance

and duration. Consumers might be hard-pressed to precisely account for what their "ultimate" goals of using their hands would be, although an articulation of more immediate, ongoing goals would be readily forthcoming. Cast in this vein, the "MTD as appendage" analogy provides perspective on Belk's (1988) Sartrean contention that "having as doing" is simply an antecedent to "having as being." In the current theory, attempting to assess the nature of an ontologically distinct state of "being" that occurs through "doing" (i.e. interacting with MTDs) might be no easier than answering "How does *doing* with their hands allow consumers to *be*?"

Aestheticizing

> "I like the way it looks. I like the way it feels. It's very sleek. I need to get some kind of a case for it, but I've not found one that I like. Because as soon as you put this black plastic around it, it changes the sleekness of it." (Deborah)

Bonding is facilitated not only by *Personalizing* and *Anthropomorophizing* MTDs, but also through affinity for their corporeal characteristics as well. As Deborah indicates above, consumers will laud and admire the physical qualities of their devices, as well as caress and groom them. Despite claims that MTDs are ultimately expendable, consumers nonetheless appreciate the aesthetics of their MTDs as they go about interacting with them. Expounding on a description found in an online forum (everythingiCafe 2009) that the owner's MTD is "tangible … the most touchable [MTD] I've ever owned," participants explain how physical aspects draw them toward the device:

> "But it's got that weight to it [moves MTD in careful bouncing fashion]. It feels good in your hand. But the new ones feel better though. Because they've got a more kind of gentle contour on the back. It just feels like a solid thing, you know? It's a good device. Feels good in your hand. And then there's something about the particular contour of the casing

> ... It’s just really gratifying to hold in your hand. It just slips in your pocket so kind of fluidly. So just holding it in your hand, the aesthetic of it is really pleasing [caresses MTD]." (Maury)

> "It's got a smooth contour … it's been crafted as an extraordinary piece of wireless art." (Pegoraro 2007, ¶ 1)

The aesthetic of contour, used in both of these indicators, connotes a physical integration with the hand that is accommodated through an MTD's ergonomic design. The implementation of ergonomics, also referred to as "human engineering" or "human factors design" can be understood as an effort to promote physical bonding between consumer and product through physical construction of the device. The following definition of the word indicates a focus on the process of consumer interaction:

> "ergonomics 1 **:** an applied science concerned with designing and arranging things people use *so that the people and things interact most efficiently* and safely" (ergonomics 2003)

Producers of MTDs demonstrate an ongoing improvement in ergonomics of their products, as reflected in the progressive contours of Palm Computing's flagship MTDs over time (see Figure 3-18). Participants were aware of the concept and appreciative of these enhancements:

> "You know, the first generations of [brand of MTD] were not ergonomic and they were a pain in the butt. Then all of the sudden they got those big fat bodies so you could kind of hold it a little easier and move your thumbs around." (Nathan)

> "It just fits right in your hand [demonstrates]. And it's still like this [places on shoulder and tilts head to listen] so you can still put it in your shoulder or whatever. This one is a little thinner and a little longer than the other [MTD] I had. I think I like it better. The other one was more boxy and square-shaped. But I really think it just fits good in your hand and honestly you get to the point where you don't even realize it's there when you're doing other things." (Susan)

To the extent that consumers reach the point where they "don't even realize it's there" is an insightful indicator that the process of *Bonding* as well as its mutuality with *Integrating* solidifies over time, here assisted through design characteristics. By keeping hand-like devices close at hand in this manner, consumers are on their way to engaging in *Safeguarding*, the property discussed next.

Figure 3-18. Palm Computing's Ergonomic Progress.
Top, from left to right: PalmPilot (1997); Palm V (1999)
Bottom, from left to right: Palm m100 (2001); Palm Pre (2008)

Safeguarding

The three dimensions that comprise the process of *Bonding* in turn give rise to the tendency for *Safeguarding*. By *Safeguarding*, consumers engage in the ongoing process of *Maintaining Proximity* to the device and *Securing Information* contained within it. As consumers become closer to their MTDs through *Bonding*, the propensity for *Safeguarding* increases.

Maintaining Proximity

Maintaining Proximity involves consumers being conscious of the location of their MTDs and making efforts to keep them close at hand. In light of device and data expendability, the need for proximity is related to a desire to avoid interruption of access to the MTDs' capabilities as opposed to the potential loss of the device due to theft. Deborah earlier alluded to this distinction where she "wouldn't be worried" if someone stole her MTD, although they would be taking away "a sense of control" she has over her life. Susan provides further indication of this rationale for *Maintaining Proximity* as she postulates on what would happen if a stranger got hold of her MTD:

> "Honestly, I think it would be more disturbing from a germ standpoint than somebody breaking it or whatever. I don't keep private information on it or anything like that. But I'd definitely try to get it back as quickly as possible." (Susan)

Although she was not asked to articulate it in such a fashion, Susan, who earlier admitted that her MTD was "always" beside her, attempts to quantify her proximity by speculating on the percentage of her "waking hours" that she had the MTD in her hand:

> "I would say, actually having it in my hand … probably 20% of the time I'm awake. Having it next to my side? Probably 98% of the time. The only exception being when I'm in the bathroom or something." (Susan)

Jaren similarly describes her MTD as "absolutely" close at hand and claims to use it "no kidding, at least 40 or 50 times a day." However, compared to Susan proximity, she "ups the ante" in terms of the lack of limitations to where she will take her MTD, here indicating an ecological shift in two seemingly mundane routines of life:

> "I don't think I go to the bathroom without my [MTD]. When I'm out, I always carry it in my purse. As a matter of fact, when I buy my purses, I always look inside to see if it's got a little pocket where this will neatly fit into so that I'm not looking around for it. I like the size of this [MTD] but I guess I've adapted my purses around this size rather than choosing my [MTD] based on my purses." (Jaren)

Even when going short distances, consumers desire to keep the devices close at hand. As this account indicates, they will be retrieved on the occasions when they are inadvertently left behind:

> "… last Tuesday when I accidentally left my [MTD] behind in the office when I went home, I actually felt crushed … Then on Thursday, the reverse happened. I left my [MTD] at home when I went to work. This time, though, I wasn't going to be parted with it for long. I went home during my lunch hour to retrieve it. I can't live without my [MTD], but my love affair with gadgets stops there." (Tan 2006)

Here, the data indicates not only the devotion to *Maintaining Proximity,* but also the exclusivity of this type of *Bonding* for MTDs but not other "gadgets."

Securing Information

In addition to staying close to the physical device itself, consumers remain cognizant of the location and integrity of the content, or data, that is stored in the device by *Securing Information*. Included with nearly any MTD purchased today is a software and/or hardware accommodation for backing up and retrieving data. This process is often called synchronization and allows consumers to use a personal computer to store and access a replica of the information on their MTD. The ease with which it is possible to conduct the synchronization ensures that even novice consumers can establish and maintain an ongoing copy of their data:

> "I'm pretty religious about backing up. Pretty methodical. At some point during the day, I will back up. So I usually back up every day. I mean it doesn't even take two minutes. So I'm pretty religious -- well, I *am* religious about it. That cable is there for a reason. I have to look at it and say, 'Oops. Better back up.' So when I crash, I don't panic that I would lose information." (emphasis original, Sheila)

As an extension of data backup routines, consumers can opt to access their data remotely, curtailing the need to store data on the device at all. As devices become increasingly connected to data networks (e.g. the public internet or private intranets), the need to store information on the device becomes obsolete. Neil, a self-proclaimed advanced MTD user, describes how his device simply acts as an access point that enables him to interact with his information:

> "Like, I really don't trust putting all of my personal information on the device. I put it on my server, which is secure, then I access my server through this device. Versus actually storing all of my contacts [on the MTD]." (Neil)

The lack of trust that Neil refers to is related not only to the possible security exposure of keeping personal information on the device itself, but also implies that he does not have to rely

on keeping up with a particular device. Although he understandably and explicitly values the portability of his MTD, Neil's advanced arrangement with his personal information engenders his nonchalant attitude toward hardware in general, whereby he professes a lack of interest in having the latest incarnation of MTDs. He prefers instead to simply be able to access his information from wherever he is, using whatever conduit is available, MTD or otherwise:

> "I mean, I am not beholden to the device. If I need to open up your laptop there and access my stuff, then your laptop is just fine. My [MTD] is just fine. My laptop is just fine." (Neil)

While being able to access MTD data across the internet might currently extend beyond the abilities of most consumers, it is certainly a scenario that hardware and software manufacturers acknowledge could become the norm through "virtual desktops" and "thin client" centralized computing (Delaney and Vara 2007; Fogarty 2008; Fried 2008). Regardless of its current feasibility or future likelihood, the fruition of such technology would, if anything, contribute to an increase in the preponderance of "neutral" devices that can access the remote personal information and thus decrease the need for being "beholden" to a particular device.

The more mainstream approach to concerns about the possible exposure of data on a stolen or lost MTD was for participants to simply refrain from storing sensitive information on the devices at all. As both Deborah and Susan previously indicated, participants in the study appeared highly cognizant of the threat of identity theft and thus generally avoided keeping information such as bank account numbers, credit card numbers, personal identification numbers (PINs), and social security numbers on their MTDs. In the rare situation where such information was stored on MTDs, participants went to considerable lengths to use built-in file security and

passwords along with their own means of "encrypting" data by using inconspicuous labels, reminders or hints, or scrambling numbers and words. Sheila divulges her strategy:

> "I shouldn't have this in it but I have sort of a cryptically coded credit card number. I mean, you'd have to know what you were looking for. It has fake digits in the middle so no matter where I am I can look it up. That way I know my credit card number even if I don't have it. I have codes [hints] to all of my passwords, like 'TV Show TV Show Boat' and I know what that means. It's all cryptically encoded." (Sheila)

In taking the collective measures described in this section, the process of *Safeguarding* provides an indication of the importance of MTDs for consumers. These securing activities also contribute to further *Bonding*, facilitating the mutually dependent relationship between the two processes. Should consumers substantiate *Bonding* yet fail to safeguard their device, resulting in the undesirable situation of being without it, they are subject to experiencing *Feeling Loss*, which is discussed next.

Feeling Loss

As consumer intimacy with MTDs evolves through *Bonding*, the propensity increases for a negative experience in the absence of the device. This process of Feeling *Loss* is a consequence of *Bonding* to MTDs while not *Safeguarding* them. *Feeling Loss* is comprised of two dimensions: *Feeling Incomplete*, which corresponds to being absent from the device, and *Losing Information*, which corresponds to experiencing a permanent loss of personal information.

Feeling Incomplete

> "If I don't have it, there's that sort of security blanket thing that it becomes so attached to you that it's part of you. You feel that if you don't have it there's something missing." (Maury)

> "I NEVER thought I'd be so pathetic, but last Tuesday night when I accidentally left my mobile phone behind in the office when I went home, I actually felt crushed." (Tan 2006)

Without MTDs, a vacuum is created where previously there had been an ever-present outlet for psychic energy investment. Although consumers can attempt to continue achieving goals by substituting MTD capabilities with other products, the centralized outlet for and acute concentration of psychic energy is hindered until the MTD is replaced with another. Even short interruptions in accessibility are cause for concern among consumers. The experience of *Feeling Incomplete* includes characterizations such as feeling like "something" is missing, feeling "naked," feeling as if a watch or piece of jewelry was left behind, and feeling "devastated" or "lost." As an indication that Maury is not alone in making the analogy between the MTD and "security blanket," Chad discusses his experience:

> "So for some reason, I don't know if it's my security blanket or my teddy bear. But if it's too far away or if I've ignored it for too long I'm like 'Oh god I better check my [MTD] -- there's no telling what's come through, who's called, who's sent me an email, who needs help with something.' So my dependence on it has definitely changed, definitely increased." (Chad)

Chad here provides an indication for not only his "teddy bear"-like bond to the device, but also how that bond has matured over time. Chad's reaction of need to "check" the MTD during even a short-term absence was shared among participants who, like Susan, would leave other personal items such as purses, briefcases and even other portable electronics behind, but rarely

their MTD. Asked if she ever wished that she did not have the device with her, Deborah responded:

> "Um ... no. No. In fact I feel ... I feel naked without it. I feel like I forgot to put something on if I go somewhere and I don't have it with me. A lot of times, you know, even like here [at work] it will be sitting on the desk and I'll go upstairs and get a coffee. And I get halfway up the elevator and I'll think, 'Oh darn, I don't have my [MTD] on me.' And then invariably somebody's saying 'Well let's get together on Tuesday.' I'm like [snaps finger] calendar's downstairs. So even here, I feel funny without it." (Deborah)

Deborah's tendency for *Maintaining Proximity* is perhaps bolstered by a previous experience of being without her MTD. While long-term absence of MTDs was not a common experience among participants, Deborah recalled the period of "months" before she replaced the old MTD with a new one:

> "I walked around like a zombie for months because I felt like I didn't know what was going on and I did have this happen where I was supposed to be at meetings that I didn't remember, because I didn't have a good back-up [laughs] but I walked around feeling totally in a daze just waiting for something to come back and smack me in the face because I hadn't done something I was supposed to do by a certain date. And so that was kind of a scary feeling, really, professionally to think that somebody's counting on me to do something or I'm supposed to turn up at some meeting and I didn't know." (Deborah)

In this situation, Deborah was between MTDs and hints at the cause for her "zombie-like" state: lack of a usable back-up of her data. Her negative experience was brought on by *Losing Information*, discussed as the next and final property *Feeling Loss*.

Losing Information

Where consumers are permanently parted with their devices, or experience an unrecoverable technical failure, and they have neglected to maintain a usable backup of their

data, they can subsequently experience the fate of *Losing Information*. *Losing Information* can be understood as the other end of a continuum with *Securing Information*, a previously discussed property of *Safeguarding*. By *Losing Information*, consumers are losing the artifacts of their psychic energy -- the culmination of their efforts at *Cultivating the Self*. As one participant put it, *Losing Information* is a "deadly" consumer experience, the metaphorical obverse of putting one's "life" into the device. Since having access to the data is necessary to facilitate ongoing cultivation of the self, consumers take necessary measures to perform and maintain backups. Despite these efforts, *Losing Information* still looms as a possibility and concern.

It should be noted that with only two exceptions, participants had not experienced a complete and irrevocable loss of data. Also, in only a few cases had participants permanently lost an MTD, although a data backup was available and the device was ultimately replaced. Therefore, inquiry was often directed toward having participants speculate about what life would be like in the event of losing data or their MTDs. When asked to hypothesize a data loss situation, Maury indicates how it would diminish the dependable person that he actualizes through the device:

> "It would be a -- pain in the ass. It would depend on the sort of information. Scheduling sort of stuff, that would be a bummer because I know there would be meetings that I would forget. And I wouldn't want to stand somebody up for a meeting or forget to do something that I really need to do … I know I wouldn't be able to be as counted on if I lost that information." (Maury)

Here, Maury's hypothetical loss of information would diminish his ability to do things that he "really need[s] to do." The ability that his MTD affords him in terms of others relying on him would be curtailed. While maintaining multiple backups of his information, Maury did

experience losing the device and here recounts the initial temporary feeling of not being able to get things done, followed by a quick realization that the backup existed, and finally the disappointment in the economic loss of the product:

> "I went to look something up, either a phone number or I needed to know if there was a meeting that I had to go to the next day and I couldn't. And I remember that feeling, like, oh shit. I don't know where to go. My device tells me where to go. But that subsided pretty quickly because I have a backup and then it was like, well shit man that was a $400 device. That sucks." (Maury)

Sheila, who like Maury maintains "religious" backups, admits that it "really would be upsetting" to lose personal information, "but it's never happened." In probing for the effects of a potential loss, she exhibited a sense of foreboding at the pending hypothetical situation:

> "(I'm glad it [loss of data] hasn't happened. A question I have for you involves you hypothesizing and really putting yourself into a hypothetical position …) I have a feeling I'm not going to like what you say. (What would happen if you lost it?) If I lost the physical unit? (The data.) Well. The physical unit I wouldn't really care at all. If I were to lose the data. Oh, I'd be really, really sad. That would bother me. That would really bother me. [long pause] I've never thought about that. [long puase] I'd be really, really upset to be honest." (Sheila)

Reiterating the expendability of the device, and now forced to consider losing data that in reality is actually recoverable, Sheila has a difficult time articulating her reaction, although the experience would obviously be negative for her. Articulating what Sheila has "never thought about," Kayla recounts the experience of actually *Losing Information* during her early interactions with the MTD:

> "There was a problem with my backup software and it required an upgrade. I needed to go to the website or something. Well, I was waiting until I had time to do that … and I didn't and I got a fatal error. As in, like reset, and delete every piece of information that's on there. And I've also got a camera attached to it. It lost all of my pictures. Um.

> Everything. All my appointments were gone. It was terrible. It's an awful feeling." (Kayla)

By *Losing Information*, Kayla suffered a setback in interacting with the device while she cobbled together the various pieces of information necessary to begin *Cultivating the Self* once more. While some data, such as appointment times and contact information, could be reconstructed from other sources or follow-up inquiry, the photographs she had compiled would be more difficult or sometimes impossible to re-capture. As the capabilities of MTDs go beyond the "standard" functions of address book and calendar, the richness and intimacy of personalized information, like Kayla's photographs, instigates more rigorous efforts at *Securing Information*.

Substantive versus Extant Conceptualizations of Loss Effects

Relative to academic interest in pre-purchase phenomena and consumption behavior, the phenomenon of possession loss has received little attention in the literature. In recognizing the gap, calls for additional research on the topic have been made (Belk 1988; Sneath, Lacey, and Kennett-Hensel 2009). Specifically, Belk (1988) has suggested that special treatment be given to the matter, presenting as one of the findings in his research "especially striking evidence [of] the diminished sense of self when possessions are unintentionally lost or stolen" (p. 139). The premise for this finding is based on his hypothesis that "if possessions are viewed as part of self, it follows that an unintentional loss of possessions should be regarded as a loss or lessening of self" (ibid., p. 142). As with this treatment, other research that addresses possession loss (Assanangkornchai, Tangboonngam, and Edwards 2004; Benight et al. 1999; McCracken 1986; Sayre 1994; Sneath, Lacey, and Kennett-Hensel 2009) similarly focuses on the symbolic

meaning of possessions and therefore the implications for a "diminished sense of (symbolic) self" that can occur in their absence.

Across the literature, the outcome of possession loss on the symbolic self is characterized similarly. Belk (1988) cites loss research from sociology and psychology (Maguire 1980; McLeod 1984; Rosenblatt, Walsh, and Jackson 1976) and conducts his own small-scale study of the phenomenon, concluding that grief and mourning can occur when cherished items are lost due to theft or casualty. Sneath et al (2009), Benight et al (1999) and Assangkornchai et al (2003) discover similar experiences among victims of natural disasters like Hurricane Katrina, Hurricane Opal, and flooding in Thailand, respectively. Moving to the domain of child psychology, Winnicott's (1953) research on children's attachment and separation from "transitional objects" such as stuffed animals or the proverbial "security blanket" represent an acute instantiation of what Bowlby (1973, 1980) would characterize as separation distress. In summary, across these findings, the consensual outcome of possession loss converges on some form of adverse experience such as stress, depression, or anguish.

Considered within this dissertation's substantive theoretical framework of action-oriented meaning, the implications for loss of MTDs provide both similar and contrasting views with extant theoretical concepts. Similarities exist in the ultimately negative experience that results from loss. Sheila's speculation that she would be "really, really sad" and "upset" in the event of losing her personal information, along with Kayla's real-life "terrible" experience "awful feeling," are workable substantive indicators of negative outcomes similar to characterizations in the extant research.

However, as has been demonstrated in development of the current theory, the loss of MTDs as means for *Cultivating the Self* differs markedly from symbolically-oriented outcomes of loss. Compared to the loss of frequently cited symbolic goods such heirlooms, cherished photos, or trophies, MTDs differ in that the devices themselves are not unique or irreplaceable, are not exclusively or primarily recognized as an overt symbol of the self, and have no special intrinsic worth to consumers much beyond their economic value. To reconfigure Belk's aforementioned hypothesis in light of the current theory, an unintentional loss of MTDs would be regarded as a "loss or lessening" not of the self in a symbolic sense, but of being able to *actualize* the self in a real sense. A loss of MTD capabilities would mean a "diminished sense" of being able to achieve goals.

The distinction between loss of the self and loss of an outlet for *Cultivating the Self* gives rise to an important nomological modification of extant theoretical models of possession loss. The hypothetical relationships either explicit or implicit in the literature propose a direct effect between loss of possessions (e.g. perceived severity, actual resource depletions) and some sort of adverse response (e.g. stress, grief) as depicted in Figure 3-19. While loss studies differ in their operationalization and assumptions of independent, moderator and dependent variables, they present a largely similar reductionist organization of relevant constructs as presented in Figure 3-19. That is to say, interaction and the meaning that arises through such activity is either ignored or tacitly subsumed in the cause-and-effect propositions.

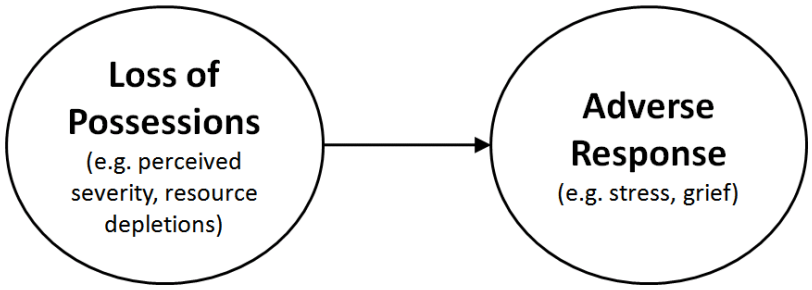

Figure 3-19. "Standard" Possession Loss Hypothetical Model Employed in Extant Research

Sneath et al (2009), while still maintaining a structuralist approach to explaining behavior, nonetheless present a perhaps unwitting theoretical opportunity to articulate the proposed modification of extant hypothetical relationships. In their model of post-hurricane loss experiences, in addition to *Loss of* (Symbolic) *Possessions,* another variable articulated as perceived *Lack of Control*, or a sense of not having one's life in order, is hypothesized as also being positively related to consumer *Stress* (see Figure 3-20 for the relevant segment of their model that depicts these relationships). While the impetus for *Lack of Control* in their study is ostensibly related to the aftermath of the natural disaster, as a general concept of causal inference (derived from attribution theory; e.g. Kelley 1973), it presents a conceptual opportunity for modifying the "standard" causal model of *Loss of Possessions->Stress* in light of the current

theory, where *Lack of Control* can be understood as mediating the relationship between *Loss of Possessions* and *Stress*, as per Figure 3-21.

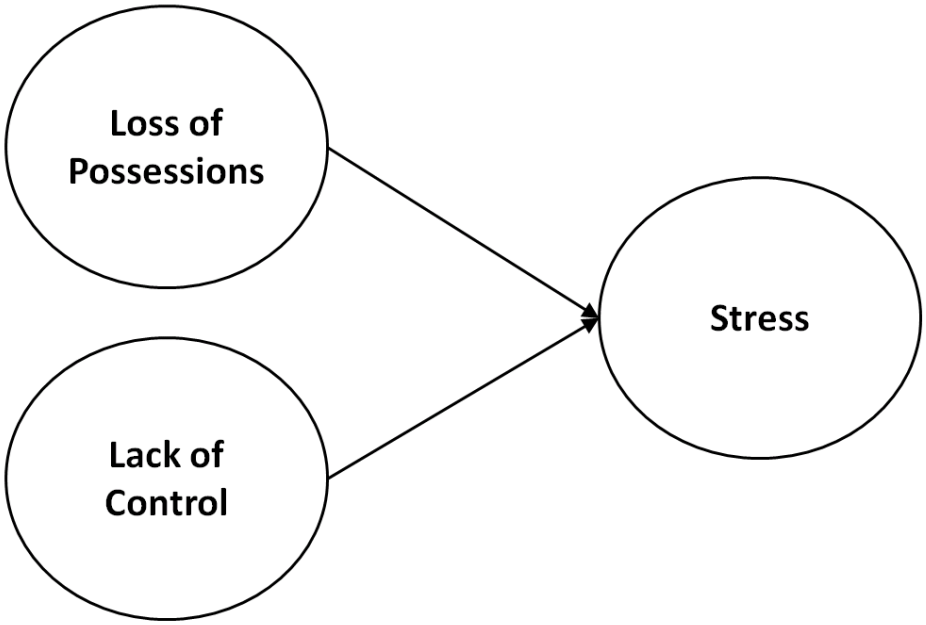

Figure 3-20. "Standard" Possession Loss Hypothetical Model with Addition of *Lack of Control* Causal Variable (adapted from Sneath 2009, Figure 1)

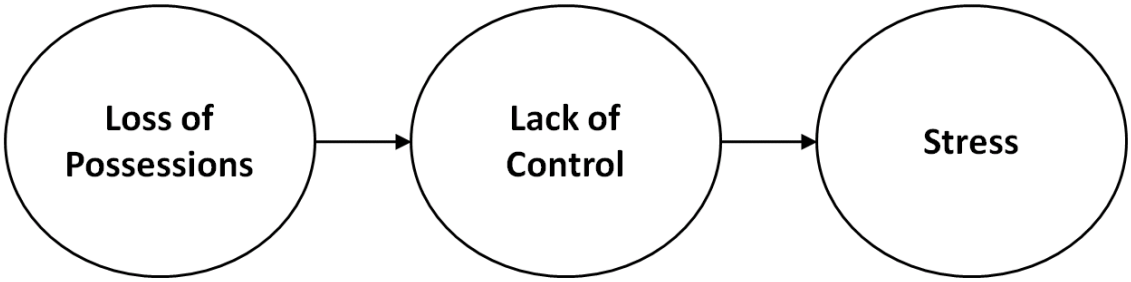

Figure 3-21. Modified Hypothetical Model: *Lack of Control* Mediates Relationship Between *Loss of Possessions* and *Stress*

The updated model in Figure 3-21 accommodates an interactionist conceptualization using extant constructs by interjecting the important effect on actions. The revised model suggests not only *Loss of Possessions* (i.e. the device and/or data), but also, and importantly, the *Lack of Control* that is experienced due to the loss of capabilities from interacting with the MTD.

Chapter Summary

This chapter presented the proposed theoretical framework for explaining the majority of variance in the social psychological processes involved with the phenomenon of consumer interaction with mobile technology devices. Namely, the theory manifests primarily through the core category of *Cultivating the Self*. An interactionist paradigm of understanding the phenomenon was advocated as an alternative to traditional structuralist perspectives in social science. The core category and its stages (i.e. *Transitioning*, *Integrating*, *Bonding*) were explained through substantive indicators and concepts, along with relevant extant theory and ideas from interdisciplinary literatures.

CHAPTER 4
DISCUSSION

Chapter Outline

This chapter presents a summary of the theory presented in Chapter Three, then proceeds with addressing limitations of the research. Contributions and implications for academic and practitioner constituencies are then discussed, followed by an outline of future research directions. A brief conclusion closes the chapter.

Summary of the Theory

This dissertation set out in an attempt to understand the nature of consumer interaction with mobile technology devices and specifically the meaning consumers ascribed to those interactions. As Chapter One argued, consumer interaction with mobile technology devices is a pervasive but understudied phenomenon. Additionally, research addressing low adoption rates of technological innovations has highlighted the need for addressing the greater sociocultural context in which consumption of such products takes place. In an effort to redress these gaps and develop an explanatory framework that accounts for not only the interaction between device and consumer, but also considers the everyday life experiences in which those interactions occur, an inductive methodology was used to explore the phenomenon. The following is a summary of that framework as it emerged from the data.

Cultivating the Self

The prominent discovery and primary proposal in this theory can be summarized as follows: Consumers interact with mobile technology devices in myriad ways in order to actualize their goals and therefore actualize themselves. This process emerges through the core category of *Cultivating the Self* as ongoing, intimate interaction with MTDs where consumers invest psychic energy into their devices over time so as to achieve goals and actualize the self. Psychic energy is an emergently fit concept originating in psychoanalytic and interactionist object relations literatures. It is equivalent to attention, the medium through which individuals accomplish intentional acts. In order to get things done, individuals must invest psychic energy. By consumers investing psychic energy into their mobile technology devices, eventually putting their "entire life in there," the products both embody and enable goals and thus represent a means for actualizing the self.

Cultivating the Self evolves through the integration of three major categories: *Transitioning*, *Integrating*, and *Bonding*. While characterized as stages that sometimes follow a specific order, these three categories are not necessarily sequential or mutually independent. Properties of one stage can overlap with other stages and consumers can experience aspects of some or all of the properties of these stages at various times during their ongoing interaction with mobile technology devices. The stages are hereafter summarized.

Transitioning

Transitioning to their devices involves consumers undergoing a fundamental change in their lives as they gradually come to understand and assimilate interactions with MTDs. The

change is proposed as an "ecological" shift in life-worlds, where consumers do not simply "adopt" MTDs, but come to *live* with them over time. It is argued that MTDs represent unprecedented ecological shifts in consumer life-worlds due to their proximity, confluence of features, and increasingly novel opportunities for interaction. The devices impact many aspects of consumers' everyday lives, and in this way their introduction is not merely an additive phenomenon, but a totalizing experience.

The process of *Transitioning* occurs along a continuum of *Avoiding Transition* to *Embracing Transition*. Consumers can exhibit initial reluctance or technical setbacks that result in *Avoiding Transition* due to not understanding what MTDs are capable of or how to use them properly. Eventually, however, they overcome initial avoidance and move toward *Embracing Transition*. *Embracing Transition* is usually experienced in relation to the stage of *Integrating* and serves as both a cause and effect of that process. Where consumers simply resolve themselves to *Embracing Transition* and begin *Integrating* daily activities into the device, they experience the gains of achieving goals through the device, which further supports their embrace of it. Alternatively, consumers can simply begin *Integrating* with the device, perhaps by external mandate and sometimes reluctantly, then move toward *Embracing Transition* as they realize the benefits of *Integrating* the devices into their daily activities.

Consumers typically move toward *Embracing Transition* by attempting to understand how to interact with their devices. This occurs through *Negotiating the Learning Curve* and can be continuously experienced throughout the overall process of *Cultivating the Self*, especially as new capabilities are encountered due to hardware or software upgrades to MTDs. The two

major strategies employed by consumers in *Negotiating the Learning Curve* include Experimenting and Learning from Others. By Experimenting, consumers engage in "trial and error" interactions in an effort to gradually understand their devices. Due to the prominent public display of and interpersonal encounters with MTDs, consumers also discover their capabilities by Learning from Others.

In the process of *Negotiating the Learning Curve*, consumers are subject to *Limiting* and/or *Converging Functionality*. This dimensional range of activity explains how consumers select and avoid MTD functions that they will interact with. In the case of *Limiting Functionality*, consumers are aware of functions their devices are capable of, but choose not to transition to them. Conversely, by *Converging Functionality*, their MTDs are a means to replace functions found in other products. Consumers can engage in both processes at the same time. For example, they can choose not to use their MTD's camera function, while at the same time rely on the device's built-in clock in lieu of a wristwatch.

During the course of the *Transitioning* stage, as well as the overall process of *Cultivating the Self*, consumers recognize but de-emphasize society's perception of MTDs as being "cool" through *Devaluing Public Meaning*. Through this process, over time consumers come to understand "cool" in terms of what their MTDs can do, versus what they are symbolized as being. This tendency supports the notion that consumers place value on their interactions with the device more than the physical device itself.

Integrating

Transitioning overlaps with the process of *Integrating*. Through *Integrating*, consumers select and align activities in their daily lives with capabilities that arise from interacting with their MTDs. *Integrating* is a highly substantive process that comprises the majority of consumers' explicit interaction with MTDs. It represents what MTDs are perceived as being "expected" to do, and is indicated through the voluminous itemization of substantive interactions consumers report and can be observed to engage in (e.g. scheduling, compiling information, communicating with others, consuming media, managing projects).

The many activities of *Integrating* often contribute to the process of *Organizing Life*. By *Organizing Life*, consumers engage in forming ordered structures to their everyday activities. This process increases over time as consumers expand the parts of their life that are organized through the device. While it is not a novel process for consumers, *Organizing Life* occurs more conveniently through interacting with an MTD compared to older, paper-based organizers. A common function for *Organizing Life* is scheduling which, combined with audible or tactile reminders, allows consumers to focus on their current activities without needing to remember upcoming events. Being guided by reminders for pre-arranged activities, consumers express a sense of being controlled by their MTDs.

Organizing Life relies on the property of *Offloading*, which is the process of relegating "routine" or otherwise commonplace tasks to the device so as to free up consumers to engage in other activities. Many seemingly minor events and pieces of information crop up while going about everyday life and, while important, they might not be easily memorable. By *Offloading*

these small investments of psychic energy, consumers can go on to cultivate themselves through other daily activities without needing to continually attend to erstwhile concerns.

Consumers not only organize their own activities, but attempt to align activities with other people through *Coordinating Schedules*. Due to the widely varying schedules of goal-directed individuals operating in busy modern society, *Coordinating Schedules* can present a challenge. While paper-based calendars are available for the task, consumers value the portability and convenience of being able to coordinate schedules while interacting with others "on the spot."

Other MTD capabilities are leveraged "on the spot" while engaging in *Optimizing Down-Time*. By having nearly constant access to their devices, consumers "fill in the gaps" of their everyday lives by interacting with them when not investing psychic energy elsewhere. Frequent opportunities arise for doing this while waiting (e.g. in line, at the stoplight, at airports) as well as experiencing boredom during other activities (e.g. meetings).

That consumers interact with devices across various contexts in life is a function of this theory's proposed ecological shift in life-worlds and is explained as part of *Integrating* through the process of *Blurring Activity Types*. While it is common convention to classify an individual's "lives" as being personal or professional, consumers acknowledge but do not readily manifest the distinction in terms of the types of activities they integrate into their MTDs. Since consumers assume various roles as they go through life, or even through a day, the corresponding types of interactions with their MTDs will vary as well.

Finally, through *Integrating* the capabilities of MTDs, and specifically *Organizing Life*, consumers experience the phenomenon of *Sensing Control*. By managing everyday life, consumers ascertain a feeling of power or authority over the direction of their activities and perceive their progress toward achieving goals. As an outcome of *Organizing Life*, *Sensing Control* also serves as a motivation for it and the interrelation of the two processes greatly facilitates the ongoing progress of the core category of *Cultivating the Self.*

Bonding

Consumers become increasingly proximate and intimate with their MTDs through the process of *Bonding*. By customizing, personifying, and interacting playfully with their devices, consumers gradually make the products "their own," and come to understand how life would be altogether different without them. The process of *Bonding* is coextensive with the process of *Cultivating the Self*, and is expected to intensify over time.

Bonding evolves primarily through the properties of *Personalizing*, *Anthropomorphizing* and *Aestheticizing*. *Personalizing* involves consumers modifying their MTDs in unique, individualized ways. This can include primarily cosmetic changes to the MTD's interface (e.g. wallpapers, screensavers, fonts, and colors) as well as modifications to the device's functionality, whereby consumers create new capabilities suited to their unique everyday activities (e.g. creating databases to track medical histories, comic book collections, gift lists).

By *Anthropomorphizing*, consumers ascribe human- or life-like qualities to their MTDs primarily through three types of attribution. First, they project personality characteristics onto their devices that are normally attributed to humans, such as referring to MTDs as "friendly" or

"sexy." Second, they regard the MTD as a person by giving it a name, using pronouns when referring to it, talking to it, and describing it in terms of being a person (e.g. "my best friend" or "baby sitter"). Also, MTDs are often compared to babies or infants, both in terms of their size and their need for attention and maintenance. Third, consumers can consider the MTD as an appendage to the body, namely a replication of or replacement for the hand, a telling reference to how consumers understand the usefulness and purpose of an MTD.

By admiring the sensorial characteristics of the device, such as the physical traits, ergonomics, or design aspects, consumers engage in *Aestheticizing*. Consumers will laud, revere, caress and groom their devices. The way producers of MTDs enhance ergonomic design, and particularly whether and how devices fit comfortably into the hand, are important aspects of physical interaction with the products.

As consumers engage in these aspects of *Bonding*, they tend toward *Safeguarding* their MTDs as well. This involves keeping the devices close at hand by *Maintaining Proximity*. Few products other than clothes and jewelry are as constantly close to consumers as their MTDs. During waking hours, even short journeys will find consumers bringing along their MTDs. During evening routines, MTDs are rarely far away and even instigate or are subject to late night interactions. Consumers are also vigilant about ensuring the integrity of the data contained in the device by *Securing Information*. As artifacts of invested psychic energy, data on the device are secured in other places such personal computers and networks so as to allow for recovery in the event of device theft or loss.

Consumers bond to devices as a proxy for their capabilities. Not having access to those capabilities can result in the negative experience of *Feeling Loss*, a potential consequence of not *Safeguarding*. As consumers progress in *Bonding*, it is expected that the propensity for *Feeling Loss* will increase in the event of being parted with their MTD. Lack of access to MTDs results in consumers *Feeling Incomplete*, where the previously ever-present outlet for investing psychic energy is gone and consumers experience the feeling that "something is missing." While devices can be replaced and data restored from backups, an even more severe experience is permanently *Losing Information*. Importantly, the loss perceived by consumers is that of losing capabilities that arise from interacting with the device, and thus a sense of control over life, with secondary or negligible concerns over exposure of personal information or the economic cost of replacing the product.

Collectively, the three stages of *Cultivating the Self* described above form a proposed theory for consumer behavior with mobile technology devices. It is hoped that this theory might provide an outline for promoting future research and guiding marketers and producers of MTDs through its in-depth and action-oriented approach to understanding consumer relationships with this category of products. Such academic and managerial implications will be considered in later sections of this chapter. However, in the next section it will be recognized that the theory presented here is by no means the only plausible framework for explaining the phenomenon, and its limitations will be explicated.

Limitations of the Theory

Research is always conducted within the confines of paradigmatic and practical limitations. Like all academic contributions, this study was constrained by several assumptions and parameters that limit its contribution to the body of knowledge. These include the fundamental approach to analysis of the phenomenon, data gathering techniques, participant selection, reliance on interpretation, and lack of longitudinal data.

The methodology of grounded theory gives rise to systematic generation of a hypothetical framework grounded in the experiences of selected participants. This serves as both a strength and limitation. The theory and concepts presented here are by no means "proven," and are put forth only as one proposed explanation for a phenomenon that has received little attention in marketing and consumer behavior literatures. While hypotheses were developed and tested in the course of theoretical sampling and elaboration, deduction was in service to inductive saturation of categories, and no further efforts were made to generalize to a larger population of consumers. As such, several concepts in the theory are arranged so as to suggest directionality but have not been tested beyond the indicators sufficient to establish the theory via the constant comparative method. These propositions are considered to be provisional and are limited until validated further through other studies and methods (e.g. quantitative techniques).

The procedure for gathering data for this study primarily involved conducting 26 interviews across 20 participants, facilitated by the "instrument" of the trained researcher guided by an open-ended interview protocol. Interviews proceeded largely as natural and dynamic conversations between people. Two limitations emerge in collecting data in this context. First,

there is the potential for even a well-trained interviewer to miss important cues or contributions while talking to participants "on the fly." Although notes are maintained during interviews to serve as prompts to revisit earlier parts of conversations, subsequent reviews of transcripts can reveal telling leads that might have proven useful if pursued "in the moment." Conversely, through facial expressions, tone of voice, or the positioning of a question or comment, the interviewer can inadvertently solicit a response that a participant expects the researcher wants to hear, resulting in an indicator that is divergent from the participant's actual experience. In the case of both limitations, opportunity for a richer interpretation can be missed, thus presenting the need for further validation through follow-up inquiry or the use of other research methods to triangulate on the phenomenon and strengthen conceptualization.

Participant selection also serves as a limitation. The phenomenon of consumer interaction with mobile technologies certainly affects many consumers, but the participants in this study were selected from populations purposively selected by the author and based on the primary criterion that they were avid, frequent users of MTDs. Therefore, experiences were not considered from consumers who were relative neophytes, more casual in their interactions, disgruntled over performance of their MTDs, or previously avid users who had abandoned their devices. While it is anticipated that upon presentation of indicators from these and other participants the theory will be flexible enough to accommodate aspects of their experiences, concepts will likely be extended and variability or direction in propositions will likely change. Therefore, the theory should be tested for resilience against other types of consumers and use scenarios.

The theory presented in this dissertation emerged through interpretations of participant indicators and, to a lesser extent, secondary data sources. A limitation in this procedure of analysis is that interpretations by the author might not provide the most viable account of participant experiences or the relationships among emergent substantive concepts. Relatedly, it could be argued that there are many equally justifiable interpretations of the same data. To address this limitation, grounded theorists should remain focused on the emergence of the core category, around which other concepts are delimited and modifiable (Glaser 1978, pp. 93). Also, attempts to mitigate the effects of this limitation and attempt to more rigorously converge on the core category resulted in multiple contexts of interpretation by not only the author, but other grounded theory experts, as described in the "Evaluating Research Quality" section of Chapter Two.

In a final limitation, the core category of *Cultivating the Self*, as a function of being an ongoing process, transpires and thus changes over time. Although some participants were interviewed on multiple occasions and many months apart, the study exhibits limited indicators of interactions as they occur at different time intervals. As a naturally longitudinal process, this limitation should be addressed by investigating the phenomenon over a longer duration than the study allowed.

Contribution of the Theory

Contributions of this theory apply to three general areas. First, by leveraging extant concepts from literature to help expound on substantive concepts in the current theory,

contributions are made by supporting and extending those extant concepts. Second, the holistic approach to consumer life-worlds contributes to broader conversations and perspectives about the sociocultural contexts of people-technology relationships. Third, the perspective of symbolic interactionism provides support for better understanding the Service-Dominant Logic perspective in marketing thought and practice. Each area of contribution will now be discussed.

The strength of an inductively-derived, explanatory framework grounded in the experiences of affected individuals is that it is not limited to a single theory or set of theories to explain what is occurring as part of a social psychological phenomenon. As a result, many ideas from various literatures can be introduced and compared to empirical indicators and substantive concepts derived from the data. Through emergent fit, these extant ideas assist in supporting conceptual specification of the substantive theory and are often extended or modified in the process. A summary of the concepts, their respective areas and this theory's contribution to each is presented in Table 4-1.

Table 4-1. Summary of Emergently Fit Extant Concepts

	Substantive Concept	Extant Concept	Body of Lit.	Extension
Cultivating the Self	Meaning of product emerges through interaction	Meaning lodged in person and/or in object	Psychoanalysis; Sociology	Leverage symbolic interactionism to understand meaning
	"Having as Doing"	Tripartite existence of having/doing/being	Philosophy; C.B.	"Doing" is not ontologically distinct precursor of "being" (i.e. doing *is* being)
	Cultivating the Self	Cultivating	Object Relations	MTDs represent very conducive platform for "ordered patterns of information and action"
	"pieces of themselves"	Psychic energy	Psychoanalysis; Object Relations	Concentration of "pieces" invested in MTD represents prominent example of psychic energy
Transitioning	Holistic effect of MTDs on consumer life-worlds	Ecological change by introduction of media	Media Theory; Communications	MTDs are pronounced form of "media"; represent unprecedented ecological change due to proximity and intimacy
	Learning (about MTDs) *from Others*	Sociocultural learning and dissemination of tech.	Critical Theory; Sociology	MTDs subject to more prominent instantiation of sociocultural learning due to proximity & ecological change to family life
	Limiting Functionality	Rational ignorance	Economics; Choice Theory	Due to increasing preponderance of features & consumer time constraints, MTD capabilities likely candidates for rational ignorance
	Converging Functionality	Technological convergence	Engineering & Technology	Consumers engage in *both* converging and limiting functionality in same device; converge unexpected functionality
	Devaluing Public Meaning	Social influence	Social Psych.; C.B.	Social influence might have initial and residual effect, but is de-emphasized over time in preference of MTD capabilities

Table 4-1. Continued.

	Substantive Concept	Extant Concept	Body of Lit.	Extension
Integrating	*Blurring Activity Types*	Role theory	Interactionism	Varying roles lead to varying activities, rendering personal versus professional use contexts irrelevant
	Sensing Control	Objects promote personal growth through kinetic feedback	C.B.; Critical Theory	MTDs give consumers sense of control; due to their novel interface mechanisms and design, can prompt child-like interaction
Bonding	*Bonding*	Bonding and attachment	Child Development; C.B.	Support for propensity for bonding due to physical intimacy/proximity and ability of MTDs to assist in developing self; Support for increasing and dynamic bond over time; Consumers do not bond to the device per se as much as the device as a conduit for action
	Anthropomorphizing	Anthropomorphism; Perceived agency of technology	Psychology; Sociology; C.B.	Supports notion of phenomenon with consumer products and technology (i.e. extending numerous computer studies)
	Anthropomorphizing	Convergence of biology and technology	Posthumanism; biocybernetics	Albeit facetiously, consumers claim desire for bodily integration with MTDs; Consumers increasingly seen wearing or physically attached to devices
	Feeling Loss	Possession loss	Disaster studies; C.B.	Adverse effects of loss due to absence of capability, not just symbolic loss

At a broader level, this dissertation addressed the need to consider the holistic nature of technology. A fascinatingly eloquent warning from media theorist Marshall McLuhan (1911-1980) sums up the sentiment assumed in this dissertation and as it also hails from other media scholars, technology historians, sociologists, new product developers, and "technology domestication" researchers:

> "As long as we adopt the Narcissus attitude of regarding the extensions of our own bodies as really out there and really independent of us, we will meet all technological challenges with the same sort of banana-skin pirouette and collapse" (McLuhan 1964, p. 68).

In sum, by exploring the phenomenon beyond a relatively myopic focus on only consumer or product characteristics, this dissertation moves toward meeting the challenge put forth by these theorists. As it pertains to development of innovations, by focusing on holistic life-worlds of MTD consumers, the theory presented here directly attends to Wind and Mahajan's (1997) call for "anthropological research methods that can produce actionable results" (p. 5) in new product development.

As it relates to contemporary marketing thought, by focusing on the meaning-making processes of consumer interaction with mobile technology devices, the current theory is conceptually aligned with the newly emerging perspective of Service-Dominant Logic (Lusch and Vargo 2006; Vargo and Lusch 2004), hereafter referred to as SDL. The primary thesis of SDL contends that whereas the old dominant logic of marketing focused on tangible resources and embedded value of physical goods, new perspectives focus on intangible resources and

cocreation of value. This gives rise to SDL's notion that service provision, rather than goods, is fundamental to economic exchange and thus of interest to marketers.

The theory presented in this dissertation advances the proposition that service provision is the primary value provided by MTDs. The argument that MTDs are facilities for "having as doing" versus "having as being" echoes SDL's presumption that dominant logic in marketing is shifting away from a focus on exchange of manufactured goods and more toward exchange of "specialized skills and knowledge, and *processes* (*doing things* for and *with*)" (emphasis added, Vargo and Lusch 2004, p. 2). SDL's very definition of "services" as the "application of specialized competences (knowledge and skills) through deeds, processes, and performances" reflects the process of *Cultivating the Self*: dynamic capabilities ("processes and performances") arise as consumers invest pieces of themselves ("knowledge and skills") into the device. Through *Integrating* their daily activities and actualizing capabilities of their MTDs, consumers demonstrate that "resources *are* not, they *become*" (emphasis original, p. 2).

More specifically, interaction with MTDs provides a venue for better understanding a fundamental concept in SDL of *operand* and *operant* resources. Briefly, operand resources are resources upon which operations or acts are performed. Operant resources are employed to act on said operand resources. Essentially, operant resources are applied to operand resources in order to produce an outcome. Operant resources are often invisible or intangible and are applied toward the conversely tangible operand resources, which are typically goods and materials. People have two primary "native" operant resources: physical and mental skills, and use those to engage, or interact with, the operand resources of objects in their environment.

The relationship between operant and operand resources is analogous to the concept of consumers investing psychic energy into their MTDs. Through the lens of SDL, psychic energy represents a consumer's native operant resources, applied to the operand of their MTD. SDL echoes the interactionist articulation of the highly varying possibilities of meaning that arise from the convergence of psychic energy and objects, noting that "[operant resources] are likely to be dynamic and infinite and not static and finite, as is usually the case with operand resources" (Vargo and Lusch 2004, p. 3). This is a recapitulation of Blumer's (1969) statement that "the life and action of people necessarily change in line with the changes taking place in their world of objects" (p. 12).

Based on the unique capabilities that arise from the interaction between consumers and MTDs, the current theory also provides support for the SDL proposal that applying operant resources to operand resources creates further operant resources. For example, by investing psychic energy (i.e. operant resource) into the MTD (i.e. operand resource), a consumer can create a database of comic book values (i.e. new operant resource), which is then applied to the comic book collection (i.e. operand resource). As Vargo and Lusch (2004) explain, "Because operant resources produce effects, they enable humans both to multiply the value of natural resources and to create additional operant resources" (p. 3). In light of the CPU being the core mechanical element that enables an MTD's operation, it is telling that the authors go on to illustrate the concept of creating a new operant resource by using the microprocessor (i.e. a combination of operant resources of human ingenuity and operand resources of silica) as an example.

Through the foregoing comparison, this dissertation contributes to SDL's first fundamental premise (FP1): the application of specialized skills and knowledge is the fundamental unit of exchange in marketing, and therefore what consumers value. As indicated by the acknowledgement of the expendability of their MTDs, this study supports the SDL assertion that:

> "In general, consumers do not need goods. They need to perform mental and physical activities for their own benefit … or have goods that assist them with these activities. In summary, they need services that satisfy their needs" (ibid., p. 12).

Related to SDL's FP1 is FP6: The customer is always coproducer. By *Personalizing* MTD functionality to create capabilities such as tracking a child's medical condition or creating a comic book database, consumers are ostensibly involved in coproducing value. The very nature of the process of *Cultivating the Self* and its relation to the intrinsic device means "the consumer is always involved in production of value. Even with tangible goods, production does not end with manufacturing process; production is an intermediary process" (Vargo and Lusch 2004, p. 11).

As consumers proceed with the process of *Cultivating the Self*, the current theory is also a manifestation of SDL's explanation that:

> "… goods are appliances that provide services for and in conjunction with the consumer. However, for these services to be delivered, the customer still must learn to use, maintain, repair, and adapt the appliance to his or her unique needs, usage situation, and behaviors" (p. 11).

Particularly by *Transitioning*, consumers "learn to use" their MTDs by *Negotiating the Learning Curve*. Through the properties of *Integrating* and *Bonding*, consumers "adapt the appliance to

[their] unique needs." In effect, through an articulation of all three of the stages of *Cultivating the Self*, the consumer is "delivering services" to himself.

SDL promotes a "service-centered view of marketing with a heavy focus on *continuous process*" and go on to claim that "increasingly, both marketing practitioners and academics are shifting toward *continuous-process perspective*…" (emphasis added, Vargo and Lusch 2004, p. 11). This view is quite conducive to the interactionist notion of "continuous streams of goal-directed action" (Blumer 1969; Mead 1934) adopted in this dissertation. However, in spite of the conceptual compatibility and limited but compelling support and exhortations for leveraging interactionist perspectives (Flint 2006; Merz, He, and Vargo 2009; Venkatesh, Penaloza, and Firat 2006), structuralist approaches to understanding marketing and consumer behavior remain dominant, despite weaknesses in wholly accommodating "continuous-process" perspectives. It is hoped that the current study will contribute to the ongoing support for the continued consideration of an integration of symbolic interactionist and SDL perspectives.

While not acknowledging interactionist perspectives per se, the need to supplement SDL with a better understanding of the widely varying substantive processes of coproduction of value has been recognized (Arnould, Price, and Malshe 2006). Asserting that the coproduction process emerges within the context of "patterns of experiences and meaning embedded in cultural life-worlds of consumers" (ibid., p. 91), the authors propose a supplement to SDL through the "rich insight into consumers' value-creative competencies" (ibid., p. 101) offered by Consumer Culture Theory (CCT) studies (see Arnould and Thompson 2005). This dissertation approached the phenomenon of consumer operant/operand interaction within this purview and demonstrated

the value in considering the "cultural life-worlds of consumers" as it relates to their interaction with MTDs.

In suggesting research opportunities within this context, the authors address the surplus of research on identity-related value creation, but, corresponding with this dissertation's assertion, acknowledge that otherwise a deficit exists:

> "… we know relatively little about the interaction among various types of consumer operant resources … in what contexts do consumers expend relatively greater operant resources and on what operand resources?" (Arnould, Price and Malshe 2006, p. 98)

The current theory addresses this research opportunity, providing substantive indicators of the dynamic generation and aggregation of various operant resources through ongoing interaction with their MTDs. It is shown that the devices represent an unprecedented change in consumers' lives, and against the context of everyday activity arising from multiple and oft-changing roles (i.e. "contexts"), occupy a "relatively greater" expenditure of consumers' operant resources than might occur with other products. At a broader level, this dissertation also demonstrated the potential for the perspective of symbolic interactionism and methodology of grounded theory to capably address the deficit in understanding "the *interaction* among various types of consumer operant resources" (emphasis added, ibid., p. 98).

Finally, as it relates to SDL's FP6, this dissertation demonstrates the unique convergence of operant/operand resources as consumer interactions with MTDs give rise to many personalized capabilities. This discovery supports Arnould, Price, and Malshe's (2006) contention that although consumers might use products in the way producers intend, by bringing to bear culturally constituted and thus variegated operant resources, coproduction of value can

unfold in "creative" and "sometimes unanticipated ways" (p. 95). Support for SDL's FP6 leads to discussion on managerial implications in the next section, specifically to address Arnould, Price, and Malshe's (2006) suggestion for practitioners:

> "Firms must have a clear understanding of the kinds of cultural operant resources consumers bring to an exchange process and how they use these resources, because these dynamics determine the choice criteria employed by the customer, the value they seek from the 'appliances' firms provide, and their subsequent interactions with them" (p. 95).

Managerial Implications

As suggested in the SDL perspective and demonstrated in this dissertation, consumers coproduce value by interacting with MTDs. This dissertation provides not only a methodological and paradigmatic platform for a deeper understanding of this coproduction process within the cultural life-worlds of consumers, but also demonstrates its manifestation with the particular product category of MTDs. In addition to using "out-of-the-box" features, consumers engage in *Personalizing* functionality and thus coproduce capabilities uniquely suited to their everyday life activities. However, in the process consumers often struggle to work with or work around characteristics of their MTD's design. Most notably, this occurs in the face of constraints in the product's software. Three areas that emerged as significant to participants in this research will be addressed as candidates for improvement: database functionality, information security, and data migration.

Consumers accumulate lists and track information related to a wide array of everyday life activities. To do this, participants in the study struggled with leveraging "out-of-the-box" features such as the address book or relatively unsophisticated notepad feature of their MTDs.

Address books can be awkward in their ability to compile information other than personal data (e.g. first name, last name, address, phone number, etc.). However, they serve as most MTDs' only semblance of a database, prompting consumers to co-opt the address book and create "non-person" entries for other things they want to itemize. This results in their extensive use of the open-ended "Notes" field to enter information that does not readily fit into a pre-existing field designed for personal contact information.

To address this challenge, producers could either modify the address book or establish new flexible tools for creating database capabilities. In extending current address book functionality, producers could at minimum allow the address book entry fields to be modified. This would provide consumers with the ability to enter data in fields that could be more quickly searched and sorted, thus reducing reliance on the "catch all" Notes field. This effort could be supplemented by making available pre-made templates for common database needs. In lieu of this modification, producers could simply create a generic but modifiable database tool that would allow customization of fields, sorting, and searching. Addressing consumers' database needs would significantly expand the functionality of MTDs and accommodate a considerable amount of variance in desired personalized capabilities.

Consumers are averse to storing private information in their MTDs for fear that it could be compromised in the event of theft. However, participants admitted that having sensitive personal information (e.g. bank account, credit card and PIN numbers) at hand would be a desired capability. While some participants proceeded with creating their own often haphazard "encryption" system of masking or scrambling such information, or used the single password

available on some MTDs, additional security functionality that specifically and conveniently addresses the type of sensitive information stored by consumers while simultaneously assuaging their concerns about *Safeguarding* would enhance the product's value.

In addition to providing consumers with a better software platform for creative coproduction, producers can encourage brand-switching by providing easier facilities for migrating data from one brand of device to another, or from one type of device to another. In spite of the acknowledged expendability of their MTDs, not knowing whether information from a current MTD can be successfully and seamlessly replicated to a new MTD can curtail consumers from changing devices. While some synchronization software provides import and export functionality that supports other brands of MTDs, such support is sporadic, the procedure not always clear, and thus the prospect seemingly precarious. Additionally, the ability to migrate information from other electronic devices, such as a standard mobile phones, is either sporadic or unavailable, depending on the MTD and related software package.

This migration capability is in effect replicating previous concentrations of psychic energy. Importantly, however, is the replication of capabilities. The elaborate and essentially "proprietary" way that Sheila tracks her son's migraine headaches might not transfer properly to a new MTD, making her averse to upgrading, despite recognizing the benefits of some newer MTDs' features.

Perhaps more important than these particularistic means for instantiating consumer coproduction is the broader implication of understanding consumer coproduction processes in a more proximate manner. The premise for this dissertation's methodological approach is

reiterated: Understanding consumer intimacy with products means engaging intimately with consumers. While the fast-paced "rate at which new things [i.e. operand resources] have arisen to shape and reshape our lives" (Csikszentmihalyi and Rochberg-Halton 1981, p. 46) seems to be decidedly manifest in the realm of mobile technology device production, the order of business might now be considered as a closer examination of the operant use of those operand resources. In so doing, distant observation and positivist methods of inquiry may not reveal the "rich insight into [MTD] consumers' value-creative competencies" (Arnould, Price, and Malshe 2006, p. 101) afforded by holistic inquiry and interactionist perspectives.

Future Research Opportunities

By its very nature, exploratory research provides many avenues for future research directions. Both a challenge and opportunity of the approach is in determining which avenues to pursue. Future research could proceed with an expanded exploration into any of the three main stages of *Cultivating the Self*, or any of their corresponding properties. Given this wide variety of options, to determine areas for further investigation and establish a suggested research program, the criterion of consumer relevance was considered, and attention turned back to data. Three primary concerns were found to be prominent through both participant declarations as well as analysis of peripheral contexts. They are: interaction with MTDs in various social contexts, the phenomenon of young consumers' interactions with MTDs, and the issue of voluntarily abandoning MTDs after steadfast interaction for a period of time. Each research opportunity will be discussed in turn.

While the scope of this dissertation was an investigation of individual, or *intra*personal, interaction with mobile technology products, by nature of the holistic approach to inquiry, peripheral indicators emerged which point to the need to investigate the phenomenon as it evolves in a social, or *inter*personal, context. The existence, and indeed the importance, of social interaction was considered throughout the current analysis, and emerged as particularly relevant in processes such as *Devaluing Public Meaning*, *Coordinating Schedules*, and *Blurring Activity Types*. However, social interaction was understood more as a contextual ground to the figural concern of individual interaction and meaning-making with the device. In short, the next step in advancing a program of research is to expand the scope of the phenomenon by examining consumer interaction *with society* while interacting with MTDs.

Some participants in the study expressed outright concern over the phenomenon of interpersonal interaction with MTDs. They struggled with the conflict between their desire to interact and enjoy the benefits of *Cultivating the Self* and the potential to affect or interrupt person-to-person interactions:

> "When I'm at home, I don't know that I would prefer, if I were to sort of be judging it in some general sense, to be sneaking away from my family every hour or two to … to get a hit of email [laughs]. But I'm likely to do that now because this thing [MTD] is so easy to use and the wireless internet connection is so good. But I admit to doing that at home. I mean, I keep it at bay because there is a point at which I say, 'Wait a minute. I'm spending ten minutes reading the news and my kids are playing in the other room.' I mean, that's just stupid. So I put it down and go play with the kids. Because it is obvious that it's just not the best way to spend your time. But then you know sometimes it's nice to say, 'You know, my son is demanding and he's crying now and, ah, I'm going to go check the news.' And so that is nice every so often to get those little five minutes of escape." (Maury)

Here, a potential social tension exists in experiencing both positive and negative effects from interacting with the device during intimate social situations. Barbara, who started out averse to the idea of interacting with the MTD and reached the point where she "couldn't live without out," similarly reflects on the issue:

> "It's not uncommon to see people, you know, checking their [MTDs] and *not* paying attention to who they are talking to. You know, that's just not the polite thing to do [laughs]. … People are addicted to looking at it. I'm wondering if in the near future colleges aren't going to have to set up some type of additional course in their business scenarios, you know, the etiquette of answering your [MTD]. When and when not to and how to. What's the proper procedures here? Because some people really do not have an awareness of what they're doing. They just … think it's OK. And that just really annoys me … You know, and I have to say I'm probably guilty of doing that too." (Barbara)

These loosely grounded early indicators give rise to a highly tentative proposed conceptual category of *Negotiating Boundaries*, presented in Figure 4-1. The current theory of *Cultivating the Self* is situated in the blue circle, which represents a general context of mediated interaction with and through a mobile technology device. In this regard, consumers are interacting with the device and in the course of doing so are potentially interacting with others, mediated through the MTD's communications capabilities. Non-mediated, or "person-to-person" interaction occurs in various contexts represented by the red ovals. As consumers go about everyday life, they are *Negotiating Boundaries* between these various contexts.

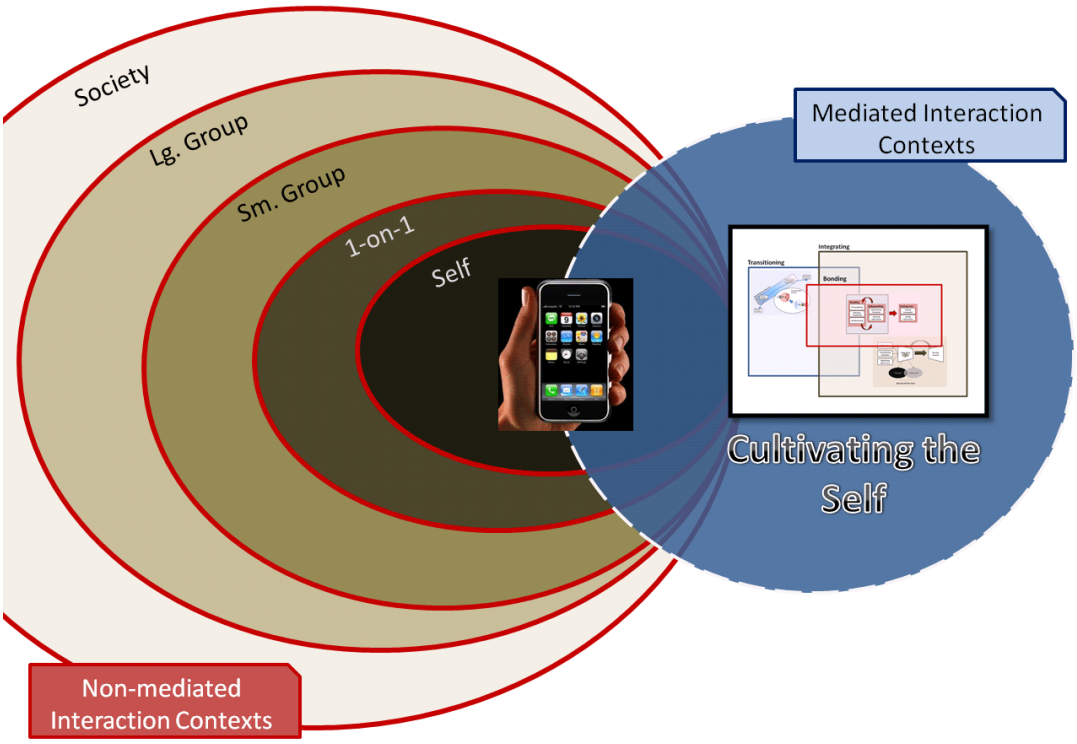

Figure 4-1. Tentative Conceptual Category of *Negotiating Boundaries*

It is recommended to continue exploring this phenomenon using grounded theory methods in order to assess the validity of the tentative conceptual category and potentially go on to develop a substantively grounded theoretical framework of the expanded phenomenon. The current core category of *Cultivating the Self* might be rendered as sub-core to a greater process of *Negotiating Boundaries*.

Rigorously addressing interpersonal interaction with MTDs would require recruiting both consumers and non-consumers as participants. Ideally, pairwise participant dyads would be formed where consumers were recruited along with a corresponding acquaintance or family member. In Maury's case, a likely candidate would be his spouse. For Barbara, her co-workers could be recruited as participants. The potential exists to leverage rapport with participants in the current study and pursue this recruitment scheme and research direction.

In addition to understanding the social considerations of interacting with MTDs, indications in the data point to exploring if and how the current theory applies to a particular demographic of MTD consumers: young people. The average age of participants in this dissertation was 40, with the youngest being 24. Several participants in this study indicated either a general concern, notable observation, or personal experience with "teenagers" and their interaction with MTDs. While the indicators emerged as tangential comments during conversations, or arose as peripheral aspects of the current theory (e.g. children's involvement in *Learning from Others*), the phenomenon nonetheless surfaced during the research as a topic that warrants further investigation.

Based on peripheral indicators in the data, casual observation of young people's interactions with MTDs, and non-academic secondary data sources, a few informal research questions can be formulated that might extend the current theory to this domain. First, while consumers in this study spoke of *Personalizing* MTD interface and capabilities, what other aspects of MTDs might be personalized by young people? Do young people personalize not only their MTDs' software, but also the hardware? Second, given their immersion in technology seemingly from birth, how are young peoples' strategies and thresholds possibly different for *Negotiating the Learning Curve*? Third, do young people engage in *Devaluing Public Meaning* of MTDs? If so, do they proceed in the same way or at the same "rate" as older consumers? These questions could be answered by continuing with grounded theory approaches to inquiry, or by developing, operationalizing, and attempting to quantitatively measure constructs drawn from the relevant properties in the current theory.

A final research opportunity concerns longitudinal considerations of the process of *Cultivating the Self*. Specifically, as an extension of loss studies, future research could address the consumer who engaged for a significant period of time in *Cultivating the Self*, then voluntarily abandoned the device. Understanding their reasons for abandonment would naturally be of interest, but it would also be beneficial to understand their ongoing experience of living without the MTD, after being subject to the holistic impact purported in the current theory. Revisiting Postman's (1992) analogy, their "post-MTD" life experience might bear resemblances to the ecological environment after the removal of the caterpillar.

Conclusion

This dissertation attempted to investigate and explain the phenomenon of consumer interaction with mobile technology devices. Mobile technology devices are pervasive products that have received little attention in marketing and consumer behavior literatures. In an effort to build an explanatory framework to address the phenomenon, a relativist paradigmatic approach, coupled with the lens of symbolic interactionism and methodology of grounded theory, were employed in an inductive, exploratory investigation.

This in-depth inquiry into a largely unexplored area revealed both the far-reaching impact as well as nuanced effects of consumer interaction with mobile technology products, and called for an alternative paradigm of inquiry for addressing the phenomenon. Namely, an interactionist view of human behavior was demonstrated as supporting emergent conceptualization from the data, providing an action-oriented perspective on consumer meaning-making with the products. This approach contrasts with traditional consumer behavior focus on symbolic meaning of products or psychical characteristics of consumers. The approach and emergent theory developed through this dissertation provides support for the Service-Dominant Logic views currently evolving in contemporary marketing thought.

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APPENDICES

APPENDIX A: Interview Guide

Introduction & Personal Information

This research is about peoples' interaction with mobile technology devices. Mobile technology devices are small, portable consumer electronic devices often called gadgets. Examples include personal digital assistants (PDAs) and smartphones like the iPhone, Blackberry, Treo, Palm Pilot, Handspring, Blackjack, Instinct and MotoQ. There are a lot of other devices as well. You are considered a key informant about such devices and I am very interested in your personal experiences with them.

Section A: Life Story

Before we begin talking about the particular devices, I would like to find out more about you. Everyone has a life story. Please tell me about your life, spending as much time as you want. Begin with whatever you like.

Be sure to capture*:*

- Name
- Age
- What do you do for a living?
- What do you do for fun?

Section B: Phenomenon Questions

General

- Tell me about your mobile device. It sometimes helps to have it out while you are talking about it.
  - How often do you use it?
  - What do you do with it?
- If you think about what you are doing these days, talk to me about how the mobile device(s) help you live the life that you are living.
- Tell me about a time when you were very aware of what it does for you.
- What prompted you to start carrying the [mobile device]?
  - Alt. What prompted you to buy it?
  - How did you go about selecting it?
- Tell me about a time when you recently used the [mobile device].
  - Probe: Tell me more about situation X, Y, etc.
  - Probe: Can you describe another time that you used it?
  - Probe: What are the main things that you use it for?
- Describe a time when you were aware of limitations of the device.
- Describe a time when you were aware of the usefulness of the device.
- What kind of information do you keep in there?

Social

- Tell me about a time when you were aware that others noticed you using the device.
  - Can you describe another time that you were aware others noticing that you were using the [device]?
  - Can you describe how others treat you when they are aware that you are using the device?
- Tell me about a time when you noticed another person using a mobile device.
  - Can you describe another time where you noticed someone using a device?
  - Describe a time when you were interacting with others while using the device?
    - Probe: Were they remote? Face-to-face? What was that like?

Contrast

- Have you ever wanted to use the device but didn't have it? Tell me about that situation.
  - Alt. Tell me about what it would be like if you didn't have the mobile device.
- Has anyone else had access to your device or saw what was in it? Tell me about that situation.

- Alt. Tell me about what it would be like if someone else got hold of the device.
- Tell me about a time when you wished you were not carrying it.
  - Probe: What was it about that situation that made you wish you did not have the device?

Special Events

- Tell me about interesting or novel ways that you use it.
- Describe how the device has affected your life.
  - Probe: Does the device play a role in your life? If so, what is that role?
- Tell me about a time when you were aware that you were doing things differently as a result of the device.
- If you think back on the time in your life before you started using the [mobile device], what was that like?
- What does using this device mean to you?
  - Probe: How do you feel about using this device?
- What kind of question or questions do you think should be asked about how people use mobile devices?

Section C: Wrap-up

Thank you for agreeing to participate in this interview. Your discussion is considered very important and will contribute to an understanding of how people use mobile technology devices. I may call on you in the future to review or confirm findings. Can you provide contact information for follow-up (see data sheet)?

Section D: Follow-up / Alternative Questions

- What would you *not* put in to the device? Why?
  - Things you'd never use the device for.

- Where is the device when you sleep?

- When you think of it, what comes to mind?
  - Freedom, independence?
  - Addiction?
  - Being/staying constantly connected?

- How does it compare to a telephone?
- How does it compare to other products?

- Do you see a real clear distinction between business life and home life? Explain? How does the device play a role in that distinction (or lack thereof)?
  - Tie in (?): Places you'd never use the device.

APPENDIX B: Bracketing Profile

What follows is a synopsis of a bracketing interview with the dissertation author as conducted by his major professor on July 17, 2008. The process of bracketing originates from phenomenological approaches to research and is a component of attempting to ensure rigor in qualitative methodologies. From a grounded theory perspective, bracketing can be understood as supporting efforts to avoid premature conceptualization about findings and enhance theoretical sensitivity. Essentially, bracketing is the researcher's effort to maintain a "transcendental attitude" and suspend preconceptions and assumptions (Valle, King, and Halling 1989). Through a bracketing interview, the researcher elucidates his/her predispositions and thoughts on a phenomenon prior to actually engaging in a study of it (Creswell 2003). The following profile intends to highlight researcher characteristics and assumptions that pertain to the phenomenon of consumer interaction with mobile technology devices.

Researcher Background

The author is a Ph.D. candidate whose research interests center on the convergence of Consumer Culture Theory (Arnould and Thompson 2005) and technology product consumption. Before pursuing his doctorate degree, he spent 12 years in the information technology industry, mainly in product development and customer relations management for internet- and web-based companies. As both a product developer and project manager, the author worked extensively with programmers, interface designers, marketing professionals and, importantly, end users (i.e. "consumers"). Prior to embarking on a professional career in technology, as a teenager he was a computer "hobbyist" and frequent early adopter of new technologies, beginning with personal

computers during the 1980s and including some of the earliest mobile technology devices ("PDAs" or personal digital assistants") such as the Apple Newton and US Robotics Palm Pilot during the 1990s.

Attitude Toward Consumer Technologies

As a self-proclaimed "technology geek," the author has worked extensively with personal computers and web-based consumer technologies on a professional and personal level for over two decades prior to conducting the research in this dissertation. However, his attitude toward the information technology profession and the realm of technology consumption in general can be characterized as guarded optimism:

> "I've always had an inclination for understanding how technology works … But the other side is understanding how it impacts people."

The attitude could be framed as skepticism toward the Veblenian notion that "engineers know best":

> "I really don't look at technology as the be-all, end-all. As much as I am a geek, I can say to heck with all of this stuff … as long as we're getting things done that we want to get done – as users, as people, as consumers. I'm really not enamored with technology as maybe other geeks. So when it comes to the 'people person' aspect, I'm very interested in 'What are people trying to get done? What is it that they're trying to do? Can these tools help them in some form or fashion?' And then, 'Oh by the way, what are the things that are preventing it from happening? What are the hindrances there, to the person?' I think an engineer looks at a system as, well the system's perfect and it's the people that are screwing up and they're not using it the right way. I tend to look at it the other way around. You know, maybe you need to re-evaluate what you are doing because people are flawed. Humans are flawed. Maybe you created a 'perfect' system, but to the user, because they're a person, there's something wrong with it. So to that end, I think that's why I'm a 'people' person."

This tact is more in line with Mumford (1934/1963) who, as illustrated in this dissertation, leveled criticism against his own profession for creating technologies without regard to understanding the "modes of living" and "qualitative and cultural" aspects of human experience. During his doctoral education, the author is also inspired by the call for action from Wind and Mahajan (1997) for marketers and new product developers to better understand the "sociocultural" aspects of consumer interaction with technology innovations.

Attitude Toward Mobile Technology Devices

Regarding the more specific scope of consumer products that are central to this study, while the author was an early adopter of "personal digital assistants," he stopped using products that would qualify as candidates for inclusion in his research several years prior starting the dissertation. Instead, the laptop computer became a prominent technology product, accompanied by a relatively simple mobile telephone. Here, he discusses the migration away from being an MTD consumer as it relates to the reduced need for being mobile as a consumer:

> "[While working in industry] I was always going from meeting to meeting and so I carried a PDA. A personal digital assistant. It was a Handspring, using the Palm Pilot software. It was able to keep track of my meetings, I could take notes on it, it had some applications where I was able to look at spreadsheets, which was really important. But going into this PhD program, I found myself not going to meetings as often, going to a couple of classes each week and sitting in front of the computer for a longer period of time. And so the PDA suddenly became less important to me. Actually to the point where I just didn't need it at all."

Importantly, having prior experience and familiarity with mobile technology devices allowed for comfortable conversation on the topic with participants and thus aided with building rapport. Not being a current consumer of the products prevented favoritism toward one brand or

another and helped in avoiding assumptions about specific use situations and behaviors. This "distanced familiarity" with the phenomenon is conducive to the process of theoretical sensitivity and the "transcendental attitude" of the bracketing exercise itself.

On Expectations of the Research

In discussing what he might find in the research, the author described a possible "continuum" that broadly characterizes how consumers interact with mobile technology devices, ranging from positive to negative experiences as an ongoing trade-off between costs and benefits of using the products. Based on personal experience, early observations, and preliminary reading in broad bodies of literature, he articulates that while allowing us to organize our lives, communicate, and entertain ourselves, mobile technology devices possibly act as a distraction or even addiction. Understanding the consumer "give and take" in this continuum is a motivator for the dissertation and future research:

> "But I'm not ready to throw the baby out with the bathwater. Because I think on balance, there's a reason why we're doing this [interacting with MTDs]. There's a reason why people feel compelled to pick this thing up, put all of their heart and soul and personal information into this thing and then let it beep at them and tell them what to do."

APPENDIX C: Profile of Participants

Pseudonym	Age	Gender	Occupation	Number of Inquiries
Alice	50	F	Marketing professor	1
Barbara	48	F	Media consultant	1
Brad	35	M	Student	1
Chad	34	M	Marketing	1
Darryl	31	M	Photographer	1
Deborah	49	F	Marketing professor	2
Gavin	37	M	IT Consultant	1
James	37	M	Network engineer	2
Jaren	38	F	Marketing manager	1
Jeff	32	M	Graduate student	2
Katy	54	F	Marketing manager	1
Kayla	40	F	Marketing consultant	1
Levine	36	M	Marketing professor	1
Maury	31	M	Psychology professor	2
Melissa	30	F	Director of business development	1
Neil	37	M	IT professional; entrepreneur	2
Peter	50	M	Human resources manager	1
Sheila	48	F	Accountant; small biz owner	1
Susan	24	F	Info science grad student	2
Wilma	59	F	Public relations manager	1

VITA

Scott Rader was born in Bristol, Tennessee on November 19, 1973. He attended public school in Blountville, Tennessee, where he graduated from Sullivan Central High School in 1992. Scott attended community college for two years before starting his own consulting business in 1994, providing technical services to the newly emerging online/internet industry. Specifically, he helped pioneer online customer support through electronic bulletin board and chat systems for *Prodigy*, one of the first online services to provide internet and World Wide Web access. In 1995, Scott joined *Prodigy* full time at their headquarters in White Plains, New York, and was involved in several roles, including programmer analyst, software quality control manager, and technical training specialist. While working full time, he pursued completion of his undergraduate degree, majoring in media studies at State University of New York (SUNY) in Purchase, New York, and graduating with honors in 2000. In the same year, he left *Prodigy* to work for *About.com*, the world's sixth largest web site at the time. There, he became vice president of product development and customer relationship management, with assignments in New York City and Tokyo, Japan. In the summer of 2003, he relocated to Knoxville, Tennessee to pursue his master of business administration degree through a scholarship at University of Tennessee, working for PricewaterhouseCoopers in Southeast Asia for his MBA internship. Following the completion of his MBA, he continued his graduate education at University of Tennessee by starting the PhD program in marketing in 2005 and receiving his doctoral degree in August 2009.